



PROCEEDINGS

Indonesian High Education Institution Strategy
in Facing the Industrial Revolution 4.0



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WELCOMING REMARK

Universitat Internacional de Catalunya

First of all, I would like to express my most warm welcome to all authors

for their valuable work, time and dedication so we can have one full proceeding that is so rich of research contributions. I myself would like to see the proceeding as an interesting window to see research works from Asia, especially from Indonesia. Hopefully this proceeding book can serve as a memento and encouragement for the advancement of further research in the future and enhance and foster collaborations among scientific at international scale.

I wish all participants good luck and have a nice and fruitful conference. Last but not least, welcome and enjoy Barcelona!

Frederic Marimon

Full Professor in Business Administration

Vice-Rector of Planning and Quality

Universitat Internacional de Catalunya

**OPENING REMARK
HEAD OF LL-DIKTI REGION IV**

Thanks to the grace of God Almighty (Allah SWT), alhamdulillah, the International Proceedings at the Universitat Internacional de Catalunya (UIC), Barcelona, Catalunya, Spain, is complete. We organize this seminar on November 11, 2019 with participants and speakers from Indonesia, Spain, Switzerland, India, Palestine and United Kingdom. With the theme: "The Role of Higher Education in Facing the 4.0 Industrial Revolution in Indonesia", we aim that the seminar participants gain and share knowledge and experience among the participants and speakers present at the event.

Most of the Human Resources (HR) in Indonesia do not fully understand how the 4.0 industry has started to appear rapidly at this time, in the joints of the Indonesian economy. The low understanding of human resources in Indonesia goes straight with the emergence of inequality between the capabilities of local human resources and foreign human resources that began to participate in the current 4.0 industrial revolution in Indonesia. In addition, there are not many formal educations specifically preparing human resources in this field. Efforts that can be made by tertiary institutions to enhance their role are that special courses need to be made on Information and Communication Technology (ICT). If it already exists, then it needs to be deepened to be able to better understand the development of new technologies such as the Internet of Things (IoT), artificial intelligence machines or artificial intelligence (AI), physical-cyber systems and cloud computing.

With the issuance of international proceedings, I would especially like to thank Mr. Mahir Pradana who has worked hard to facilitate seminar activities with UIC Barcelona. Our deepest gratitude also goes to UIC vice rector of Planning and Quality, Prof. Frederic Marimon, for having our participants in his remarkable university. Hopefully these activities can provide us motivation to always work and innovate in developing professionalism as lecturers.

Bandung, 5 November 2019

Head of LLDIKTI Region IV,

Prof. DR. Uman Suherman AS, M.Pd.

**OPENING REMARK
CHAIRMAN OF KORPRI LLDIKTI REGION IV**

Thanks to the grace and sanctity of God Almighty, the international proceedings published by the Universitat Internacional de Catalunya (UIC), Barcelona, Catalunya, Spain, can be resolved in a timely manner. Also, with good cooperation between our personnel Mr. Mahir Pradana, UIC, the speakers, and participants from Indonesia, and several countries in Asia and Europe. Hopefully this proceeding can provide motivation for lecturers to develop Higher Education 'Tridharma', especially aspects in lecturer research.

The development of technology in the industrial revolution era 4.0 is very influential on the characteristics of jobs that exist today, where skills and competencies are the main things that need attention. Because in the era of the industrial revolution 4.0 the integration of the use of technology and the internet is so sophisticated and massive that it also greatly influences changes in the behavior of the business and industrial world, the behavior of society and consumers in general. Characteristics in the industrial revolution era include digitalization, optimization and customization of production, automation and adaptation, interaction between humans and machines, value added services and business, automatic data exchange and communication of information technology. Therefore, education and industry must be able to develop industrial transformation strategies by considering the human resource sector that has competence in their fields.

In facing the era of the industrial revolution 4.0, students are expected to have 4 (four) competencies in themselves, including: competence to interact with various cultures, social skills, new literacy (data, human technology) and lifelong learning (lifelong education)

Hopefully the international proceedings issued by the University of Internationale de Catalunya (UIC) Barcelona can make useful contributions, especially for lecturers in developing the Tridharma of Higher Education.

Bandung, 5 November 2019

Prof. DR. Endang Komara, M.Sc

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GUIDANCE AND COUNSELING ROLE AND CHALLENGE IN THE INDUSTRIAL REVOLUTION 4.0 ERA

Prof. Dr. Uman Suherman AS., M.Pd. (Head of LLDIKTI Region IV)

Abstract

An understanding of the role and professional development of counselors or guidance and counseling teachers is indispensable, bearing in mind the position of counselors or guidance and counseling teachers is a professional educator whose job is to provide expert services in guidance and counseling. The form of expert services must be based on mastery of academic competencies and professional competencies of counselors or guidance and counseling teachers. The challenge of society and students today in the industrial revolution 4.0 is every human child (learners), touched and in touch with technology since he was born even in the womb. That's what happened in the 4.0 industrial revolution today. Therefore, future challenges in the industrial revolution 4.0 are related to the acceleration of technology and science, political trends, economic forces, modern socio-cultural trends, changes in the map of knowledge and the postmodern era that demands various changes in Education.

Keywords: Challenges, guidance, counseling, the era of the industrial revolution 4.0.

1. INTRODUCTION

An understanding of the professional development of guidance and counseling teachers or counselor is very necessary, given the position of guidance and counseling teachers who are tasked with providing expert guidance and counseling services. This form of expert service includes the provision of student support services, namely supporting the development of personal, social, career, and academic aspects of students. In addition, through the development of guidance and counseling program menus, guidance and counseling teachers or counselors provide services to students in individual student planning, responsive service delivery, and development of support systems. All the implementation of these functions must be based on mastery of academic competencies as well as the professional competence of the guidance and counseling teacher or counselor.

Professional counselors in schools have a role to encourage individual development, help solve problems and encourage the achievement of individual physical, psychological, intellectual, emotional or spiritual wellbeing. To work effectively as a counselor, special education is needed in the areas of human development and counseling. According to Gladding (Hidayat and Herdi: 2014: 114), there are 3 (three) levels of aid providers, namely providing non-professional assistance, pre-professional assistance providers, and professional assistance providers.

Providing non-professional assistance are people who do not get training / education in helping people in need, they are like friends, colleagues, volunteers, who are not trained, and supervisors in a company. These are generally people who have wisdom and skills at different levels. Pre-professional assistance providers are humanitarian service workers who receive some formal training in human relations skills. They usually work as part of a team and do not work individually. For example, mental health technicians, police (for convicts on probation), child care work, and guidance and counseling teachers or adolescent counselors. If properly trained and supervised, this professional will have a positive impact in facilitating good relationships, and will encourage the creation of individual mental health in the social environment. Professional aid providers are those who are specifically educated to provide assistance, both at the preventive and curative levels. They are social workers, psychiatrists, psychologists, guidance and counseling teachers or counselors. Guidance and counseling teachers or counselors help counselees make decisions and problem solving around personal life, family, education, mental health and career.

Future challenges in the industrial revolution 4.0, among others, are related to the acceleration of technology and science, political trends, economic power, modern social cultural trends, changes in the map of knowledge, and the postmodern era that demands changes can be realized. Education systems should not only be based on inputs and processes that are less dynamic, less efficient, and lead to pedagogical stagnation. If you want to make a few changes, the cost is very expensive and the technical is very complicated. All input and process components, from upstream to downstream, from curriculum documents, teacher training to student worksheets, must be changed. This has resulted in an education system that tends to be inefficient and difficult to adapt to the development of science, technology, art and aspirations and community needs.

Responding to these conditions by considering the demands of the industrial revolution 4.0, with various impacts and problems on every field of human life, it is necessary to adjust the management of Education at various levels. This was done so that we do not sink in this digital age. It is important to remember that the objectives of education are the same, namely referring to the national education objectives stated in the National Education System Act of 2003. In addition, what is needed is how we manage education that is appropriate, suitable and in accordance with current and future needs. In this case, we do not need to change the direction of the wind, but how to adjust it to the wind current, so that the programs developed can run smoothly.

2. DISCUSSION

A. The Role of Guidance and Counseling

Counseling guidance services are basically education and counseling is a learning activity, but the approach used and the techniques used are not the same as the learning done by the teacher. The learning process because the approach is also different from the learning process carried out by the subject teacher.

Learning in counseling can be done individually or in groups, but it cannot be done classically because the number of group members in counseling is a maximum of 10 people. The main goal to be achieved is to help individuals able to help themselves. Learning is one of the activities in the Education process or also often referred to as learning as an aspect of Education and performs a fundamental process in educational activities in schools. Teachers as educators conduct learning engineering based on the applicable curriculum. The teacher designs instructional learning so that learning activities and materials can be carried out systematically, efficiently and effectively.

To understand more deeply what is learning can be seen in definition of learning. Dimiyati et al. (1999: 297), learning is the activity of teachers programmed in instructional design to make students actively learn which provides the provision of learning resources UUSPN No. 20 of 2003, learning is the process of interaction of students with educators and learning resources in a learning environment. Learning as a learning process that can improve the ability to construct new knowledge to increase mastery of learning materials properly.

Based on the description it can be concluded that learning an interaction between the teacher and students by providing opportunities for students to carry out learning activities. In the case of teachers having the task of providing facilities and opportunities and making learning activities for students and learning an aspect of Education. Learning is one of the activities in the education process.

Law Number 20 of 2003 concerning the National Education System Article 1 Item 6 confirms that counselors are educators, as are subject teachers, lecturers, tutors, *widyaiswara*, learning guardian, instructors and facilitators. Because counselors are educators, counseling is education. Thus, counseling services are education services. It can be said that counseling is a learning process such as learning done by teachers, lecturers, *widyaiswara*, tutors, instructors, but the means or method is different.

The main purpose of counseling services is to teach counselees to be able to help themselves and based on the principle of independence, counseling is for counselees to learn become independent individuals. Likewise, in Education as a conscious effort to mature an individual or learners namely physical adult, spiritual adult and social adult.

There are four pillars of education that direct the implementation of Education according to UNESCO (1996), namely:

1. Learning to know
2. Learning to do
3. Learning to live together
4. Learning to be,
and then Prayitno (2009) added the fifth, namely:
5. Learning believe in God,

Counseling is an activity carried out by the school counseling / counselor teacher, so the nature of learning is different from the learning done by the teacher in the field of study, as well as the learning material, approaches and techniques used in counseling. Counseling has four characteristics, namely (1) counseling as a process, (2) counseling as a specific relationship, (3) counseling helps counsees (an aid) and (4) counseling to achieve goals.

First, counseling as a process is counseling that is a process, then it is carried out continuously or sustainable, counseling is not a momentary event (when an event occurs). The process has meaning, that counseling is also possible there is a certain time interval needed in the counseling relationship in solving problems experienced by the client. Counseling is not always done only once, but can be done several times until counseling is declared complete. The indicator is that counseling is stated if the counselee has found a way to resolve the problem he is facing, or the counselee feels that there is no longer any problem in him, but also that counseling is declared complete when the counselee withdraws / does not want to continue counseling with his counselor. Counselors outsource the counselee to other counselors or other therapists with reasons such as the counselor is no longer able to help the counselee because the counselee's problems are beyond his ability and / problems faced by the counselee is outside the counselor's authority. However, it should be noted that counseling is only done once, because the problem faced by the counselee is not too severe.

Second, counseling as a specific relationship. The relationship between counselor and counselee is an important element in counseling. In the counseling relationship, the counselor must build rapport in the sense that the counselor must start from the beginning to create support between himself (the counselor) with his counselor and the obligation of a counselor to continue to foster and maintain rapport with the counselee if the counseling process runs until the counseling is ended. A good relationship during the counseling process will be able to determine the success of counseling or vice versa, because the relationship between the counselor and counselee is not good during the counseling process, then the possibility of the counseling process can occur failure.

In social life, the relationship between individuals and each other is always there. For example, the relationship of children with parents, the relationship of husband and wife, teachers and students, official relations with the people. However, the counseling relationship is intended as a relationship that must be built specifically that is different from the relationship exemplified. Counseling relationships require openness, trust, volunteerism, understanding, appreciation in a positive way without conditions and require empathy. At the beginning of a counseling relationship, a counselor should be able to create rapport so that the relationship becomes conducive. This means that the counselee in the counseling process, no doubt about the counselor, the counselee is free to express a variety of information as a basis for finding solutions (solving problems), counsees get a sense of security.

Third, counseling is to help the counselee. Counseling relationships are helping, counseling relationships are different from giving or taking over other people's work. Helping is not giving advice, suggestions, recommendations, persuading, but giving trust, responsibility to the counselee to make their own decisions at the end of counseling, counsees and counselors trust each other, understand each other's functions and respect each other (counselor vs counselee). In accordance with the functions of each counselor and counselee will be able to find a way in solving problems faced by the counselee. And in deciding the counselor does not force his will and the decision remains in the counselee himself, however, a counselor will also study the decisions taken by the counselee. In this case the counselor can do the consolidation by exploring the basis for deciding, so that the counselor can make persuasive

advice or do a disguised or direct rejection, if the decision turns out to endanger himself or endanger others, then a counselor will make a disguised rejection.

So, the counseling relationship is a relationship that is helping the problematic individual sincerely. In helping the nature of the relationship, the counselor and counselee trust each other, understand each other's role, respect each other, be open, take responsibility for solving problems. The result of counseling remains the responsibility of the counselee himself, the counselee can help himself, and that is the goal of counseling.

Fourth, counseling to achieve goals. Counseling is done to achieve understanding (Counseling to the understand to themselves and the world) (Bruce Shetzer et.al 1981 and self-acceptance, the process of learning from maladaptive behavior to be adaptive and learn to do a broader understanding of himself that does not make know about but also how to learn in line with quality and capacity. The goal of counseling is to help individuals to be able to help themselves and the goals of counseling are essentially in line with individual goals, namely self-actualization and happiness in his life in the world and the hereafter.

The role of guidance and counseling in instruction conducted by the teacher in the classroom. Many people misperceive guidance and counseling services in schools, including subject teachers, school principals, parents of students, even the students themselves. As guidance and counseling only acts as handling bad children, undisciplined / coming late children, students who do not pay tuition fees, their job is to punish children who are guilty and so on, then counseling guidance teachers are dubbed as 'School police' (Giyono, 2007). Guidance and counseling has many roles in the learning done by teachers in the classroom including: preparing students to participate in learning, analyzing learning outcomes, as a consultant, and as a counselor.

B. The Era of the Industrial Revolution 4.0

The era of the industrial revolution 4.0 is the name of the latest automation and data exchange trends in factory technology. This term covers physical cyber systems, the internet of things, cloud computing, and cognitive computing. Industry 4.0 produces 'smart factories'. In intelligent modular structures, physical cyber systems supervise physical processes, create virtual copies of the physical world, and make decisions that are not centralized via the Internet of Things (IoT), physical cyber systems communicate and collaborate with one another and with humans simultaneously. Through cloud computing, internal and cross-organization services are provided and utilized by various parties in the value chain.

The industrial revolution 4.0 has introduced flexible mass production technology. One of the characteristics of the industrial revolution 4.0 is called Artificial Intelligence (AI). One of them is the use of computerization and robots that aim to replace human labor into cheap, fast, effective and efficient thing.

In the latest report titled 'Automation and the future of work in Indonesia' released September 2019. McKinsey & Company said there will be 23 million jobs in Indonesia replaced by robots in 2030. Even so, there are 27-46 million new jobs created where 10 million of them are jobs that never exist before. The work lost is mainly characterized by predictable, repetitive physical activity. For example, work related to data collection or data processing where the number of jobs replaced by robots is above 70 percent. While new jobs to be born are more related to managing people, providing expertise, and interacting with other people or agencies.

According to Jatmikowati (2019), the importance of Human Resources (HR) is assessed from various elements, including: **First**, politics, being aware of HR needs in the competition of the industrial revolution 4.0. The President delivered the State of the Republic of Indonesia Speech on August 16, 2019 so that Indonesia would be able to produce superior human resources capable of competing in the global arena. **Second**, the economy, four years ago, the McKinsey research institute released that the impact of the Industrial Revolution 4.0, 3,000 times more terrible than the first industrial revolution. The immediate impact has begun to be felt in the community with the presence of many startups or digital-based companies, which make life easier and shift many types of conventional work. It cannot be denied; the

presence of the fourth industrial revolution is indeed a threat to the workforce today. This was agreed by the Chairperson of the Indonesian Employers' Association (Apindo) Hariyadi B. Sukamdani, who considered that threatened workers were those who did not have the skills to adapt to new types of jobs.

Therefore, there must be a strategic and directed step in anticipating an explosion of the number of unskilled workers in the formal sector. There is no harm for the government to listen to the advice of the Apindo about the need for changes in education and vocational patterns in this country. Required specific skills related to digitization technology. Indeed, preparing a workforce that can adapt to changes caused by the Industrial Revolution 4.0 is a homework for the government. Luckily the government, in this case the Ministry of Manpower, continues to prepare workers who can adapt, compete, and survive during changes in the world of work. The Ministry of Manpower claims to have issued many policies and programs relating to improving access and quality, vocational training as an effort to produce competent and competitive human resources. Meanwhile, the Ministry of Industry relies on many vocational education and training programs. It can be referred to as vocational education that link and match between industry and vocational high school. HR competencies in facing the 4.0 industry revolution cannot be negotiated anymore. HR competencies related to changes in the world of work are the key to success if you do not want to be a spectator in the 4.0 Industrial Revolution where changes occur. So fast and massive. We hope that the presence of "the roadmap making Indonesia 4.0" which has become a national agenda can become a consistent guide. Of course, success in welcoming the Industrial Revolution 4.0 is not merely the task of the government, but it requires the support of all components of the nation.

Third, psychology, considering the magnitude of the impact arising from the industrial revolution 4.0 certainly affects the mental readiness of the whole society. For that human resources must be very ready. Human resources can be improved through Education. Education is a human right so it has an important role in social life. As stated in article 31 paragraph (1) of the 1945 Constitution which states that: every citizen has the right to get Education. Education is one of the important things, thus encouraging the government to continue to improve the quality of Education services. One of the steps chosen by the government is the issuance of a zoning system policy in which children will learn in their own neighborhood. A comfortable educational environment for children can support children's psychology to remain stable and be more optimal in carrying out the knowledge of preparing themselves for the industrial revolution 4.0.

Fourth, sociology. The industrial revolution has changed the world order quickly, the changes that occur no longer take a long time. Changes that only require a very short time. Phenomena that occur include offline to be online, print media to social media, the real world. But these changes change the social order, cultural values. Industry developed a lot to make modernization increased and humans increasingly used it, which then considered nature to be something that could be manipulated so ecological damage was happen fast. The industrial revolution has an impact on issues related to the loss of social values in society characterized by a consumptive lifestyle, unlimited freedom, loss of behavior in the real world. But in all the conveniences of this advanced technology has a big impact on humans because human power decreases rapidly and ultimately many unemployment. In order not to become unemployed, everyone must absolutely have the competence to be ready to compete. This competency can be sharpened through formal and non-formal education in the form of technical guidance and so on. As well as a strong character education, so as not to lose national identity.

Fifth, philosophy. The development of the internet in the era of the fourth industrial revolution made man as the subject of the industrial revolution itself must be able to remain guided and hold tight to the national identity so that harmony in social life is maintained and even easier due to digital communication networks.

3. CLOSING

Based on some of the explanations above, the following can be concluded:

- a. Role of counseling education is to educate people to have knowledge and skills, a strong personality and a personality that must be independent, and foster a sense of responsibility in a child's soul. This is where Education does not only play a role for intellect, but Education must also be able to make itself interact with the surrounding environment.
- b. Guidance and counseling is the heart of the teaching and learning process in school. Because guidance and counseling act as one of the aids that provide help to a group of individuals to be able to overcome all the problems that exist in their lives, respond to them well and can also achieve a sense of prosperity in his life.
- c. Industrial revolution 4.0 is a phenomenon that collaborates cyber technology and automation technology. The concept of application is centered on the concept of automation carried out by technology without requiring human labor in the process of its application. There are nine types of technology that will become the main pillars of the development of the Industrial Revolution 4.0, including: Internet of Things (IoT), Big Data, Augmented Reality, Cyber Security, Artificial Intelligence, Addictive Manufacturing, Simulation, System Integration, and Cloud Computing.

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ANALYSIS OF THE EFFECT OF NON STUDENT ACTIVITIES ACADEMIC TOWARDS STUDENT ACHIEVEMENT INDEX

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Abstract

Students are everyone who has been officially registered to take part in a series of learning in higher education with a age range between 18-30 years. Students are also a group of people who gain status due to having ties with a college. Not only studying in the classroom, students can also improve their soft skills through non-academic student activities. In its implementation it would be nice if non-academic student activities should be balanced with academic activities (teaching and learning activities in the classroom). But in reality, many students prioritize non-academic student activities compared to academic activities. As a result, the student achievement index which is the result of student studies is not good enough. This is what happens to students at one of the universities in Malang City. Namely a student majoring in Industrial Engineering, Faculty of Engineering, University of Brawijaya. The making of this study aims to identify the effect of student activities on student achievement indexes. In the implementation of this research using qualitative methods by disseminating information, with respondents being students who have busy activities not only academic activities but also non-academic activities, both committee activities and organizations. The results of the study show that the number of organizational activities followed by students can have a significant effect on the student's GPA. For students who are interested in non-academic activities but also want to excel in academics, it is necessary to have a balance. There are many ways that can be done to balance the two, such as making a schedule for daily activities, mastering time management properly, reducing or eliminating non-academic activities in accordance with interest and self-passion, maintaining stamina by consuming healthy foods regularly, resting enough and increase the consumption of water and electrolyte drinks to replace body fluids lost due to fatigue.

Keywords: students, influence, non-academic activities, GPA, balanced

1. INTRODUCTION

Students are everyone who has been officially registered to participate a series of learning in higher education with an age limit between 18-30 years. Students are also a group of people who gain status because of have ties to a college. Students are also someone prospective intellectuals or young scholars in a society that often become a requirement in various predictors in the community itself (Sarwono, 1978). In Indonesian Large Dictionary (KBBI) the definition of a student is someone who is studying in college (Big Dictionary of Indonesian Online, kbbi.web.id), whereas according to Siswoyo (2007: 121) students are defined as individuals who are studying at the university level, both public and private or other institutions on the same level as universities.

Student is judged to have a high intellectual level, intelligence in thinking and confidence in acting. Able to think critically, act quickly and right is the nature that tends to be inherent in every student

and is a complementary principle. Not only taking education inside class, students can also improve their soft skills through activities non-academic student affairs.

This non-academic student activity is a purposeful activity to improve soft skills and student interests in various fields, both in the fields of sports, entrepreneurship, art, science, etc. Non-academic activities which is often found in higher education areas, including organizations and committees. In every organization in college has a structure, members and work program for success of the organization's vision and mission. To realize the work program there needs to be a group of people or a team or commonly known as the committee for carry out the work program, that is why the committee is still closely related with the organization.

Not only increasing non-academic abilities, in every learning process of course there is an academic assessment or commonly known as learning achievement assessment college student. Student learning achievement needs to be measured or assessed to determine the level student success in learning. This measurement or assessment process can also be called by evaluating learning outcomes. Daryanto (2007: 28) argues that in broad outline, evaluation techniques used can be classified into 2, namely: test and non-test techniques. Non-test techniques in the form of: multilevel scale (rating scale), questionnaire (questionnaire), list matches (check-list), interview (interview), observation (observation), curriculum vitae. Test technique (in terms of usefulness for measuring students) in the form of: diagnostic tests, formative tests, and summative test. Student learning achievements are generally indicated by numbers called the Grade Point Average (GPA). To find out this GPA we can conduct evaluations using test techniques and non-test techniques.

Non-academic student activities should be balanced with academic activities (teaching and learning activities in the classroom). But in reality, there are more students prioritize non-academic student activities compared to academic activities. The impact is that students do not understand the courses taken, neglect in work on assignments, and are exhausted when conducting lectures so they are out of focus in conducting lectures. Many students who choose to follow a lot organization and committee but cannot share time with activities lecture. As a result, student achievement indexes are the results of student studies become less good.

The imbalance between non-academic activities and student academic activities this is also what can be a mental and physical burden for the students themselves. Where if this happens then the conditions of the student work environment / activity itself are being not healthy. Referring to the definition of occupational health, namely the condition free from existence physical, mental, emotional or pain disorders resulting from the work environment (Solihah and Kuncoro 2014: 29).

Based on the explanation above, it is necessary to analyze the Effect of Activities Non Academic Student Affairs Against Student Achievement Index. The results of this analysis later used to determine the level of success of students in class with non-academic or non-class activities carried out by students. what is the result they get balanced both results in class and results outside the classroom.

2. RESEARCH METHODS

2.1 Types of research

This research is a qualitative research by giving a questionnaire. The questionnaire used contained several questions that congtained activities the non academic students they participated in and the impact on the achievement index student in class. The questionnaire is given to students who have busy activities are not only academic activities but also non-academic activities, both committee activities and organizations.

2.2 Time and Place of Research

The place to analyze the effect of non-academic student activities on the index Student achievements are carried out around the Industrial Engineering area, Faculty of Engineering, University Brawijaya with the address Jl. Mayjen Haryono 167, Malang 64145, East Java. Conducted on March 19, 2019 until March 31, 2019.

2.3 Research Subjects and Objects

Subjects or respondents in this study were active Industrial Engineering students and having a busy life outside of academic activities. The object of the research is the index results achievements of Industrial Engineering students.

3. RESULTS

There are six statements that must be assessed by respondents using scale 1 (strongly disagree), 2 (disagree), 3 (agree), and 4 (strongly agree). As for the statement on the questionnaire which is the measurement indicator is as follows.

1. I feel very tired if I have to study after doing organizational activities
2. Organizational activities do not affect learning time and work on my assignments
3. I often don't do assignments because of organizational activities
4. I prefer to hold Organizational meetings rather than lab work groups.
5. I often lack rest because I try to balance the Organization and academic
6. I feel often feeling exhausted when doing all tasks, learning and participate in organizational activities.

7. Table 4.1 Recapitulation of the Questionnaires

NO.	A1	A2	A3	A4	P1	P2	P3
1	3	4	3	3	4	3	4
2	4	4	4	2	4	3	4
3	3	4	2	3	2	3	4
4	2	1	2	1	1	1	1
5	4	4	4	3	4	4	3
6	3	2	3	2	2	3	3
7	4	3	3	3	3	3	3
8	2	3	2	3	3	3	3
9	4	4	4	4	4	4	4
10	3	4	3	4	3	2	3
11	3	4	4	3	3	4	4
12	4	4	3	3	4	4	4
13	3	2	3	3	3	2	3
14	3	4	3	4	3	3	3
15	3	2	2	3	3	3	2
16	4	3	3	2	2	2	2
17	3	3	3	3	3	3	3
18	4	4	4	3	4	4	4
19	3	3	4	4	3	3	3
20	4	3	4	3	3	3	3
21	4	3	3	3	3	3	3
22	4	3	4	4	4	3	3
23	1	2	1	2	1	2	1
24	4	4	4	3	4	4	4
25	4	3	4	3	4	4	4

From the results of these studies, it can be seen that organizational activities become independent variable and GPA become the dependent variable. Of the six statements submitted, 4 statements become indicators to measure the variable activity of the organization namely statement number 1-4. While for the GPA variable there are 2 statements that become indicator for measurement. Data processing is done using assistance smartPLS software.

Test Validity and Reliability

Validity test is used to determine the accuracy of a measuring instrument, as follows is the result obtained for validity testing.

Table 4.2 Results of outer loading

	Organizations	GPA
O1	0.081	
O2	0.828	
O3	0.834	
O4	0.619	
I1		0.914
I2		0.901

Based on the results above, it can be seen that only statement 4 is the value less than 0.7, so the statement must be deleted.

	Cronbach's Al...	rho_A	Composite Rel...	Average Varian...
ASISTENSI	0.807	0.822	0.874	0.636
PEMAHAMAN ...	0.893	0.899	0.934	0.824

Picture 4.4 Test Validity

Based on the results above, it can be seen that the AVE value is more than 0.5 so that the model can be said to be valid. Calculating Inter Variable Relationships After testing the validity and reliability of questionnaire, then the calculation will be carried out to determine the relationship between variables.

Table 4.4 The Result of Output

	Organizations	Number	GPA
O1	0.866	0.845	
O2	0.815		
O3	0.880		
I1			0.897
I2			0.916
			0.714

Based on the test results above, the coefficient of determination (R²) is 0.714 for the variable "GPA". This means that the Organizational Activity variable has an effect of 71.4% on the GPA. While the correlation between organizational activities and GPA is quite strong at 0.845. Meanwhile, Organizational results A1 = 0.866 show the results of the reliability of the indicator towards the variable. The closer to 1.0, the more reliable.

Hypothesis testing

Hypothesis testing is done to find out whether each of the indicators has a significant effect on the variable and to find out whether the Organizational activity variable has a significant effect on the GPA. In the results above, it can be seen that the p-value = 0 < 0.05, thus it can be concluded that there are significant differences from the organization's activities to the CPI. To find out whether each indicator has a significant effect on the variable. Based on the output obtained, the p-value of each indicator is less than 0.05 so it can be concluded that each of them has a significant effect on the variable.

4. CONCLUSION

Based on the results of the calculation of the relationship between variables, the coefficient of determination (R^2) is 0.714 for the variable "GPA". This means that the Organizational Activity variable has an effect of 71.4% on the GPA. While the correlation between organizational activities and GPA is quite strong at 0.845. Meanwhile, Organizational results $A1 = 0.866$ show the results of the reliability of the indicator towards the variable. The closer to 1.0, the more reliable. After that hypothesis testing is done to find out whether each of the indicators has a significant effect on the variable and to find out whether the Organizational activity variable has a significant effect on the GPA. After being tested it can be seen that the p -value = 0 < 0.05, thus it can be seen that there are significant differences from the organization's activities towards the CPI. Based on the output obtained, the p -value of each indicator is less than 0.05 so it can be concluded that each of them has a significant effect on the variable. For students who are interested in non-academic activities but also want to excel in academics, it is necessary to have a balance. There are many ways that can be done to balance the two, such as making a schedule for daily activities, mastering time management properly, reducing or eliminating non-academic activities in accordance with interest and self-passion, maintaining stamina by consuming healthy foods regularly, resting enough and increase the consumption of water and electrolyte drinks to replace body fluids lost due to fatigue.

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THE TRANSFORMATION OF ENTREPRENEURIAL SPIRIT IN THE UNIVERSITIES IN FACING INDUSTRIAL REVOLUTION 4.0 ERA

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Abstract

The growth of the world of education especially universities in Indonesia is very fast and makes the parties involved in it have to work hard so that its existence is still recognized. The number of universities in Indonesia reached 2,555 in 2010, consisting of 120 state universities while 2,435 Private Higher Education (PTS). In 2018 the number of tertiary institutions increased very sharply at 4586, this number was an accumulation of 400 state universities and 4186 Private Higher Education. For West Java and Banten alone the number of Private Higher Education (PTS) reached 464. The high growth rate has had an impact on competition between universities both in Indonesia and in West Java getting tougher. This indicates Hyper-Competition not only occurs in the manufacturing industry, computers, mobile phones, and other service industries but has penetrated into the world of Education. Facing intense competition, the transformation of the entrepreneurial spirit in the education organization has become imperative. The transformation of the entrepreneurial spirit includes individual concepts, managerial skills, and the concept of reinventing government. By paying attention to and adopting these concepts, intense competition in the industrial revolution 4.0 era can be answered.

Keywords: Hyper-Competition, Entrepreneurship, and the Industrial Revolution 4.0

1. INTRODUCTION

The development of the world of education, especially universities in Indonesia is very fast and makes the parties involved in it have to work hard so that its existence remains recognized. If in the past people would continue their education to college, they had to go to the big city. But now they don't need to go outside the area anymore because in their area there are already universities that organize and offer various programs or concentrations. The more variety of educational programs offered illustrates the increasingly intense competition in the world of higher education.

The number of Universities in Indonesia in 2010 reached 2,555, consisting of 120 state universities while PTS 2,435. In 2018 the number of tertiary institutions increased very sharply at 4586, this number was an accumulation of 400 state universities and 4186 Private Higher Education. For West Java and Banten alone the number of Private Higher Education (PTS) reached 464. This number shows that universities in West Java and Banten are increasing from year to year.

This increasingly fierce competition is sharpened by various government regulations and policies, such as: State-Owned Legal Entities (BHMN) and Higher Education Legal Entity (BHP) policies, Examples of higher education legal entities: Indonesian Education University (UPI), Padjadjaran University (UNPAD), Bogor Agricultural University (IPB), and many others.

The Higher Education Legal Entity essentially gives autonomy to the tertiary institutions, encouraging managers to continue to improvise with various strategies and tactics to reach as many students as possible. This policy was initially considered positive as an effort to no longer make State Universities (PTN) as government subordination, but what stucked out was the efforts of State Universities (PTN) to open various channels for student acceptance (Pikiran Rakyat, March 1, 2009).

The description above, shows that PTN which changed its status to BHP is a formidable competitor for Private Higher Education (PTS), and it is certain that PTN will become a market leader (market leader) in Indonesia. Because the assets and human resources they have will be an extraordinary force in facing market opportunities. Not only PTN is a PTS threat, but also Foreign Universities (PTA) which will soon be present in Indonesia. Signal towards that direction can already be seen from various collaborations and exhibitions conducted by PTA in Indonesia.

Very tight competition in the world of Education in Indonesia, indicates that Hyper-Competition does not occur in the manufacturing industry, computers, mobile phones, and other service industries but has penetrated into the world of Education. Environmental changes are very fast and increasing uncertainty can already be felt.

A management expert Richard A. D'Aveny (1994) said that in the 21st century the business world will be characterized by intense competition, further elaborating "In hyper competition the frequency boldness, and aggressiveness of dynamic movements by the player accelerates to create a condition of constant disequilibrium and change. Environment escalate toward higher and higher levels of uncertainty, dynamism, heterogeneity of players, and hostility".

The condition of competition as stated by D'Aveny is not too much of a problem for PTN. But what about PTS? Will PTS remain in the market? What strategies and tactics are used by PTS in facing this increasingly fierce competition?

Facing intense competition, the transformation of the entrepreneurial spirit in educational organizations is the right strategy. The transformation of the entrepreneurial spirit includes individual concepts, managerial skills, and the concept of reinventing government. By paying attention to and adopting these concepts, intense competition in the industrial revolution 4.0 era can be answered.

2. THEORETICAL FRAMEWORK

1. Entrepreneurship and Entrepreneurs

Today's entrepreneurship has changed from knowledge to science. Why is that? Because entrepreneurship already has requirements as a science, namely: empirical, systematic, objective, testable, and also equipped with theory.

Entrepreneurship departs from empirical matters, which is an observation data of individuals and research groups. So entrepreneurship is an activity from observations by a person or group. Entrepreneurship is a systematic activity, which is continuous and orderly. According to systematic experts is an attempt to describe and formulate things in the context of a logical and orderly relationship so as to form a comprehensive, integrated and integrated system that is able to explain the various series of causes and effects associated with a particular object ([www. Definisimenurutparahli.com](http://www.Definisimenurutparahli.com)). Entrepreneurship has an objective characteristic that is in accordance with reality, and also the activity or results of entrepreneurship can be tested, for example new products and services for consumers. In addition, entrepreneurship has been supported by theories.

Entrepreneurship from the word entrepreneurship is the process of identifying, developing, and bringing vision into life. The vision can be in the form of innovative ideas, opportunities, better ways of doing things. The final result of the process is the creation of new businesses formed by conditions of risk or uncertainty (Prastya: 2019).

According to Suparman (ZonaReverensi.com). Entrepreneurship is a capability to think creatively and innovate, this creative mind and innovation are the basis and also a source of motivation so that it can be used as a foundation in facing future challenges,

Meanwhile according to Badudu and Zain (1994), Wira means: warrior, hero, superior human being, role model, virtuous, courageous and regal in character. Business means doing charity, working, doing something, (<http://www.maxmanroe.com>>pen). So entrepreneurs are warriors or heroes who do something. According to Scarborough, Zimmerer, and Wilson (in Slamet et al: 2018), Entrepreneurs are people who create new businesses by taking risks and uncertainties in order to achieve significant profits and growth by identifying opportunities and combining the necessary resources so that resources the power can be capitalized.

2. Transforming the Entrepreneurial Spirit

According to Timmons and Spinelli (in Slamet et al: 2018) describe the evolution of entrepreneurship that has changed the world in the last 40 years into four forms of entrepreneurial transformation. This entrepreneurial transformation has influenced how the world's people go about their daily lives, work, study, and enjoy their free time. The four transformations consist of:

1. Entrepreneurship as a new paradigm in management;

2. Entrepreneurship as a new paradigm in Education;
3. Entrepreneurship as a new paradigm in the management of non-profit businesses and philanthropy, as well
4. Entrepreneurship as a curriculum in business schools.

Paying attention to the four paradigms, the author is interested and will focus this article on the transformation of entrepreneurship in the management of tertiary institutions facing the era of the industrial revolution 4.0. Here the author will try to transform entrepreneurial enthusiasm in the management of higher education in order to have individual concepts, managerial skills, and the principles of reinventing government.

3. Individual concepts and managerial skills
 - a. Individual concept

The concept of the individual is the ability of humans to develop systems in their lives through their minds such as livelihood systems, living equipment systems and others. Since humans are born into the world, humans can not be separated from other humans. Dependence between each other has existed since he breathed oxygen. So humans already know and relate to other humans, humans are social beings.

Facing the era of industrial revolution 4.0 which is full of competition, humans as individuals must have a concept. Individual concepts owned include: competency, commitment, and network (KKN).

4. Managerial skills in empowering human resources (HR)

In an effort to respond to increasing competition in the Education industry, new managerial skills are needed in empowering human resources (HR) in tertiary institutions. The conventional (classical) management style of directing and supervising will not be able to empower human resources (staff). According to Stewart (1998) in empowering human resources is not excessive old skills in management that have been empowered, but there needs to be a change in emphasis, which is a set of new skills that must be owned by management. Stewart further explained that a new set of skills, including:

- a. Making it possible;
- b. Facilitating (facilitating);
- c. Consultation (consulting);
- d. Collaborating
- e. Guiding (mentoring);
- f. Supporting (supporting).

This new managerial skill will increase employee motivation and also avoid authoritarian management. These new skills go to the inverse paramide model, where the manager's responsibility appears to be a strong and solid foundation for the department and the team. New management skills can lead from behind.

Principles of Reinventing Government

At present the public sector in carrying out its activities has adopted business concepts, so the world of education does not feel like it has done the same thing. Business concepts such as marketing educational products have been adopted by educational institutions, especially universities. Higher education is now bound by market law which prioritizes supply and demand laws.

Reinventing government by David Osborne and Ted Gaebler (1992), which in essence transforms the entrepreneurial spirit into the public sector. This is how the government was introduced to business concepts in running government affairs. However, the two experts stressed that the government cannot be run like a business, because the government and the business of two institutions are fundamentally different.

Some other differences, business leaders are driven by profit motives while government leaders are driven by a desire to be reelected. Companies (businesses) get most of the money from customers,

while the government from taxpayers. Companies are usually driven by competition, while governments usually use monopolies.

All the differences described above, emphasize that the government, especially Private Higher Education, cannot be carried out like companies, but there are a number of business concepts that can be adopted by the government / universities. So it is necessary to modify some analog business concepts for universities, especially Private Higher Education.

Osborne and Gaebler (1992) state the 10 (ten) principles that underlie the success of every institution in the world today, namely: government, private, or non-profit. The two experts further said that this principle is almost the same as that stated by Deming with its Integrated Quality. The Deming concept is popular in the government sector, namely: results, customers, decentralization, prevention, and market (or system) design.

The ten principles of bureaucratic entrepreneurship put forward by Osborne and Gaebler, are as follows:

- a. Catalyst governance;
- b. Community-owned government;
- c. Competitive government;
- d. Mission driven government;
- e. Results-oriented government;
- f. Customer-oriented government;
- g. Entrepreneurial government;
- h. Anticipatory governance;
- i. Decentralized governance;
- j. Market-oriented government.

The ten principles according to Osborne and Gaebler (1992) provide a powerful conceptual tool. A person can run any public organization or system or any social problem through the checklist, and the process will suggest a very different approach traditionally done by the government.

Higher education institutions, both state and private tertiary institutions that adopt the principles of reinventing government, will be able to respond to intense competition. But the results of adoption of business concepts certainly need to be modified in accordance with the conditions and culture of private universities.

5. DISCUSSION

1. Individual Skills as a Dimension of Entrepreneurial Spirit Transformation

The focus in this paper is entrepreneurship as a new paradigm of education, meaning that in the management of tertiary institutions it is necessary to pay attention to the principles of entrepreneurship. The principles of entrepreneurship here are none other than the ten principles of bureaucratic entrepreneurship that have been described above.

Whereas what is meant by an individual concept is a concept that can improve self quality. The concept of the individual as described earlier, is competence, commitment, and network (networking). Individuals who have competence, commitment, and network can be categorized to individual entrepreneurs. Individual competence is the first concept, which is something that is associated with the ability, knowledge or insight and attitude that is used as a guideline in carrying out work responsibilities carried out by employees. The success achieved is the result of increasing employee competency while managing tertiary institutions. In detail, there are 5 dimensions of competence that must be owned by each individual, as follows:

- a. Task skills, namely the skills to carry out routine tasks with standards at work;
- b. Task management skills, which are skills to manage a different set of tasks that arise in a job;

- c. Contingency management skills, which are the skills to take quick and appropriate actions when problems arise at work;
- d. Job role environment skills, namely skills to work together to maintain the comfort of the environment;
- e. Transfer skills, namely skills to adapt to the work environment (Repository.USU.ac.id).

The five competency dimensions above need attention from the manager of the private tertiary institution (PTS), although not necessarily the individual (staff) has full competence. Maybe one individual has only task skills and task management skills, other individuals have other competencies. Management skills are integrating the competencies of each individual (staff) to support effective PTS management.

The second individual concept, is Commitment, commitment is a form of obligation that binds someone with something, both themselves and others, certain actions, or certain things. According to Griffin (in) commitment is a form of dedication or obligation that binds someone to another person, about certain things or certain actions.

While high commitment in entrepreneurship is a person who obeys or starts his promise to advance his business to succeed, and maintain and create trust from others, both consumers and business partners. Commitments can be voluntary or forced, depending on each situation (<https://www.temukan.pengertian>).

Committed individuals (staff) are those who have strong self-confidence and high motivation. But in reality it is very difficult to build commitment, quite a lot of staff or managers of private tertiary institutions are forced to carry out their duties and functions (tupoksi).

The third concept of individuals, namely Network (networking), namely the ability of individuals or managers in building relationships with other people or other organizations. Networking or networking is very important and needed especially in this challenging era. His degree or expertise will be in vain if he does not have a strong network. PTS managers who do not have a network, then must accept if the institution will be left behind. The increasing quality of a PTS is strongly influenced by the strong networking of its managers. For more details, the link between competence, commitment and networking is as follows:

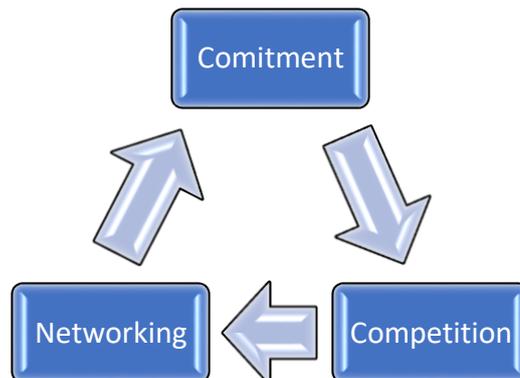


Figure 01: Individual Concept

1. Managerial Skills of Private Higher Education (PTS)

Individual concepts or individual skills can also not be developed if they are not supported by new managerial skills. Increasing competence, building commitment, and networking staff (employees) of private tertiary institutions is not an easy way for lazy and half-hearted managers, but instead demands more competence or managerial skills. The new managerial skills described above, namely enabling (enabling) means ensuring that PTS staff have the necessary resources. In addition, managers provide encouragement and advice to individuals and groups so that they have the skills (increase competence).

The next new managerial skill is facilitating, surfing is the most basic skill that must be possessed and carried out in building staff competency and commitment. The main task of managers here is to

remove all obstacles, obstacles and delays that prevent staff from trying to improve their competence and commitment. The obstacles according to Stewart (1998) in the form of inadequate information, skills, or knowledge. In addition, obstacles are caused by rules and procedures that are more inhibiting than helping to achieve peak performance. Furthermore, Stewart said: expediting means paying attention to what is needed by our staff, then providing as much as possible.

Consultation skills, it means that managers need to consult not only daily problems but also strategic issues. A good consultation between superiors in this case PTS leaders with subordinates will be able to build the commitment of the staff. The next skill is to collaborate. According to Stewart (1998) full collaboration between managers and staff must be the ultimate goal of each program. With free and open collaboration, all wealth, skills and knowledge in the organization can be utilized. Besides that, horizontal and vertical collaboration in an Education organization (PTS) is going well so it can build external relations (network). In this era of intense competition, cooperation with other parties has become a necessity.

Not enough cooperative skills, the next skill that must be owned by managers is to guide (mentoring). Guiding is the activity of applying the skills possessed by the leader to his subordinates (staff). According to Stewart broader guidance of delegation and also very fundamental to the empowerment process. Effective guidance will enable staff to improve their competence and networking skills. PTS who want to advance and become market leaders, the mentoring process needs to be done at any time.

The last skill that must be possessed by the leader / manager is to support. The purpose of guiding is to help staff to be independent. Supporting staff in improving competence through training and continuing education will make the organization (PTS) have the strength to face hyper-competitive.

The six new managerial skills described above, are very helpful for staff (individuals) in improving competence, commitment and networking. With a strong individual concept and supported by managerial skills, staff / managers will be able to implement 10 (ten) principles of reinventing government.

2. Relation of Individual Concepts, Managerial Skills, and Reinventing Government in Facing the Era of the Industrial Revolution 4.0

Entering the era of the industrial revolution 4.0 marked by very tight competition in the world of education, especially higher education in Indonesia. Various strategies and tactics carried out by the managers of higher education in order to continue to exist and not be displaced by its competitors. Transforming the entrepreneurial spirit by adopting and modifying the principles of reinventing government, is an effective strategy in responding to that era. However, to be able to adopt and implement the message of reinventing government, university managers must have individual concepts and be supported by managerial skills. So there is a close connection between these dimensions. One dimension does not exist so the transformation of the entrepreneurial spirit is difficult to materialize. In the case of private universities the ten principles of bureaucratic entrepreneurship put forward by Osborne and Gaebler were modified into six principles, as follows:

The first principle is competitive education, which is injecting competition into service, competition between teams, between organizations can build enthusiasm and encourage creativity. This is not a competition between individuals. According to Moffit (in Osborne: 1998) said, the problem is not public versus private, but competence versus monopoly. The advantage of competition is to value innovation, generate self-esteem, and employee morale. In addition, competition forces government monopolies to respond to all customer needs.

To be able to respond to competitive education by injecting services requires human resources (staff) who have high competence and commitment. Skill, confidence, and high motivation in serving customers (students) have a positive impact on customer loyalty. The second principle, namely educational organizations that are driven by vision and mission. Organizations that are driven by vision and mission change organizations that are driven by regulations. George S. Patton's Message (in Osborne: 1998): "Don't tell people how to do things. Tell them your desires that they must achieve, then you too will be surprised to see their intelligence.

Most government organizations, one of which is the Education organization, is not driven not by their vision and mission, but is driven by regulations and budgets. Although every university has a vision and mission, but in reality quite a lot are driven by the rules and desires of the leadership of the college. The individual concept and the managerial skills of the private tertiary institution owned will be able to translate and carry out the vision and mission in daily activities.

The conclusion from the description above, shows that educational organizations that are driven by vision and mission will:

- a. More efficient and effective than organizations driven by rules;
- b. More innovative than those driven by regulations;
- c. More flexible than organizations that are driven by regulations;
- d. Have a higher enthusiasm compared to organizations that are driven by regulations;
- e. Have higher performance and productivity compared to organizations that are driven by regulations (modification from Osborne: 1998).

The third principle, Educational organizations (PTS) are results-oriented, namely to pay for results not input. At present many government organizations are oriented towards inputs, not outcomes. For example they finance educational organizations based on the number of prospective students who register. Result-oriented tertiary institutions, not only financially concentrated, but more important is the quality of the students and the good character of the students. With competence, commitment and networking supported by new managerial skills will be able to encourage the university to achieve brilliant results.

The fourth principle, customer-oriented education, this concerns the quality of service from educational organizations to students, students' parents, and other communities. Some questions that need to be answered by the college management are as follows: (1) Do you feel that you are being served as a valuable customer in your children's school ?, and (2). Are customers satisfied with products and services? The fact that the education organization in Indonesia has not been optimal in serving its students. High commitment and supported by the competence of university managers for students, parents and the community will enhance the image of the college.

The fifth principle, is an anticipatory educational organization. This organization is an educational organization with foresight, anticipating the future. For example, the era of the industrial revolution 4.0 marked by the digital era is a challenge and also an opportunity. Forward-looking tertiary institutions see this era as an opportunity. Individual concepts supported by managerial skills can turn threats or challenges into opportunities.

The sixth principle, is market-oriented education, which is boosting change through the market. Market share is one of the factors that must be considered by university managers, if they are going to establish a study program. For example, the study program of communication is currently in great demand by prospective students, universities everywhere that have this study program are not lonely interested. To be able to map market share, it requires human resources who have competence, commitment and networking. Network is one of the most important factors in reaching prospective students.

Below is presented a picture of the links between individual concepts, managerial skills, and the principles of reinventing government.

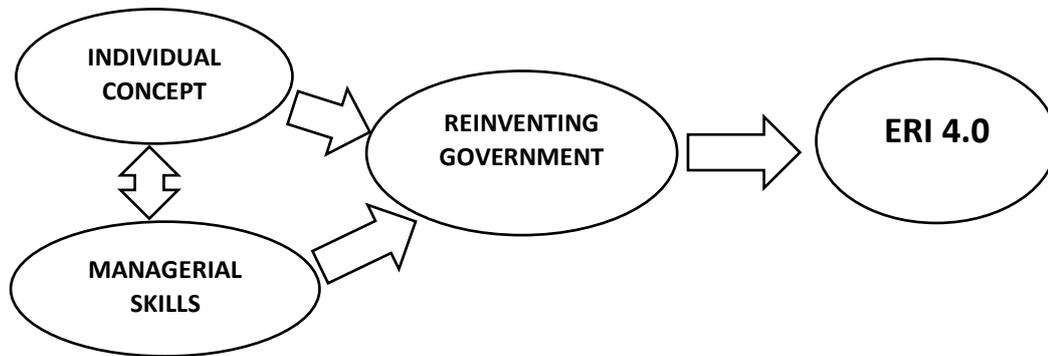


Figure 02: Linkages between Individual Concepts, Managerial Skills, and Reinventing Government, and the Era of the Industrial Revolution 4.0

Starting from the description above, the link between individual competition, managerial skills, and the principles of reinventing government is very strong. Implementation of government principles will succeed if supported by employees who have high competence and supported by managerial skills of the managers. One of the above dimensions does not exist, so it is difficult for the management of private tertiary institutions to answer the challenges of the industrial revolution 4.0.

3. CONCLUSION

The growth of tertiary institutions in Indonesia is increasing, the increasing number of tertiary institutions has an increasingly fierce competition between universities. This indicates that hyper-competition in universities in Indonesia, both state and private universities has taken place.

Facing intense competition, university managers must have appropriate and accurate strategies and tactics. The right and accurate strategy is the transformation of entrepreneurial spirit in the management of private tertiary institutions. The transformation of entrepreneurial spirit includes individual concepts consisting of dimensions of competence, commitment, and networking as well as managerial skills, including: enabling, facilitating, consulting, collaborating, mentoring and supporting.

The concept of individuals possessed by staff and supported by managerial skills will be able to implement the principles of reinventing government. The link between individual concepts, university managerial skills in implementing the principles of entrepreneurial spirit will be able to answer the challenges and opportunities of the industrial revolution 4.0.

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INTELLECTUAL PROPERTY PROTECTION IN FIELD OF PATENTS ON INDONESIA GENETIC RESOURCES FROM FOREIGN PARTY MISSAPPROPRIATION ACTIONS

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Abstract

Indonesia as a mega biodiversity country is often become a victim of foreign bio piracy due to the actions of misappropriation conducted by foreign parties. This occurs because of differences in the understanding of Intellectual Property Rights, especially Genetic resources and Traditional Knowledge. Traditional societies use Genetic resources and traditional knowledge with spiritual and cultural reasons without patent oriented. Developed countries have economic orientation in the use of Genetic resources and Traditional Knowledge by making patents of Indonesia. This research was made to find an answer concerning, first, the legal system for the protection of Genetic Resources and Traditional Knowledge, because the existing system Law number 13 of 2016 concerning Patents has not been able to protect. Second, the government's efforts to protect SDGPT from the patents conducted by foreign parties. And, a mechanism for benefit sharing to the traditional societies as the Genetic resources and Traditional Knowledge owners.

Keywords : *Intellectual Property Rights, Patent, Missappropriation, Genetic resources*

1. INTRODUCTION

The inclusion of TRIPs in the WTO, raises the notion that the IPR system is one of the tools for developed countries to protect their trade interests, this notion is not entirely true because through the IPR system the interests of countries that have natural resources will also be protected. It really depends on the country, whether will concern or not to use it through the development of the existing IPR system. Natural resources owned by developing countries associated with Traditional Knowledge and genetic resources need attention because it is a potential asset for the prosperity of the nation. ¹

Utilization of genetic resources for various purposes is increasing with the development of science in biotechnology, such as a drug, food, drink, preservative, or as a seed. This has attracted the attention of large corporations, but the equitable distribution of profits and the serious transfer of technology from these large corporations to producing / supplying genetic resources that generally come from developing countries is still inadequate.

Indonesia as a developing country known as a megabiodiversity² country has enormous potential in the field of genetic resources and abundant traditional knowledge. This situation is very vulnerable to biopiration actions carried out by foreign parties. Missapropriation actions carried out by foreign researchers to develop their research in the field of biotechnology or pharmacy are more motivated by economic motives. ³

This is evidenced by the many cases of biopiration both against traditional Indonesian knowledge and against Indonesian genetic resources, as in the case of Shiseido in 1999 which patented eleven Indonesian⁴, genetic resources, including: Raper wood (*parameria laerigata*); Kemukur (piper

¹ Imas Rosidawati, *The Protection Concept of Traditional Knowledge Based on the Principle of Justice Through Sui Generis Intellectual Property System*, Jurnal Hukum, Ius Quia Iustum, Vol.20, No. 2, Yogyakarta, April 2013

² Afrillyana Purba, *Empowering Legal Protection for Traditional Knowledge and Traditional Cultural Expressions as Means of Growth in the Indonesian Economy*, Alumni, Bandung, 2012, hlm. 299

³ Agus Sardjono, *Intellectual Property Rights and Traditional Knowledge*, Alumni, Bandung, 2016, hlm. 11

⁴ Bebeb A.K.N. Djundjunan, *The International Law System Has Not Yet Provided Effective Protection Against GRTKTCE*

, tabloid diplomasi, Juli 2012, diakses melalui: <http://www.tabloiddiplomasi.org/current-issue/172-diplomasi-juli-2012/1473-sistem-hukum-internasional-belum-memberikan-perlindungan-efektif-terhadap-grtktce.html>, tanggal 17 septe,ber 2019

cubeba); Tempuyung (sonobus arvensis); Belatas (pluchea indica L); and Sintoh (cinamomun sintoc BL) with patent number reg. JP 10316541.⁵

This patent is not only registered in Japan, but also in the United Kingdom, Germany, France and Italy. Although in the end Shiseido itself withdrew the patents of the plants mentioned above, due to the incessant protests carried out by Indonesian NGOs.

In addition there are also cases of tempe patents. Bonnie Setiawan⁶ noted that there are 19 patents on tempe, of which 13 patents are owned by the US, namely: 8 patents owned by Z-L Limited Partnership; 2 patents by Gyorgy regarding tempe oil; 2 patents by Pfaff regarding incubator devices and how to make food ingredients; and 1 patent by Yueh regarding the manufacture of snacks with tempeh mixture. Whereas 6 pieces owned by Japan are 4 patents regarding making tempe; 1 patent regarding antioxidants; and 1 patent regarding cosmetics using tempe ingredients which are isolated. Another patent for Japan, called Tempeh, was invented by Nishi and Inoue (Riken Vitamin Co. Ltd) on July 10, 1986. The tempe was made from soy milk waste mixed with soy flour, flour, rice flour, corn flour, dextrin, Na-caseinate and egg whites.

The Forest Research Institute of Malaysia (FRIM) with the Massachusetts Institute of Technology (MIT) has collaborated for the past five years in a project called the Malaysia MIT Biotechnology Partnership Program (MMBPP). This project is aggressively developing micropopagation technology for the earth peg (*Eurycoma logifolia*) to obtain the essence of its chemical content. Both then registered a patent for it⁷. Patent registration by MIT on behalf of Bryant Andrew with patent number GB2386837. There are many more cases of patents against genetic resources and other traditional Indonesian knowledge which are carried out by foreign parties.

Piracy motives that are often used by foreign parties in carrying out biopiracy actions include conducting collaborative research on genetic resources in developing countries, then bringing the results of research to their countries and patenting them. For instance, the case of patenting the earth peg by MIT and Malaysia. The Patent Gauymi case in Panama, about patents made by NIH (The National Institutes of Health) for the discovery of T-Cells for those suffering from leukemia.

The case examples above show the tendency of foreign parties, namely developed countries to take traditional knowledge from developing countries and patent it as their intellectual property. It is time for Indonesia to protect the traditional genetic resources and knowledge because Indonesia has the potential genetic resources and traditional knowledge that can be utilized to generate economic benefits, to obtain justice in the international trade system and to protect the rights of traditional Indonesian communities⁸.

Utilization of genetic resources for various purposes is increasing along with the development of technology that supports the development of biotechnology. This attracts large companies to use the generic resources on a large scale. However, the profit distribution from the utilization of genetic resources is felt to be inadequate. According to the Generic Resources Action International (GRAIN) report, the annual sales of products produced from genetic resource engineering are around US \$ 500 million and US \$ 800 million annually. Sales from the herbal medicine sector are estimated to reach US \$ 12.5 million in 1994 and US \$ 30 million in 2000 with an average growth of between 5% and 15% each year depending on the region.

This has become one of the things that requires further study in relation to access and use of genetic resources. Various forums coordinated by the Convention on Biological Diversity (CBD), the World Health Organization (WHO) or UNESCO have sought to examine and prepare proposals / input on various matters that need to be studied and regulated in connection with the preparation of

⁵ Imas Rosidawati Wiradirja, Fontian Munzil, *Intellectual Property Rights and Traditional Knowledge*, Refika Aditama, Bandung, 2018, hlm. 11

⁶ Bonnie Setiawan, *Globalization and Its Impact on the Indonesian Economy and Its Critic*, diakses melalui: www.icrp.or.id, tanggal 3oktober 2019

⁷ Rizal V Tjahjadi, *Farmers... you should keep alert to: We OWN your seeds*, diunduh melalui: <http://biotaniindonesia.blogspot.com/2009/07/farmers-you-should-keep-alert-to-we-own.html>, tanggal 17 september 2019

⁸ Agus Sardjono, *Op. Cit*, hlm. 3

agreements to obtain and to utilize resources existing genetic power. Observations reported by WIPO, agreements that are commonly known as material transfer agreements (MTA) so far, the clause regarding the protection of related intellectual property rights has not been adequately regulated.⁹

Limited data, documentation and information about traditional knowledge are the aspects of the weakness in developing traditional knowledge protection system. Traditional knowledge actually has existed since hundreds of years ago but the absence of written documents regarding traditional knowledge has become one of the reasons why patents have been granted by the patent office on the consideration that there are no prior art documents which can invalidate the invention concerned. It is very detrimental for local (indigenous people) as the owner of the traditional knowledge.¹⁰

From the background explanation above, so the study will focus on the formulation of the problem as follows, has the Indonesian legal system been able to protect Genetic Resources and Traditional Indonesian Knowledge from biopiration carried out by foreign parties?

2. Approach Method

The method used is a descriptive analysis method with a normative juridical approach, descriptive analytical is a research that describes the applicable laws and regulations associated with legal theories and practice of implementing positive law concerning issues. In this case problems are related to Genetic Resources and Traditional Indonesian Knowledge regarding biopiration, benefit sharing, and patents. The specifications used in this research are analytical descriptive, namely research that describes events or facts about foreign biopiration of genetic resources and traditional Indonesian knowledge related to intellectual property rights in patents.

3. Discussion and Analysis

Economic development in developed countries has various agreements and regulations that becomes a rule that must be enforced by developing countries, including regarding IPR. In this case, the regulation of genetic resources and traditional knowledge that were considered as a free thing, now it has an economic value and must be protected by using a legal system because it is vulnerable to biopiration actions.

Biopiration cases that occur are carried out by developed countries towards developing countries. Developed countries have better technology and knowledge than developing countries, conduct research on genetic resources in developing countries, then patent the results of their Economic development needs to be supported by a set of policies and laws that support the achievement of development goals and the welfare of society in a research. Developed countries get many economic benefits from their patents while developing countries which are the original owners of genetic resources and traditional knowledge do not get adequate benefits.

The developing countries ask equal profit sharing from the usage of their genetic resources. This condition happens because the unequal profit sharing and inadequate transfer of technology by developed countries that utilize genetic resources in developing countries as the suppliers. However, it turns out that the benefits sharing mechanism as stated in Article 19 paragraph (2) of the CBD mechanism is left to each State party to the convention. It means that the level and forms of protection are left to each country to implement them¹¹ because the guidelines of the CBD are encouraging, so

⁹ Claudio Chiarolla, *Plant Patenting, Benefit Sharing and the Law Applicable to the Food and Agriculture Organisation Standard Material Transfer*, The Journal Of World Intellectual Property, Blackwell Publishing Ltd, Volume 11 Number 1 Januari 2008, hlm. 2-6

¹⁰ Philip Schuler, *Biopiracy and Commercialization of Ethnobotanical Knowledge*, in : *Poor Peoples's Knowledge Promoting Intellectual Property In Developing Countries*, J. Michael Fingerand Philip Schuler (ed), A Copublication of the World Bank and Oxford University Press, Washington, 2004, hlm160.

¹¹ Zainul Daulay, *Traditional Knowledge: Concepts, Legal Basis and Practices*, Rajawali Pers, Jakarta, 2011, hlm. 92-93

there is no emphasis on making the benefits obtained distributed to those who invest in conservation, including those included traditional society.

Theoretically, Paleroni¹² defines Related Genetic Resources (it is shorthen to SDG in Bahasa; Sumber Daya Genetik) as valuable chemical sources, potential enzymes or genes contained in microbes, plants, insects, animals and marine organisms. While Daniel M. Putterman defines 'SDG' as a description about biodiversity consisting of various genetic information and naturally occurring chemical compounds in species¹³. Annie Patricia Kameri-Mbote defines 'SDG' as forming the physical basis of heredity and providing genetic diversity which means the amount of genetic variation that exists in a population or species. 'SDG' consists of plant, animal and other organism germplasm¹⁴.

Article 2 of Law Number 5 of 1994 concerning Ratification of the United Nations Convention on Biological Diversity (hereinafter referred to as UUCBD), stipulates that what is meant by 'SDG' is genetic material that has useful value, both actual and potential (genetic material) of actual or potential value). Furthermore, genetic material is explained as functional strains of heredity found in plants, animals or microbiology.

'SDG' is a plant or animal character that can be inherited, as well as useful and potential to be utilized by humans and contains qualities that can provide value to biodiversity components, such as ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values biodiversity and its components, 'SDG' means animal plants, or microbiology that have valuable hereditary functional units, both actual and potential. Has multidimensional values, both ecological, social, cultural and economic values¹⁵.

Limits of 'SDGs are regulated in the CBD. Jeffery Q.C said that genetic material consists of any material from plants, animals, microbes or other organisms that contain functional units of heredity. Stowe further explained that genetic material is a term in chemistry that refers to deoxyribonucleic acid or DNA. Each plant and animal has a different DNA between species and each species has a unit of biochemistry, morphology and other characteristics. The functional unit of heredity has been interpreted to include all generic elements that contain DNA and sometimes contain ribonucleic acid (RNA). These characteristics can have practical advantage values such as for agriculture or the drug industry.¹⁶

According to the CBD, genetic material include seeds, fragments, cells and all or part of organisms that have functional units of heredity, including DNA and RNA. While other orgin phrases cannot be defined, but have been interpreted to include environmental samples, such as soil, sediments or liquids both contained in plants, animals or microbes that have a functional unit of heredity or a functional unit of heredity itself.¹⁷

In the context of food and agriculture, genetic variations related to plant 'SDGs', specifically for the understanding of plant 'SDG' FAO (Food and Agriculture Organization) provide limits as the total genetic diversity of cultivated species and wild relatives¹⁸. Thus this understanding is only limited to

¹² NJ. Paleroni, *Some Reflections on Bacterial Diversity*, ASM News 60, 1994, hlm. 10

¹³ Daniel M Putterman, *Genetic Resources Utilization: Critical Issues in Conservation and Community Development*, diakses melalui: <http://www.worldwildlife.org/bsp/bcn/whatsnew/biopros.html>, 30 november 2018

¹⁴ Annie Patricia Kameri-Mbote, Phillippe Cullet, *The Management of Genetic Resources: Developments in the 1997*, Session of The Commission on Genetic Resources for Food and Agriculture, Corolado Journal of International Environmental Law and Policy, 1997, hlm. 78

¹⁵ Efridani Lubis, *Protection and Utilization of Genetic Resources Based on the Application of the Concept of Rightover and Intellectual Property Rights*, Alumni, Bandung, 2009, hlm. 45-46

¹⁶ *Ibid*, hlm. 46

¹⁷ Michael I Jeffery Q.C, *Bioprospecting: Access to Genetic Resources and Benefit Sharing under the Convention on Biodiversity and the Bonn Guidelines Ten Years afret Rio: Implementing Sustainable Development*, Singapore Journal of international and Comparative Law 2002, hlm. 51

¹⁸ *International Undertalking for Plant Genetic Resources*, FAO Resol 8/83, in conference report FAO, UN, 22nd Sess., art. 2.1, UN document, C83/REP, 1993

cultivated species and the oldest species, not all species in the earth. Related to plant 'SDGs', there are five basic types of 'SDGs', namely¹⁹:

- 1) *Wild* atau *Weedy Relatives*, are common plants among plant species but not yet domesticated. This type can also be a source of resistant characters, but this character is difficult to include in the final variety.
- 2) *Landraces*, are plant varieties developed by farmers for several generations without using modern breeding techniques. These varieties are generally very diverse in one species because each variety is adapted to a particular environment. In modern breeding programs, these varieties are sometimes used as resistant characters and extensive efforts are usually needed before the genes can be used in the final varieties.
- 3) *Germ Plasm*, are the substance contained in a group of living things, and is a source of offspring traits that can be utilized and developed or assembled to create superior species or new cultivars. *Developed Germplasm* is a plant material that contains one or more interesting characters obtained through scientific selection or planned crossing.
- 4) *Advanced Germplasm*, is a cultivated variety that is used for planting by farmers and as an advanced breeding material by breeders who produce new cultivars.

Indonesia is a developing country that has enormous potential for Genetic Resources and Traditional Knowledge (in Bahasa is shorten to SDGPT; Sumber Daya Genetik dan Pengetahuan Tradisional), both in the form of traditional technologies, medicines, treatment methods and so on. These opportunities and potentials encompass the biodiversity which is the source or ingredient of traditional medicines and knowledge.

Indonesia has a variety of ecosystems inhabited by various species. There are 10% flowering plants, 12% mammals, 16% reptiles and amphibians, 17% birds and 25% fish²⁰. Indonesia's forests have the largest collection of palms in the world, the number of Dipterocarpaceae (meranti-merantian tribe) is a group of pathropic plants, in the form of very large trees with heights reaching 70-85 meters. Widely used in the timber field. Kalimantan is one of the centers of diversity of this tribe. because many are exploited, some of them are including endangered species, which have high economic value of more than 400 species and are estimated to store 25,000 flowering plants.

Despite having many opportunities and potentials of 'SDGPT', Indonesia does not yet have legislation that specifically regulates 'SDGPT'. Even though this regulation is very important to protect the rights of traditional communities against the use of 'SDGPT' without the rights carried out by foreign parties (biopiration) for commercial purposes. Because there are no laws and no regulations that specifically and explicitly regulate 'SDGPT', foreign parties who carry out biopiration cannot be prosecuted. Whereas since the era of colonialism, there has been an octooi wet (patent) of 1910. In 1961 the Trademark Law No. 21/1961 was made, in 1982 the Law on Copyright No. 6/1982 was made. In 1989 Law No. 6 was made 1989 about Patents. On the implementation side, the government has long made the Directorate General of Intellectual Property Rights as an agency that handles IPR protection issues in Indonesia, especially those relating to the registration and administration of intellectual property²¹.

As a member of the WTO, Indonesia applies the provisions of the WTO, including TRIPs by ratifying and making laws relating to IPR. However, it turns out that laws made by Indonesia on the basis of the

¹⁹ Kelly day Rubenstein, Paul Heisey, robbin Shomaker, John Sullivan, George Frisvold, *Corp Genetic Resources: An Economic Appraisal*, United States Departement of Argiculture, Economic Information Buletin Number 2, Mei 2005, diakses melalui: <http://www.ers.usda.gov/publications/EIB2/EIB2.pdf>, 10 Desember 2018

²⁰ Sutarno dan Ahmad Dwi Setyawan, Genetic Resources in the Surakarta Region, paper, presented at the Upgrading and Workshop (PENLOK) Intellectual Property Rights (IPR), Hotel Said Kusuma Surakarta, Solo, 17-20 September 2012, hlm. 5

²¹ Agus Sardjono, *IPR Protection Efforts Related to GRTKF at National and International Levels: Efforts that have not been comparable, in Grounding IPR in Indonesia*, Nuansa Aulia, 2017, hlm. 122

implementation of TRIPs are actually of little benefit to Indonesia and actually benefit developed countries. This is due to the lack of preparation made by Indonesia prior to ratification, such as conducting detailed data collection on 'SDGPT' just like China did. So when they ratified TRIPs they were ready.

The absence of Indonesian national law and specific binding international agreements on SDGPT is one of the causes of the widespread use of Indonesian people's SDGPT by foreign parties without asking permission (biopiration), approval and granting reasonable compensation to competent parties²²

On the other side, it is said that if Indonesia does not yet have a protective instrument that works effectively; even though a positive protection system does not yet exist; then having a defensive protection system becomes an effort to protect the ownership of Indonesia's Genetic Resources, Traditional Knowledge, and Traditional Culture Expression (GRTKTCE). This forum is an initiative of the Government of Indonesia to coordinate among countries in agreement in order to support negotiations between countries to form international legal instruments for the protection of Genetic Resources and Traditional Knowledge²³.

Compared to other developing countries such as the Philippines and Thailand. SDGPT protection provided by Indonesia through legislation is still very behind compared to them.. The Philippines has Republic Act No. 8371, November 29, 1997, governs the Indigenous People Right Act, which regulates in detail the rights of indigenous peoples to own, control, develop and protect their SDGPT. Indigenous people also obtain restitution rights over intellectual property that is exploited without their free and prior informed consent or by violating customary law, tradition and customs²⁴. . This provision has made a positive contribution to both state revenues and traditional society. Various products decorated with traditional motifs are made for the needs of foreign tourists, such as hanging decorations, traditional Ifagao clothes, blankets, table looks, and so on. Some of the profits from the sale are intended to develop local cultural groups²⁵.

In Thailand, there is a rule about *Thai Traditional Medicine Act*²⁶. This law regulates the protection of traditional medicine. It said that the parties who want to utilize traditional medicine formulas that have been recognized as Thailand traditional medicine, must first obtain a permit. Likewise with treatments that use rare or almost extinct growths, a permit is needed before the utilization process is carried out. Thailand's biodiversity is utilized by traditional communities to be used as medicines, then by the government or private bodies it is used as a pharmaceutical industry, so that it can provide benefits to the State and local communities that have high commercial value. India uses the *Traditional Knowledge Digital Library*²⁷ system (TKDLI). That TKDL India has succeeded in preventing the misuse of patent claims on traditional Indian knowledge, by recording prior art of various traditional knowledge, registering it at the patent office, and translating the prior art into various languages.

On the other side, Indonesia government has ratified the International Agreement on Law Number 4 of 2006 concerning Genetic Resources for Food and Agriculture. It is hoped that with the enactment of this Law our SDGPT can be protected from biopiration and prevent the development of Indonesian 'SDGs' into industrial products outside the country. In addition to the laws and regulations that have been

²² Bonni Setiawan, *Suing Globalization* INFID fan IGJ, 2001, hlm. 3940

²³ Research and Technology, Database for the Protection of Genetic Resources, Traditional Knowledge, and Traditional Cultural Expressions, accessed through: <http://ristek.go.id/index.php/module/News+News/id/11467>, 23 Februari 2019

²⁴ David Daoas, *Efforts Act Protecting Traditional Knowledge, The Experience of the Philipines*, WIPO, Geneva, 1999, hlm. 9

²⁵ Maricis Jan Tobias, *Copyright Protection of Indigenous Expressions*, WIPO Ais Pasific Regional Symposium on *Intellectual Property Right, Traditional Knowledge and Related Issues*, Yogyakarta, 17-19 Oktober 2001, hlm. 1-2

²⁶ Pennapa Subcharoen, *The Inter-Regional Workshop on Intellectual Rights in the Context of Traditional Medicine*, Bangkok, 6-8 Desember 2000

²⁷ Ristek, *Op.Cit*

mentioned. Protection through the legal system is carried out through Law Number 5 of 1960 concerning Agrarian Principles, Law Number 5 of 1990 concerning Conservation of Natural Resources and their ecosystems, Law Number 6 of 1995 concerning Protection of Vegetation, Law Number 41 1999 concerning forestry, Law No. 18/2004 concerning plantations, Law No. 31/2004 concerning fisheries, and Law No. 32/2009 concerning environmental protection and management, which are expected to protect SDGPT from biopiration, missaporation, and patents made by foreign parties. However, until now these laws and regulations are still considered not able to protect properly. This is expected due to the gap between the norm elements and the implementation phase of the regulation. One important factor that may be influential is the incompatibility among the elements in the Indonesian IPR system ²⁸.

Therefore, the legal system for SDGPT protection must be able to be adapted to the needs of traditional communities, because a system will not be able to function properly if it is not in accordance with the spirit of its people, it is good for this protection issue to be left to traditional communities who understand better about their needs. The issue of protection from biopiration and missaporation is a regulation that must be regulated by the government, IPR regulations are made with a *sui generis* system, so that there is legal certainty that protects intellectual works and the rights of traditional communities can be protected as well as the SDGPT.

SGDPT protection by using *sui generis system*, must concern about three conditions, namely²⁹:

- 1) Fulfilling philosophical requirements, the regulation must be based on Pancasila as the basis of the Indonesian State, the state ideology and view of life of the Indonesian people as well as the source of all sources of law in Indonesia.
- 2) Fulfilling the juridical requirements, the government must be made together with the legislative (DPR) as a representation and owner of SDGPT. Both parties must be in line in determining policies related to SDGPT.
- 3) Sociological conditions, regulations are made because of the needs of the community. It must be in accordance with the principles of IPR in the TRIPs and WTO which have been ratified and become positive laws of Indonesia.

From the three conditions above, then to make regulation through the *sui generis* system, the regulations made must make the values contained in Pancasila become the soul of these laws and regulations. Traditional communities must be involved in making laws and regulations regarding SDGPT because they have and know the exact protection, use and preservation of SDGPT to be in accordance with their legal culture, and can be applied well. We have to make adjustments among international regulations, the soul of the nation and the culture of the nation, because what has been done so far is doing ratification directly without considering to do the adjustment with the people's condition. So that, the existing rules now can't protect the needs of traditional society and it is not felt as an important rules because it is not in accordance with the principles adopted by traditional societies that have the concept of help, not the concept of commercialization or seeking profit for oneself or a group.

Indonesia has done so many efforts to protect SDGPT through both national and international efforts. The national effort was carried out by drafting a bill (in bahasa it is shorten RUU= Rancangan Undang-Undang) concerning Management and Utilization of Generic Resources (RUU PPSDG); Draft Bill on Traditional Knowledge and Traditional Cultural Expressions (Draft Bill PTEBT); Draft Bill on Cultural Preservation; Draft Bill on Recognition and Protection of Local Communities; and various other legal and regulatory provisions. In addition, the government is also in the process of preparing a national database, to form a protection system using defensive protection methods, which is considered to be able to provide effective protection as long as protections such as national legislation have not been realized. ³⁰.

²⁸ Agus Sardjono, Grounding Indonesian IPR, *Op. Cit*, hlm. 40

²⁹ Afrillyanna Purba, *Op. Cit*. hlm. 312-313

³⁰Ministry of Foreign Affairs, *Press Release*, accessed through: <http://deplu.go.id/pages/PressRelease.aspx?IDP=783&I=id>, tgl. 23 November 2018

Meanwhile, with international support, the Indonesian government actively participates and establishes joint positions with the Institutional Legal Agencies of Mindful Countries (LMC) in various multilateral negotiations. WIPO-*Intergovernmental Committee on Generic Resources, Traditional Knowledge and Folklore* (IGC-GRTFK) is an exactly forum to protect SDGPT internationally. In order to get the same perceptions among developing countries about equal benefit for stakeholders and to end the conflict between developed and developing countries, so the Indonesian government became the host of LMCs on *International Instrument for the Protection of Generic Resources, Traditional Knowledge and Folklore* (LMCM) in Bali on 23rd – 27th November 2009³¹.

Regarding access to and sharing of benefits from the use of SDGPTs arranged in the Nagoya Protocol, through *National Focus Point* (NFP-Fokus Poin Nasional), *Competent National Authority* (CNA-Kompetensi Otoritas Nasional), forming *access* and *clearing house*³², *benefits sharing* information, domestic act to do *Access Benefits Sharing* (ABS), MAT negotiation, increased awareness of IPR, technology transfer and financial support.

The ABS mechanism is a mechanism to regulate SDG access and to monitor the implementation of that access, also ensure the benefits gained are used for conservation and maintenance of the SDGPT and improve the welfare of the community or traditional communities that own the SDGPT.

An authority institution (LO) must be appointed that acts as a focal point, has the authority to grant permits, carry out the negotiation process, establish requirements and procedures for obtaining a PIC³³, establish a MAT³⁴,, monitor and evaluate ABS agreements, implement ABS agreements, establish effective mechanisms for participation by different stakeholders including traditional society³⁵. The LO must complete legal force to provide the PIC or to delegate to other institutions.

The basic provisions of access must use clear, effective, efficient and transparent principles and have clear objectives³⁶. As in Brazil, access permits will be granted for scientific research, technology development or SDG prospecting activities. Whereas in India access permits are granted for research, commercial or biosurvey purposes, and are only required for non-Indians, or Indians but not residents or companies, associations or organizations not registered in India³⁷.

Indonesia should be able to adopt both of these rules. Then, in granting permits, assistance is needed by Indonesian people or entities in research conducted by foreign parties. Access permission is needed for activities that have the potential to be commercialized through research and development. While for

³¹ Desy Chairul Aini, *Juridical Study Provisions for the protection of Traditional Knowledge in International Law*, Thesis, Faculty of Law, University of Indonesia , Jakarta, 2012, hlm. 128-129

³² Clearing House is a mechanism for providing relevant information to SDG users and the relevant national authorities in determining policies regarding SDG. Data base which is the responsibility of the authority agency (LO) regarding SDG and its derivatives, the community has the authority to provide a PIC, the person / institution has the right to be a companion can be displayed in this mechanism and can be accessed. The LO can specify that some information is not displayed in this mechanism for security reasons.

³³ *Prior Informed Consent* (PIC) is a document that contains a notification of the request for access to the SDG owner about all information in the context of SDG access activities that are used by the SDG owner as material for consideration in granting access approval to the SDGs they have. PIC is the main condition for granting access and it is possible not to participate if the provider sets out the guidance. PIC is involving all stakeholders involved in access to participate in decision-making that can have a significant impact on the community. So that the access does not interfere with traditional values and the rights of the community.

³⁴ *Material Transfer Agreement* (MAT) is principles and negotiation practices in accessing SDGPT which serve as a guideline for profit sharing from commercial SDGPT to be fair and equal, to protect the weak bargaining position of the provider country.

³⁵ II.B.13 dan 14 *Bonn Guidelines*, is ABS guidelines and models developed in the CBD forum since 2000. This reference is not binding.

³⁶ *The ASEAN Framework Agreement on Access to Biological an Genetic Resources*

³⁷ Efridani Lubis, *Op. Cit.* , hlm. 420

the purpose of conservation this does not need to be done, but still must involve Indonesian citizens as the subject.

Permits granted cannot also inhibit the shift of SDGPT naturally, to keep preserving it traditionally. Permits are granted solely for the benefit of the Indonesian nation and nation; can support research in the territory of Indonesia; contribute to the conservation and sustainable use of SDGPT and increase the welfare of the communities surrounding access; strengthen transfer of know-how and technology; increase the relevant SDG knowledge; It is also required for the applicant to deposit all duplicate SDG collected in LO and inform the results of activities / research that have been done in writing.

4. Conclusion

Since 1910 Indonesia has had rules on patents known as ocrooi wet. Indonesia has always ratified various international treaties relating to IPR and adjusted its IPR rules according to the provisions of TRIPs and WTO. But the IPR system in Indonesia is still considered to be less useful because the legal system regarding IPR is not in accordance with the spirit of the Indonesian people, especially regarding patents, patenting Indonesian SDGPT, and when the Indonesian people use the SDGPT must pay royalties from their use.

There are no standard rules governing the mechanism of benefit sharing. But in the CBD, it is always emphasized that members are required to provide fair and equal benefit sharing between researchers and SDGPT owners. However, in terms of food the distribution of benefits provided is very small, only 0.6% of the commercial profit from the use and development of SDGPT. This certainly violates the rules as stated in the CBD which requires the distribution of fair and equitable benefits.

Recomendations

Making the same regulations regarding patents throughout the world. Because based on the provisions of CBD Article 27 paragraph (3) it does not explicitly regulate the exception of patents, so the rules set by each country are different. So, patent protection against SDGPT has not really protected.

There is no complete documentation of SDGPT, so it is difficult to test an invention. Another problems are the incompetent of human resources, the laws and regulations are not yet in accordance with the culture of the Indonesian people, so these rules are still very difficult to apply, especially to traditional communities that own SDGPT. Director General of IPR must improve the IPR registration system so that the registration process will be faster. In making legislation using the sui generis system, it is hoped that the government can include cultural diplomacy, as was the case in North Korea.

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SOCIAL CHANGE ON THE REVOLUTION 4.0 ERA IN HIGHER EDUCATION

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Abstract

Industrial Revolution 4.0; demanding socio-cultural changes and social engineering, the obvious challenge for private higher education institutions is how to respond to actual conditions by developing human resources, to achieve national education goals. On one hand, globalization must be carried out, on the other hand it is demanded to maintain the local values that show national identity. The main problem in this study is how is social change in higher education in facing the challenges of the industrial revolution 4.0? This research used a qualitative approach with survey-descriptive methods, and interview, observation and documentation techniques. Informants were determined purposively with the total number of 18 people, located in 5 Private Universities in Garut Regency. Data analysis conducted through the stages of reduction, display, analysis and conclusion. The qualitative approach lies in the results of descriptive and practical surveys. Most approaches were carried out through cultural change and modernization based on the needs and possibilities that apply (A.Hadita: 2015) Theory used: the theory of social change (Rogers: 1984). The results showed that social change in private higher education institutions was determined by various factors, including the development of the global environment and the demands to maintain the value of local wisdom, in improving human resources.

Keywords: Social Change, Revolution 4.0, Higher Education

1. INTRODUCTION

Social changes in modern society that continue to develop as predicted by Alvin Toffler in some of his works including *Future Shock* (1984) and *The Third Wave* (1980). Toffler explains the first period is farming and the second period: industrialization, is a form of change to the social conditions of society that are very dependent on the human beings themselves with machine to support their activities in society. The third period of the information age; according to Toffler is a very complex period, the machine is not replaced entirely but gain added value knowledge.

The fourth phase of the industrial revolution history began in the 18th century. The 4.0 industrial revolution offers an offer that can help improving the welfare of society in general. Experts also argue that the 4.0 Industrial Revolution will be able to help increasing the average of income per-capital in the world, extend the life span of humans and even improve the people's quality of life. This requires changes and strengthening competencies. In this context, some of the competencies needed include the ability to solve problems, the ability to adapt, collaboration, leadership, creativity, and innovation. Thus, universities need to develop a pattern in order to answer these needs in order to strengthen competitiveness and universities further strengthen their position as industrial partners and the business world where they can manage reliable Human Resources.

Some features of the industrial revolution 4.0 era are the characteristics of automation and digital economy. The development of super-computers, robots, artificial intelligence, and genetic modification has resulted in shifting trends in the workforce that is dependent on machines. A 2016 McKinsey study (<http://www.Mdp.Ac.id/article/mckinsey-five-facts-indonesia-can-be-developed-in-2030>, downloaded on 30 September 2019, at 21.31) states that five years in the future 52.6 million jobs will be replaced by machines. This follows a global trend where 60 percent of jobs will adopt an automation system, and 30 percent will use digital technology. What efforts did universities do to face the challenges and opportunities of the industrial revolution 4.0?

The university should ideally respond immediately to employment problems in the industrial revolution 4.0 era, by changing and redesigning the curriculum. with a digital human approach, towards transformation of skills on the basis of Communication Information Technology. The presence of the Industrial Revolution 4.0 will have a major impact on the lives of people wherever they are. These

changes will appear in the cultural sector, lifestyle, mindset, work patterns, and institutional systems in any institution.

The readiness of human resources in various sectors is the right answer in welcoming the 4.0 Industrial Revolution by changing the way of work and output of work becomes a change in this era. For those who still have not been ready, of course they will be left behind and do not have the ability to compete in their best performance. The 4.0 Industrial Revolution has provided interesting challenges while providing opportunities to create new ways, new systems and new cultures in the life of society, nation and state.

The answer to the challenges that are attractive to college graduates is being responsive, having an entrepreneurial spirit, and improving the quality of graduates. Indicator of higher education is quality. The development of higher education should be directed at strengthening quality improvement to answer the needs of the Industrial Revolution 4.0.

University leaders who are alert and energetic, brave to make breakthroughs, quickly and correct in making decision are needed. This strategy is very appropriate to be implemented by universities to respond the existing challenges. The digital generation is required to have the ability to change cultures and work patterns dramatically. If the strategic steps are implemented properly, universities will easily achieve the expected goals. The Industrial Revolution 4.0 also opened positive opportunities for the nation's generation.

The current socio-cultural change is not only in the technology sector, but has expanded in other fields such as government, such as the expansion of management information systems created to improve services to the public, so that the government can effectively carry out the role of bureaucracy efficiently based on e-governance. In the political field as well as in political activities to gather time with social media-based activities. And the change that is very worrying is the change in the social field. The industrial revolution has changed the world order rapidly. This change no longer takes thousands of years, as explained by Charles Darwin's theory of evolution (Darwin, 2004) in *On the Origin of Species*. Changes that only require a very short time. In this fast-paced situation, what changes is not just a phenomenon, for example offline to online, the real world becomes a virtual world, print media becomes social media, and so forth. However, values, social order, and culture also experience changes.

In line with social changes that occur in Indonesian society, the main problem in this study is how social change in higher education in facing the challenges of the industrial revolution 4.0? 4.0 From the main problem, then identified as follows: (1) How is the change in student lifestyle ?, (2) How to improve lecturer skills? (3) What do private universities need to prepare? Hence the purpose of this research is to find a way to overcome the changes in the lifestyle of students, to illustrate how to improve the skills of lecturers and to find out and explain the preparation of private universities in facing the challenges of the industrial revolution 4.0.

2. LITERATURE REVIEW

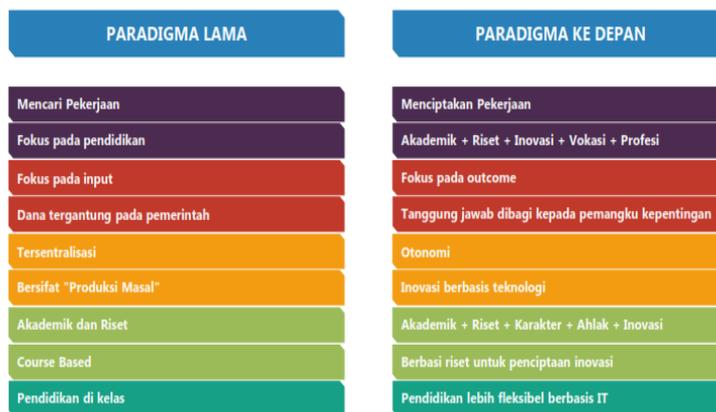
Communities wherever they are never stop experiencing socio-cultural changes. Socio-cultural changes are characterized by symptoms of changing social structures and cultural patterns in a society. Socio-cultural change is a common phenomenon that occurs throughout time in every society. The change occurs in accordance with the nature and nature of human beings who always want to make changes. Likewise, higher education as one part of the community group, is always experiencing changes.

Focus Theory Structural functionalism emphasizes order and ignores conflict and change in society. The main concepts are: function, dysfunction, latent function, manifest function, and equilibrium. This theory states the community as a social system consisting of interrelated parts and united in balance. Changes that occur in one section will also bring changes to other parts. Adherents of this theory tend to look only at one system or event against another system and therefore ignore the possibility that an event or a system can oppose other functions in a social system. Adherents of this theory extremely assume that all events and all structures are functional for a society. So if there is a

conflict, adherents of structural functionalism theory pay attention to the problem of how to solve it so that the community remains in balance.

In the case of the industrial revolution 4.0, it will influence changes in behavior, mindset and patterns of action in the tertiary community, both students, lecturers, or academic supporters globally. Revolution is a change from social or cultural that takes place quickly and involves the main points of the foundation or life of society. In a revolution, changes can be planned or not planned in advance and can be implemented without violence or through violence. The size of the change in relative speed due to the revolution can also take a long time.

Changes in University Paradigm (Dikti and ITS: 2018) are;



Rogers (1985), argues that a theory of change must summarize the following main questions:

1. What factors experienced the change.
2. The extent to which the change occurred.
3. How the speed of change is going on.
4. What conditions exist before and after the change occurs.
5. What happened during that transition.
6. What stimuli that drive the change.
7. Through the mechanism of whether the change occurred.
8. What elements cause stability at a certain point in the change.
9. Can humans determine the direction of the change.

3. RESEARCH METHOD

The research method used in this study was a survey research method with a descriptive-qualitative approach. Data collection techniques used were structured interview guidelines and observations as well as studies of secondary data / documentation studies.

The informants in this study were 18 academicians, from 5 Universities in Garut Regency which has a minimum student body of 1500 students. Data analysis was carried out in a qualitative verbalistic manner through the stages of reduction, display, analysis and conclusion drawing.

4. FINDING AND DISCUSSION

1. Changes in student lifestyle

In the research location there were 5 higher education institutions under the Directorate of Higher Education and 5 higher education institutions under the Department of Religion, with varying amounts, between 1000 to 6000 students affected by digital lifestyle.

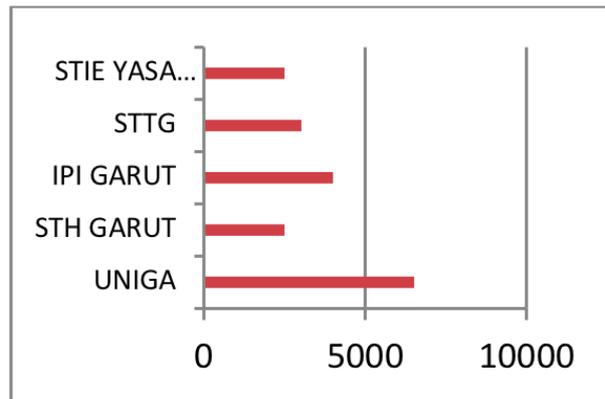


Figure 1: Data of 5 Universities and Number of Students (LLDIKTI 4)

In Figure 1, it is known that the most students are at the University of Garut (6500 students). The digital lifestyle is a phenomenon for millennial society today. This explains that the digital lifestyle is a lifestyle revolution (even a living culture) due to the rapid development of information and communication technology. By using digital equipment, work can be done more efficiently in the sense of saving costs and also time, can be more effective because the work objectives can be achieved faster than before. Experts say that the main purpose of a digital lifestyle is the optimization of productivity by using various tools of the benefits of information technology.

The absorption capacity of the community towards global culture is faster than the absorption of the local culture. Real proof of the influence of globalization, among others, on the dress style, language style, information technology and communication.

Lifestyle which is standardization and modernization that leads to the process of killing tradition must be resisted, because it means the elimination of the source of local identity begins with a local identity crisis.

Is it possible that regional / local culture, such as Sundanese culture and other Indonesian cultures, will be crushed to extinction by globalization and abandoned by its supporters?

In this era of globalization there is a motto "think globally act locally" which means to think globally but still act in accordance with the culture where it is located, so that someone is not carried away by the wind of improvement that can sometimes be misleading. Local wisdom is an action that someone should act and carry out all activities as a form of culture that has been embedded long ago.

The decline in social sense and the spirit of diversity that leads to the disintegration of the nation and the violation of the law as well as the lifestyle of individualism and consumerism that contradicts a simple lifestyle and all of that contradicts the original cultural values of the Indonesian nation which were excavated from Pancasila.

To describe what changes have occurred in the mindset, action patterns and students' behavior in the era of the industrial revolution 4.0, we can see table 1 presented below:

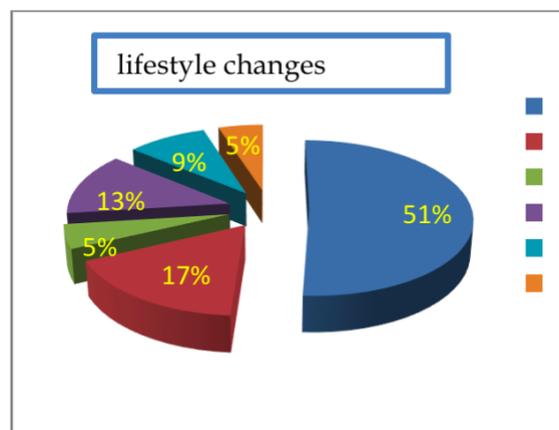
Table 1 Types of Lifestyle Changes

No	lifestyle	%
1.	The lifestyle of the student become digital	51%
2.	Increased use of the Internet	17%

3.	Internet to find information about goods	5%
4.	e-commerce, transportation	13%
5.	e-money usage	9%
6.	e-toll usage	5%
	total	100

Source: research findings

Or as presented in figure 2 as follows:



Students as millennials, of course, their lifestyle becomes digital, starting from accessing the academic system, doing assignments based on Google classroom, searching for data and shopping online, and other activities, so that the majority states as illustrated from the percentages above, then consistent with these needs, there is an increase in internet use, so naturally students are more comfortable on campus to get a Wifi network and discuss through social networks. The industrial revolution 4.0 needs to be answered by increasing competency, especially mastery of computer technology, communication skills, the ability to cooperate collaboratively, and the ability to continue to learn and be adaptive to environmental changes.

This is where the role of students is not only as a connoisseur of easy access in this modern era but also as responder to an industrial revolution. Students can get benefit from the digitalization of the economy today, but only if they prepare well enough. To anticipate the industrial revolution 4.0, it is important to: Increase the competitiveness of human resources, that now no longer competing with fellow Indonesians but also competing with other foreign talents. It is everyone's responsibility as the next generation of Indonesia to equip himself with competitive talent through competitive education programs. Maintaining entrepreneurship in Indonesia, this was proven during the crisis that occurred a few years ago. The Indonesian business sector which is filled with productive activities can maintain economic stability. On top of that, it will also open up job opportunities for local talent.

Students must also push the reformation in the bureaucracy, this is very important because in the end it will increase social and economic differences. This is also the movement needed to create a solid foundation of economic stability facing free trade and AEC. By entering the 4.0 industrial revolution, competition will be at a different level than before. As Indonesian youth, it is our responsibility to

contribute the best we can. Because no one else will defend the Indonesian economy. No one else will enjoy the benefits of economic growth.

Students in their work to become important instruments in practicing the Higher Education of Tri Dharma, which are as educators and lecturers, research and development as well as community service. In terms of research and development, students have the responsibility of finding opportunities for middle and lower society in developing their economy in the Industrial Revolution Era 4.0 by conducting research related to solutions in improving popular economy and developing main ideas that benefit the democratic economy. As an Agent of Change, a student is required to play an active role in community service, by going directly to the field and changing the consumptive mindset to be productive in economic activities. In the end, currently the community needs the role of students to maintain the stability of the middle to lower economy in this "all-machine" era.

Students must return to their true identity who are able to become Agents of Change, Agents Of Analysts and Agents Of Control so that they are maximized in achieving the ideals of the nation that is to advance public welfare, educate the life of the nation and liberate the Indonesian people from all things in life . Of course, these ideals will be realized, if the lecturers and students are able to integrate the activities of thinking, processing, and exercising based on religious value, nationalistic value, intelligence value, resilient value, independent value, honesty, and integrity activities that concern the environment. (Dikti-ITS, 2018).

2. The Efforts of Improving Lecturer's Skill

The revolution of industry 4.0 provides not only opportunities, but also challenges for millennials. This is due to there are nowadays many opportunities supported by sophisticated technology that can easily facilitate all sectors of life. The online system makes services faster and more efficient and has wider range of connections. Digital technology support certainly results in simplicity and innovation obtained. However, this phenomena has caused challenges for the society who cannot keep it up with the rapid development of technology. Consequently, the digitization also leads to negative impacts. The role of human is gradually taken over by automatic machines.

As a result, the number of unemployment and poverty has increased. This is due to the people's work is replaced by technology. The other impact is that the production process is faster and easier to distribute massively with minimal human involvement. Thus, the industrial revolution could have an impact on increasing unemployment in Indonesia. However, the fields of work related to Computer, Mathematics, Architecture and Engineering expertise will be increasingly needed. These areas of expertise are projected according to the demands of work that rely on digital technology.

As the need of digital technology increases, the academic community in the University are required to improve the human resources especially lecturers as educators and students to play significant role in preparing the quality of Indonesian Human Resources by providing education and assistance to the community. This is intended to be able to compete in creative and economic independence by carrying out student activities that empower the middle to lower economic community.

Regarding to this condition, the lectures are encouraged to take part in various trainings to understand Generational Change, Community Change, Lifestyle Change, Industrial Process Change, and Cultural Change. All of this is needed to answer the challenges of changing the college system.

In education, lecturers must follow technological developments, so they are able to utilize the internet in the teaching-learning process, such as making e-books, assigning students through google classroom, updating and developing lecture material or discussing through social networking. Besides developing social networks, lecturers are required to carry out research activities and publish as well as present them in national seminars and international seminars or meetings, the lecturers must also carry out community service activities in implementing the results of their research.

3. Preparation for higher education in facing challenges of industrial revolution 4.0

To meet the challenges and the needs of the required competency standards, the college must carry out the following steps;

The initial step can be preceded by accelerating the work of the industrial revolution 4.0 by synchronizing the work of higher education elements with patterns that are in accordance with the industrial era 4.0. To strengthen synergy with the current situation, the network and gather the power of digitalization are needed. The output results obtained are rapidly increasing quality. The workings of the industrial revolution 4.0 are truly oriented towards quality results. The strength of synergy for all elements of higher education is absolutely needed. The synergy of the power is demonstrated by collaboration as a component of the power of synergy.

The next step is stipulating to be recognized as World Class University (WCU). In this context, the excellence of higher education institutions must be achieved by taking part internationally. The global era cannot be repressed. Therefore, international competence must exist. International collaboration must be strengthened to form character, discipline, advanced mentality, the opening of an international network, as well as opportunities for discovering new creativity. The progress of science and technology as the key to the progress of Human Resources (HR) is easily achieved and will be open.

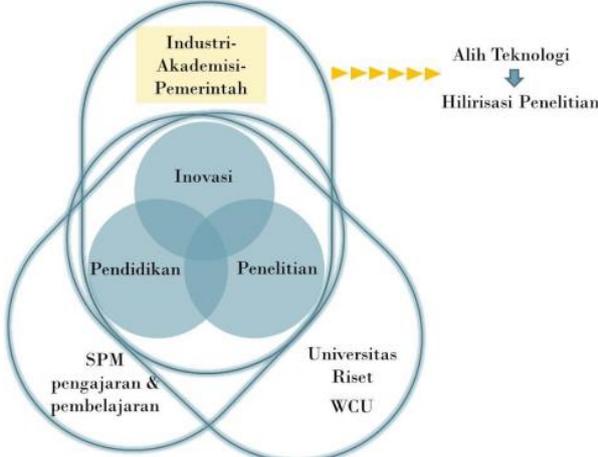
Next, universities are encouraged to contribute nationally. At this stage, the awareness that universities are the property of the nation will strengthen. The efforts that the children of the nation must be processed optimally in higher education will also be realized. Higher education must be able to read, see the nation's existing problems, and be able to provide solutions and contributions in overcoming them. The role of universities is not only to produce human resources, but also as an institution that participates in the progress of the nation, it must be clearly expressed.

The next step is to strengthen the network. The Industrial Revolution 4.0 is in need of a change in managing higher school institutions. Certainly, it really needs a network to be able to do national and international collaboration. Strengthening the network will also help in realizing the ideals of managing higher education in terms of Human Resources. Institutions, infrastructure, links and matches with industry, and so on. Finally, that the modernization process is accelerated. In this context, it is important to realize that higher school institutions carry out the process and face the digital generation of the 4.0 revolution era.

Therefore, modern performance and decision making must be quickly done. Modern, fast, and precise processes are needed. If not, the higher school institution will be left behind, even practically expired. This is a fact that must be met by universities, especially private universities.

To accelerate the improvement of tertiary quality, a model derived from Dikti, ITS: 2018 is needed next.

Development of Educational Model



5. CONCLUSION

Student behavior factors have experienced changes due to industrial revolution 4.0; namely the lifestyle in accessing the internet in its needs. The behavior of lecturers changes with the paradigm of

developing universities (Rogers 1985), so that lecturers always develop their course material and develop networks. The material happened to the majority of students and lecturers and academic support staff; rapid changes have occurred in all of the world's higher education including Indonesia. So that the community will consider the quality of graduation. The desire of students and lecturers is to get World Class University, while that causes of stability at a certain point in the change is an effort to maintain the values of local culture that is religious, intelligence, honesty togetherness, humans determine the direction of change

The results showed that social change in higher education is determined by various factors, including the development of the global environment and the demand to maintain the value of local wisdom, in improving human resources.

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LOCAL WISDOM AND LOCAL ADVANTAGES BASED STATE DEFENDS CHARACTER EDUCATION

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Abstract

This proceeding aims to propose an idea of character education to strengthen the spirit of defending the state by raising awareness of wisdom and local advantages. The substances of the discussion were explored through the study of literatures on the essence of the spirit of defending the state as a national character, local wisdom, and local superiority possessed by the Indonesian people. The link and match of state defending values with local wisdom and local excellence is examined in an FGD (Focused Group Discussion) which includes 12 civic education teachers. The findings and discussion indicate that there is a link and match between the values of local wisdom and local advantages with the values of state defense. Therefore, it can be concluded that the substance of local wisdom and local excellence are suitable to be used as teaching materials in the education of the character of state defense. Bearing in mind the diversity of the Indonesian nation's ethical culture, it is recommended that teachers explore the values of local wisdom and advantages in the area where the school is located.

Keywords: *character education, state defense, local wisdom, local advantages.*

1. INTRODUCTION

1.1. Background

With the fall of Soeharto from the position of President of the Republic of Indonesia, the government which called itself the New Order also collapsed. In its place, a reformation order was born, which gave freedom and openness to various state management systems. The valves of democracy that were previously closed become wide open. If in the New Order era, the people only followed what was mostly designed, carried out, and controlled by bureaucrats, since the reformation, the people have taken many roles including in the utilization of natural resources, business management, and so on. The democratic political system which was previously nuanced pseudo democracy, turned into a democracy that gives the right of speech and opinion to all people, whatever the social strata and status. This was facilitated by the freedom of the press with the revocation of legislation that allowed the government to ban newspapers and other media in the interests of the authorities (Baskoro, 2018).

Indeed, the reformation has given blessings to all Indonesian people. Various people's aspirations and regional aspirations that were previously ignored, in the reform era became accommodated. But it must be admitted, sudden changes also have a negative impact, among others, making demonstrations as the main choice in expressing opinions rather than channeling them through the legislature. Ironically, demonstrations which were permitted at the time of reform, often had an anarchic nuance. Which is also of concern is the uncontrolled use of natural resources which results in depletion of reserves for the next generation and environmental destruction.

These indications of further weakening of the nation's character have become the basis of consideration for President Susilo Bambang Yudhoyono to launch a national character education movement at the commemoration ceremony of the national education day on May 2nd, 2010 (Kementerian Pendidikan Nasional, 2010). Following this policy, until 2016 Ministry of Education and Culture has established 18 models of national character education. However, it is hoped that educational

stakeholders will continue to enrich the model. In this proceeding a specific model of national character education that is expected to overcome the weakening of the spirit of defending the young generation due to the abandonment of local wisdom and the neglect of local excellence that belongs to the Indonesian people is proposed.

1.2. Problem

The development of science and technology facilitated by advances in digital technology has penetrated into all aspects of human life throughout the world. Various jobs that previously required a complicated process and in a long time, now can be completed using only the touch of a finger on the pad and in a very short time. However, on the other hand there are also negative impacts including shifting ethical values in the life of the nation and state and waning public awareness of moral values of politeness, honesty, togetherness, patriotic and so on (Amirulloh, 2015, p.3). Among students, moral decadence also occurs such as cheating, inter-school brawls, promiscuity and drug consumption, which among other things lead to unwanted pregnancy and HIV-AIDS transmission (Hendarman, pp.96-97). The vulnerable condition of the nation's character, especially among young people who are still students, has encouraged the government of the Republic of Indonesia through the *Kemdiknas* (Ministry of National Education) now called the *Kemdikbud* (Ministry of Education and Culture) to revitalize the nation's character education (National Action Plan for Character Education, 2010).

1.3. Objective

The ideas proposed in this proceeding are intended to propose a model of character education for the defense of the nation based on local wisdom and excellence. The idea of this model begins by revealing the urgency of the conditions of applying local wisdom and the use of local excellence as ATHG (threats, challenges, obstacles, and disturbances) towards efforts to realize social welfare for all Indonesian people. The rationalization of the benefits of the model is done by evaluating the existence of a link and match between the values of state defense on the one hand and the values of wisdom and local excellence on the other hand.

2. METHOD

This proceeding was prepared by utilizing data and information obtained from the study of literature, books, journals, and relevant documents. As the main reference on character education, the Guidelines for the Implementation of Nation Character Education are published by the *Kemdiknas*, as the leading sector in the management of national character education in the formal education path. The main reference on State Defense Education is the Main Module of State Defense Education, published by the *Wantannas* (National Resilience Council) of the Republic of Indonesia, which is the leading sector of the state defense education. To assess the link and match of the two values, local wisdom and local excellence on the one hand and with the defense of the state on the other, a matrix is used to juxtapose them. The matrix is filled by 12 civic education teachers in a FGD (Focused Group Discussion) scenario.

3. THEORETICAL BASIS

3.1. National Character Education

Elkin dan Sweet (as cited in Hendarman, 2012, p. 99) interpret: "...character education is deliberate effort to help people understand, care about, and act upon core ethical values. When we think about the kind of character we want for our children, it is clear that we want to be able to judge what is right, care deeply about what is right, and then do what they believe to be right, even in the face of pressure from without and temptation from within."

This interpretation is in line with the purpose of character education according to Mulyasa (2011, p. 1), which is to: "... assist the development of the souls of children both physically and mentally, from their natural nature towards humanity and better civilization." The core idea of both opinions is that

character education recognizes that humans must be educated to understand, animate, and practice the values of goodness to become an inseparable part of them as a whole. The same meaning is emphasized in the document issued by the Ministry of National Education, states that character education is: "Values education, character education, moral education, attitude education aimed at developing students' abilities to make good and bad decisions, preserve what is good and realize that goodness in daily life many days with all my heart (National Action Plan for Character Education, 2010).

As a guide to its implementation, in the Action Plan 18 characters have been set as the values that are the focus of character education, namely: 1) Religious, 2) Honest, 3) Tolerance, 4) Discipline, 5) Hard Work, 6) Creative, 7) Independent, 8) Democratic, 9) Curiosity, 10) Nationalism, 11) Love for the Motherland, 12) Appreciating Achievement, 13) Friendly and Effective Communication 14) Love of Peace, 15) Reading habits, 16) Care for the Environment, 17) Social Care, 18) Responsibility. Looking at the list, there are still many characters that have not been covered as delivered by Permadi and Arifin (2016, pp. 196-252).

3.2. State Defense Education,

All countries and nations have their own concept of state defense in accordance with their history, aspirations, challenges, and legal system. In Indonesia as explained on the Setyjen Wantannas website (Secretariat General of the National Resilience Council), the definition and the objectives of defending the country are as follows.

A. Definition of defending the country namely:

National Defense is the attitude and behavior of citizens imbued with their love for the Unitary State of the Republic of Indonesia based on the Pancasila and the 1945 Constitution in establishing the survival of the nation and the whole nation.

The objectives of defending the country are:

- 1) Maintaining the survival of the nation and state
- 2) Preserve national culture.
- 3) Running the values of Pancasila and the 1945 Constitution
- 4) Do the best for the nation and state.
- 5) Maintain national / state identity and integrity

In line with its meaning, purpose, and function, there are two types of state defense, namely physical defense and non-physical defense. Defending the State in physical form is carried out by taking up arms to deal with hostile military attacks. The physical defense of the state is carried out by people with the status of military or civil society who are trained into reserve forces consisting of student regiments, popular resistance, civil defense, and other social organizations (Ibu Guru, 2019). This form of self-defense is based on Law No: 3 of 2002 which is based on the *Sishankamrata* (Universal People's Defense System) doctrine.

Meanwhile, non-physical defense of the state is carried out by civilians at all times and in a variety of situations by not raising weapons, but to be able to do so with various things such as raising awareness of the state, instilling a love for the motherland, playing a role and working in advancing the life of the nation, raise awareness and obey the law, ward off foreign influences that weaken national norms, and be more devoted to God Almighty (Sihombing, 2018). The form of state defense referred to in this proceeding is of course non-physical and to be applied in the formal education system.

3.3. Local Wisdom

a. The meaning and characteristic of local wisdom

Local wisdom is a term introduced by Wales (Daniah, 2016, p.3) which is "... the sum of the cultural characteristics which the vast majority of people have in common as a result of their experiences in early

life ". That is, local wisdom is a perspective that influences behavior based on the philosophical values it adopts. Rahyono as quoted by Daniah stated that the local wisdom possessed by a particular community group was obtained based on the experience of their own community, so it was not necessarily experienced by other community groups.

b. Examples of Indonesian local wisdom

To provide a practical description of what is meant by local wisdom, the following 3 (three) examples are presented.

1) Local wisdom to preserve nature:

Among the local wisdoms that are widely applied by various ethnic groups is the management of natural resources which is bestowed by God Almighty to mankind in order to preserve their lives. However, the use of natural resources that only prioritizes economic benefits can result in pollution and changes in the environmental order (Gunawan et.al. p.210) and the fatal impact is a decrease in the number and quality of resources so that they cannot be utilized again (Hariyadi, Cited in Gunawan et.al).

The Indonesian people have their own local wisdom in preserving nature which is based on the recognition that nature provides food, water and other necessities of life. A concrete example of Indonesia's local wisdom about nature conservation is as practiced by the Kampung Kuta community in the province of West Java. The summary of research reports conducted by Sukmayati (pp. 22-23) concerning the wisdom of the residents of Kuta village in preserving nature is as follows. In the view of people's lives in Kuta, life in the world can not be separated from the existence of nature, so they are very much preserving nature. The Kuta community has a forest area of approximately 40 hectares that has been protected so that it cannot be used as agricultural land and other economic activities. The observation of protected forests has been going down since their ancestors so that the forests in the area are guaranteed to remain intact and remain original and provide a clean and healthy air supply. For its success in maintaining local wisdom in preserving nature, in 2002 the President of the Republic of Indonesia awarded *Kalpataru*, a symbol of appreciation for national environmental preservation.

2) Local wisdom in expressing opinions:

As members of the community, of course all people can not be separated from the need to communicate for the purpose of conveying messages in the form of will, information, aspirations, opinions and so on. As stated by Laswell (cited in Suwanto), communication is about "who, what says, in which channel, to whom, with what effect." There are three essence of communication that Laswell wants to convey through its model; communication subjects, messages that include the contents and packaging, and the benefits of communicating.

Although not a few communication experts are of the opinion that the Laswell communication model has weaknesses (ComSci Project, 2012), but to some extent, the model is compatible with the practice of communication carried out by ethnic groups in Indonesia. For example, there are three levels in Javanese language, namely low, medium, and high level (Cakhasan). The three levels used depend on the social level of the communicant and the communicator and the context of the communication, formal or non-formal. The use of this language level aims to maintain order and politeness in social relations between social groups so that impoliteness that leads to conflict can be avoided.

3) Local wisdom in keeping harmony among people of different religions:

The recognized religions in Indonesia are; Islam, Hinduism, Christianity, Buddhism, Catholicism, and Confucianism. While examples of belief in Indonesia are quite religious from animism and monotheism beliefs in certain regions with relatively fewer adherents than religious adherents. Related to the diversity of religions available, the local wisdom of the Indonesian people is harmony among religious communities within the tribe and outside the tribe; both in their own area and outside their area, they still uphold the attitudes of harmony with one another. Harmony among religions is based on the philosophy of the Indonesian nation, Pancasila. The first precept of that philosophy is the Almighty God who mandates that the Indonesian people provide religious freedom and must respect each other's religious choices. The philosophical value of the Almighty God contained in the Pancasila is translated into Article 29 of the 1945 Constitution concerning Religious Freedom which reads: (1) The State is based on a Godhead, (2) the State guarantees the independence of each population to embrace their respective religions and to worship according to their religion and beliefs.

3.4. Local Advantages

a. The meaning of local advantages

According to the Ministry of Education and Culture (2008); "Local excellence is anything that is a regional characteristic that covers aspects of economy, culture, information and communication technology, ecology, and others. Local excellence can be in the form of agricultural products, artistic creations, traditions, culture, services, natural resources, human resources that characterize an area. Thus it can be stated that nationally, a nation's local advantage is the ability of its human resources to process all its shared property, whether in the form of objects or not, into a product that has comparative and competitive advantages, which characterizes and gives pride, identity, and dignity of the nation.

Among the features of local advantages are (Wantannas, 2019):

- a. Its existence is identical to the local community; it is not easy to be imitated and recognized by the order of other communities including ethnicity, nation and state.
- b. Can be a superior local wisdom, to become the substance of competition or comparison of a nation with other nations; both to show its existence and for the purpose of finding the value of benefits and advantages for improving the quality of life of a nation.
- c. Can not be transferred to other nations to be recognized as the identity of another nation; but can only be transferred in the context of lessons, trade, and cooperation in other forms to take advantage of the inherent value of local advantage.
- d. It can be in the form of development of works that come from outside but have been adopted and adapted so that they have new characteristics that distinguish them from the original product and show local characteristics.

b. Examples of Indonesian local advantages

To show the factors that can strengthen the love and pride of the people to become the nation of Indonesia as a form of attitude to defend the nation, the following are given 2 (two) examples of local excellence that they have.

1) Advantage in the tourism sector:

Diversity, beauty and uniqueness of nature and cultural arts are local advantages possessed by the Indonesian people in the tourism sector. However, the success of tourism cannot only be done by relying on tourism objects as they are. Tourist attractions must be packaged in such a way that they have added. For this reason, to improve the performance of the national tourism industry, the Indonesian government launched the *Sapta Pesona* Movement, which means seven enchanting elements, used as a benchmark to improve the quality of tourism products which include: Security, Order, Cleanliness, Comfort, Beauty, Hospitality, Memories: positive impressions in the minds of tourists about experiences during the visit in order to foster motivation to visit again.

The application of the principles of this movement shows positive results. Data published by BPS (Central Bureau of Statistics) as released on Kontan.Co.Id shows that during 2018, the number of foreign tourists visiting Indonesia reached 15.81 million tourists. This figure increased by 12.58% compared to the number of foreign tourists visiting the same period in 2017 which amounted to 14.04 million tourists.

2) PT Dirgantara Indonesia: Local advantage in technology

PT Dirgantara Indonesia, whose first name is PT Nurtanio, is an aircraft manufacturer owned by the Indonesian government and the only one in the ASEAN region. This factory was initiated by Prof. B.J. Habibie, an international patent holder in fuselage fracture technology. Before returning to Indonesia, Habibie was Vice President Director of an aircraft manufacturer in Germany. He is also the 3rd President of the Republic of Indonesia after Soekarno and Suharto.

In collaboration with various overseas aircraft manufacturers, PT Dirgantara Indonesia has succeeded in producing various types of aircraft and helicopters. The monumental collaboration is with Cassa, a Spanish-owned company, which has produced fixed wing aircraft types CN 212 and other types both in civil and military versions. The production is not only bought by the Indonesian government and domestic companies but also by many companies and governments of other countries including, Thailand, the Philippines, and many more.

It is undeniable, that the success in collaborating to produce airplanes is proof that Indonesian children have local advantages, in line with other developed countries in mastering and utilizing high technology. However, after the fall of the Suharto government and then followed by Habibie, PT Dirgantara Indonesia's operations were no longer as active as before.

What is very concerning is that most of the technicians who have mastered science and high-level skills have been sent home. Among those who were laid off there were those who were unemployed, or switched professions to other fields. It is unfortunate, high-value human capital which is prepared by educating them at home and abroad using high-powered resources becomes less useful. This incident is proof that a synergistic relationship between local wisdom and local advantage is needed as a form of awareness of the essence of defending the country.

4. FINDINGS AND DISCUSSION

4.1. The urgency of Indonesian local wisdom and local disadvantages.

The following are some cases that reflect the urgency of the local wisdom of the Indonesian people that need serious attention because they can become obstacles in the effort to achieve the aspirations of Indonesia's independence proclamation.

a. Urgency in expressing opinions

The disregard for politeness, the spread of hoaxes, and group selfishness have often led to aspirations being conveyed through demonstrations that have caused chaos, and brawls between groups of differing opinions and different aspirations. This condition is not impossible that will become the seeds of prolonged conflict and lead to the fragility of national unity.

Of course, unfavorable conditions for harmony among fellow components of this nation, one of the causes is the abandonment of local wisdom, including in expressing opinions. Values of wisdom in communication such as politeness, storing the right to avoid misunderstandings, conveying the truth and so forth in order to avoid conflict begin to be ignored. However, this less conducive condition can be interpreted as a result of the weakening of patriotism which is one of the values of defending the country.

b. Urgency in tolerating differences

Lately there have been cases of intolerance among national components that have differences such as religion, ethnicity, political parties, and other aspects of life as a nation of a sovereign state. Situations and conditions that threaten the integrity of the nation are indicated by the occurrence of several cases of blasphemy by a person or group of people against a religion that is believed by other religious communities. Of course, the weakening of tolerance towards differences among fellow components of the Indonesian nation is an indication of the weakness of the spirit of defending the country that comes from oneself.

Clashes between tribes have also occurred in several places. The incident that damaged the integrity of this nation was triggered by a misunderstanding that occurred in interpreting something, the arrogance of the majority towards the minority, and the opposing parties felt the most right and most important. All parties no longer apply local wisdom that feels they need others to meet their needs and overcome problems in their lives. They ignored the moral message of the Indonesian Youth Oath on October 28, 1928 in Jakarta which reads; One Country, One Nation, and One Language, Indonesia.

Response to this situation, Arif Moekiyat, Deputy for Coordination of National Unity, Coordinating Ministry for Politics, Law and Security (2019) confirmed: "We will not give free space, indeed we are a democratic country but if it has threatened our nation's ideology then we must not be tolerant,". However, to overcome the fragility of national unity and integrity, a state defense education that prioritizes the values of local wisdom and local excellence about togetherness is needed, Moekiyat added.

c. Urgency in the utilization of natural resources

The Indonesian people must be thankful to the almighty God for settling in one of the richest countries in the world. The tropical season which only consists of the rainy season and summer, fertile soil because it is naturally fertilized with sulfur by volcanoes spread over most of the region and other conducive natural conditions have made the Indonesian nation an agrarian nation since its ancestors. Green gold produced from agriculture and plantations including spices, camphor, aloes and so on which are abundant and of high quality.

As can be seen in the Indonesia Natural and Mineral Resource Map uploaded by Aya (2010), yellow gold is also widely contained in Indonesian earth, including in the big islands, namely; Sumatra, Java, Kalimantan, Sulawesi and Papua. Refer to the same map, besides gold, there are also other mining materials which are often referred to as black gold such as; coal, nickel, lead and petroleum.

As one of the largest archipelago in the world, Indonesia's territory consists of 17,504 islands (Biro Pusat Statistik, 2018) with oceans and seas covering 5.8 million km² which is three-fourths of the

entire territory of Indonesia (Lala Computer Team, 2019), flanked by two oceans, the Indies and the Pacific. With such a vast ocean, Indonesia has become a rich maritime country and supplies 10% of the world's fish market needs per year (Hartriani, 2017).

Unfortunately, one thing that is very alarming, now there has been an uncontrolled exploitation of natural resources by irresponsible parties. Illegal mining, burning of forests to make land for plantations, harvesting fish in the sea using fishing gear that damages coral reefs and transporting young fish have occurred in many places by many parties (Pudjiastuti).

In the case of the consumption of natural resources which again cares about local wisdom to maintain local excellence, Ignatius Jonan as Minister of Energy and Mineral Resources in his remarks at the Pertamina Energy Forum on Thursday, November 28th, 2018 as reported by News - Anastasia Arvirianty on CNBC News, has alluded to the matter of energy security in the context of the latest technological developments and reality today with the following statement:

"For people my age, what always stays in his mind is that Indonesia is rich in natural resources, we always say that the oil well in Rokan used to produce more than 1 million barrels per day. We are also still proud of the abundant volume of gas and coal production. "This perspective continues to carry on. Now this sentimental thought must be changed to a realistic perspective," In reality, oil production and reserves owned by the Republic of Indonesia continue to decline with an average production of 750 thousand barrels a day.

In fact, prosperity will foster a sense of pride and love for someone of his nation and country, and is one of the very significant factors in arousing the spirit of defending the country. Related to this, in the module preparation workshop for National Defense education on October, 8th 2018, Lieutenant General Doni Monardo as the Secretary General of Wantannas, reminded that the crime of exploiting natural resources will have an impact on constraining efforts to prosper the nation. Therefore this irresponsible action is one form of unconsciousness in defending the country, and must be stopped through state defense education.

4.3. Link and Match the Value of State Defence with Local Wisdom and Local Excellence.

To assess the level of link and match between the values of Defending the Country with the values of Local Wisdom and Local Excellence, a FGD was held, which was attended by 12 civic education teachers. The 12 teachers were divided into 6 (six) groups, each consisting of 2 people. Each group was asked to discuss the level of link and match between one of the values of the country's defense with the values of wisdom and local excellence. There are 3 (three) levels of links and matches that can be chosen based on the discussion between the two members of each group namely; strong, moderate, and poor.

The importance level of the substance of state defense is seen from the level of the link and match with the values of local wisdom and excellence categorized; Must Know for strong levels of links and matches, Should Know for moderate levels, and Nice to Know for poor levels. The FGD participants were also asked for comments and learning proposals for each category. The results of the FGD can be seen in Matrix Table 1, which is followed by explanations and recommendations from FGD participants.

Table 1: Matrix of juxtapose the values of state defense with the values of local wisdom and the value of local advantages

	VALUE OF DEFENDING COUNTRIES					
	1 Love the motherland	2 National and state awareness	3 Commitment to Pancasila	4 Willing to sacrifice for the nation and state	5 Has the initial ability to defend the country	6 The spirit of realizing a sovereign, just and prosperous country
Value of local wisdom	V V V	V V V	V V V	V V V	V V	V V V
Value of local advantages	V V V	V V V	V V V	V V V	V V	V V V
Subject substance category	Must Know	Must Know	Must Know	Must Know	Should Know	Must Know

From the results of pairing or juxtapose the values of state defense with the values of local wisdom and the value of local advantages indicate that:

First, there are 5 (five) State Defending Values that are strongly related and in accordance with both character values, local wisdom and local advantages. These values are Defending Country 1. Love the motherland, 2. National and state awareness, 3. Commitment to Pancasila, 4. Willing to sacrifice for the nation and state, 6. The spirit of realizing a sovereign, just and prosperous country. This level of relevance and appropriateness can be interpreted that those five substances of defending the country's character education is included in the category of **must know**. Thus, in the character education syllabus, the learning time allocated for these substances must higher than that allocated for the substance with the should know and nice to know categories. In addition, because the substance was considered by the FGD participants as a core substance of the non-physical State Defends Character Education, the learning process must be by the method of student centered learning, so students can enrich and animate the substance because it is obtained by exploring and constructing themselves.

Second, there is only 1 (one) State Defending value that is moderately related to and in accordance with both character values, local wisdom and local advantages. This value is 5. Has the initial ability to defend the country. This level of relevance and appropriateness can be interpreted that the material of local wisdom and local advantages in character education in state defense is included in the category of **should know**. Thus, in the character education syllabus, the learning time allocated for this substance is lower than that allocated for the substance with the must know category. In addition, because the substance was considered by the FGD participants as the physical form of defending the country, the learning activities could be given in the form of scouting.

Third, none of the six national defense values are related to the values of wisdom and local excellence with links and matches at the poor level and categorised as **nice to know**. As concluded by FGD participants, that the character of national defense can be formed by utilizing the substance of local wisdom and advantage.

4.4. The Local Wisdom And Local Advantages Based State Defends Character Education

Referring to the findings and discussion presented previously, a model of building a spirit of state defense based on wisdom and local excellence is proposed as illustrated in Figure 1, with the following explanation.

Essentially, a country is founded by a group of people called the nation to protect and prosper its life. The history of his life, both joy and sorrow, united them into a nation which then fought for the founding of his country which would become an identity and a means to realize the ideals of their independence. For the Indonesian people, the goal of independence from colonialism by the Netherlands was contained in the opening of the 1945 Constitution which read: "...to form the Government of the Republic of Indonesia that protects all Indonesians and the entire Indonesian homeland and to advance public welfare, educate the nation's life, and participate in carrying out world order based on independence, lasting peace and social justice,..." Furthermore, on the basis of that mandate, a President and Vice President were elected who were tasked with forming a government to manage various programs and activities in order to realize the ideals of independence.

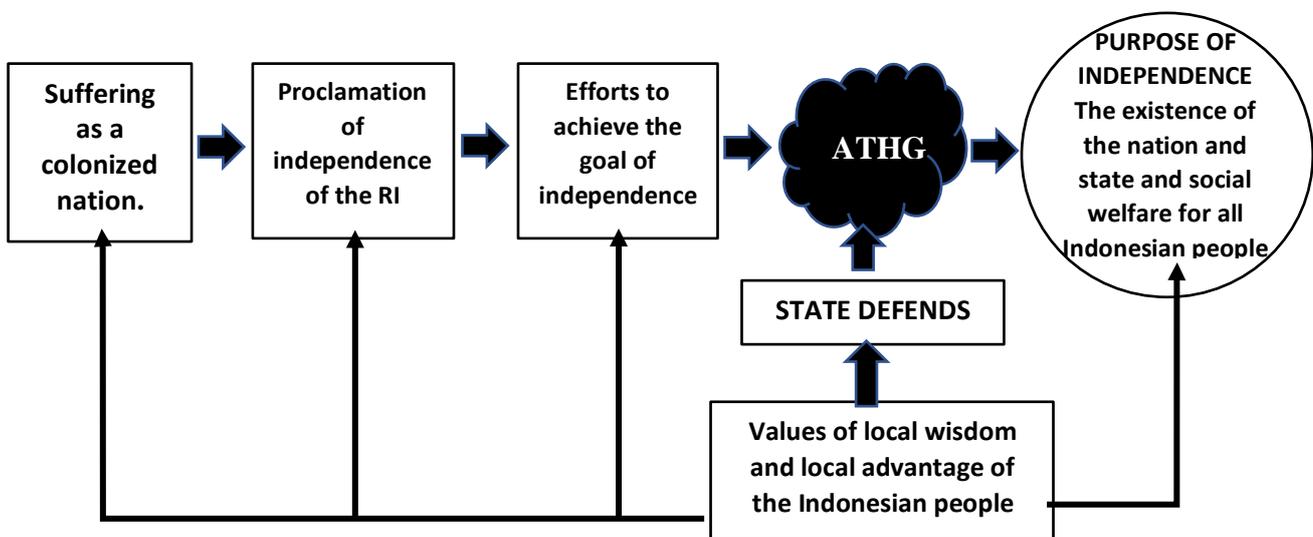


Figure 1: The role of local wisdom and advantage in defending the state.

All the processes of the struggle for nation formation, the establishment of the state and all efforts to achieve the goal of independence are based on local wisdom and local advantage owned by the Indonesian people, called the four pillars of the nation and the Republic of Indonesia, namely; *Pancasila* as the philosophy of the nation and the basis of the state, the 1945 Law as the constitution, the *NKRI* or the Unitary State of the Republic of Indonesia, and *Bhineka Tunggal Ika* or Unity in Diversity. As the name implies, *Pancasila* consists of five precepts namely; God Almighty, Just and civilized humanity, Indonesian unity, Democracy led by wisdom in consultation, and Social justice for all Indonesian people.

In the process towards the ideals of independence, the Indonesian nation will naturally be faced with *ATHG* that not only frustrate the achievement of objectives but can also have more fatal impacts, namely the elimination of the existence of the Indonesian nation and state. To overcome the *ATHG*, there must be an effort to defend the country in the form of both physical and non-physical. The spirit of defending the country is built and strengthened by a sense of belonging and love for the country and its people and pride in being an Indonesian, one of the ways is by implementing state defense education based on local wisdom and advantage. As the findings and discussion in this proceeding, one way that can be taken to instill the spirit of state defense is to implement state defense education based on local wisdom and local advantage.

5. CLOSING

The results of the discussion indicate that a citizen's understanding and appreciation of the essence of wisdom and advantages can strengthen the spirit of defending the state within themselves. In conclusion, local

wisdom and advantage possessed by the Indonesian nation can be packaged into teaching material for state defense character education. Given the diversity of Indonesian social and cultural diversity, it is recommended that teachers develop practical teaching materials that refer to the wisdom and advantages that exist in their area.

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EXPOSURE OF NOISE AND USE OF EAR PROTECTION EQUIPMENT (EPE) TO HEARING DISORDERS AMONG STONE CUTTING WORKERS IN CIREBON DISTRICT

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Abstract

Purpose: The aim of this study is to analyze the factors related to hearing disorders in Filarin Stone factory workers in Cirebon Regency. **Method:** This observational study with cross-sectional research design was carried out in the period May-July 2018. This research was conducted at the Filarin Stone factory in Cirebon Regency. The sample was total sample that was 56 workers. The independent variable contains the characteristics of the worker (gender, age, education, marital status, education and length of work), the level of noise in the workplace, and the use of Ear Protection Equipment (EPE) among workers. The dependent variable was noise induced hearing loss (NIHL). The research instruments were questionnaire, sound level meter and fork. The bivariate chi square analysis was employed in this study. This study used 5 % of significance level. **Results:** The study showed that the majority of workers who had noise induced hearing loss was 83.9%. The workers who had noise induced hearing loss and they do not use EPE were 97,0 %. As for workers who had noise ninduced hearing loss and they were in environment with the noise above standard were 90.0 %. The workers who had long tenure in the factory (> 10 years) and they had noise induced hearing loss were 93, 5%. Factors related to noise induced hearing loss were the use of Ear Protection Equipment (OR: 36.80; 95% CI: 3.41-396.72; p = 0.00) and gender :7,64; 95 % CI: 1,53-33,34; p=0,016). As for the level of noise in the workplace was not associated with the noise induced hearing loss (OR: 2.70; 95% CI: 0.601-1.12; p = 1.84). **Conclusion:** The use of EPE and gender were significant factors related to NIHL. Ear protection devices for workers is need to be provided. Improved regulation of the use of EPE and make supervision related to discipline in their use is important. In addition, hearing function in workers needs to be checked routinely.

Keywords: hearing loss; ear protection equipment, noise

1. INTRODUCTION

Occupational diseases are diseases caused by work, work tools, materials, processes and work environment. According to WHO (2016) occupational diseases are aspects of health related to the environment and work which can directly or indirectly affect the health of the workforce. According to the OSHA (Occupational Safety and Health Organization) in 2014 there were 40,694 cases of occupational diseases in Indonesia. Meanwhile West Java Province had 60,322 cases of work-related diseases in 2012. Meanwhile, according to data from the Regional Labor Control Service Region III in Cirebon District, 47.9% of workers in Cirebon District experienced occupational diseases in January 2018. One occupational disease that occurs is a hearing loss caused by a noisy work environment.

According to WHO (2018), more than 5% of the world's population -or 466 million people- have hearing loss. This condition mostly occurs in low and middle income countries including Indonesia. Around 180 million people in Southeast Asia experience hearing loss (WHO, 2012). Indonesia is ranks 4th in Asia for the highest deafness rates after Sri Lanka, Myanmar, and India. Based on the 2013 Riskesdas data, it shows that Indonesian population aged 5 years and over 2.6% experience hearing loss. It is estimated that by 2050 more than 900 million people - or one out of every ten people - will experience hearing loss (WHO, 2018). One of the reasons for this increase in hearing loss is that it can be caused by exposure to loud noise or noise at work.

Noise induced hearing loss (NIHL) is a hearing loss caused by exposure to loud noise for quite a long period of time, usually due to noisy work environment [1]. This hearing loss is a type of sensor neural hearing loss. Initially, the effect of noise on hearing is temporary and recovery occurs quickly when work in a noisy place is stopped, but continuous noise exposure, causing permanent loss of hearing power that does not recover is called permanent hearing loss.

Based on several results of the study stated that the intensity of noise [2-4], age [5-7], duration of duration of exposure [6], years of service [7], and use of ear protection devices [6] are factors related to the incidence of hearing loss due to noise at work. The Filarin Stone Factory is a workplace that produces natural stone. In the manufacturing process, many factories use machines to split or break rocks which produce very high noise, which is around 90 dB on average. The factory workers are very at risk of hearing loss due to exposure to noise generated by the tool / machine almost every day from 7 am to 4 pm. Based on observations, some workers did not use ear protectors. Based on the results of a preliminary study, the noise produced from natural stone factories is 105 dB. In addition, as many as 63% of workers experience hearing loss. Only 27% of workers use ear protectors. This study aims to analyze the prevalence of NIHL and factors associated with the incidence of hearing loss in Filarin Stone factory workers in Cirebon Regency.

2. METHOD

This observational study with cross-sectional research design was carried out in the April-August 2018 period. The research was carried out at the Filarin Stone factory in Cirebon Regency. The sample size in this study was 56 workers using total sampling. The independent variables include the intensity of workplace noise, worker characteristics (sex, age, education, marital status, education and duration of work), and worker's usage behavior and knowledge about era protectors. The dependent variable is noise induced hearing loss (NIHL). Data collection begins with signing the informed consent of the respondent as proof of willingness to be interviewed and examined. Data on the characteristics of respondents were collected by interview using a questionnaire. Workroom noise intensity was measured using a calibrated sound level meter. The data on hearing loss due to noise is obtained by examining hearing function using the Rinne test fork. Examination is done 2 times on the front and back ears. Chi Square test analysis was used to analyze various factors related to the incidence of hearing loss due to noise. Data analysis used statistical software programs. The significance level used is 5%.

3. RESULT

Table 1 shows that most workers were 21-32 years old (37.5%) and 33-44 years (37.5%). Based on sex, the majority of workers were male as many as 44 respondents (78.6%). More than one-quarter of workers have a junior high school education background of 39.3%. As many as 50% of workers was married status and the rest are not married. Nearly half of the workers (44.6%) have a long working duration of 3-9 years. As for the use of ear protector, most workers do not use ear protector (91.1%). More than half of the workers have poor knowledge of ear protector at 71.4%. For noise levels, more than half of the workers were exposed to high noise > 85 dB, which was 53.6%. As for the percentage of hearing loss events, most workers experience hearing loss which is as much as 83.9%.

Table 1. Frequency Distribution of Variables

Variable	F	%
Age (Years)		
21-32	22	39,3
33-44	22	39,3
45-55	12	21,4
Sex		
Male	44	78,6
Female	12	21,4
Education		
Primary High School	16	28,6
Junior High School	22	39,3
Senior High School	18	32,1
Status		
Married	28	50,0
Not Married	28	50,0
Long Working Duration (Years)		
3-9	25	44,6
10-16	22	39,3
17-22	9	16,1
Using of Ear Protector		
Yes	5	8,9
No	51	91,1
Knowledge		
Good	16	28,6
Poor	40	71,4
Noise Level		
<85 dB	26	46,4
≥85 dB	30	53,6
Hearing Loss		
No	9	16,1
Yes	47	83,9

Table 2. Bivariate Analysis of Factors Associated with Hearing Loss Due to Noise

Variable	Hearing Loss				Total		Crude OR	P value
	Yes		No		N	%		
	N	%	N	%				
Age (Years)							0,74	
≥ 33 n	28	82,4	6	17,6	34	100	(0,16-3,31)	1,000
< 33	19	86,4	3	13,6	22	100		
Sex								
Male	40	90,9	4	9,1	44	100	7,14	0,016
Female	7	58,3	5	41,7	12	100	(1,53-33,34)	
Educatio								
< Senior High School	33	86,8	5	13,2	38	100	1,89	0,448
≥ Senior High School	14	77,8	4	22,2	18	100	(0,44-8,09)	
Status								
Married	23	85,2	4	14,9	27	100	1,19	1,00
Not Married	24	82,8	5	17,2	29	100	(0,29-5,02)	
Long Working Duration (Years)								
≥ 10	29	93,5	2	6,5	31	100	5,64	0,063
< 10	18	72,0	7	28,0	25	100	(1,05-30,19)	
Using of Ear Protector								
Yes	46	97,9	5	55,6	51	100	36,80	0,002
No	1	20,0	4	80,0	5	100	(3,41-396,72)	
Knowledge								
Good	32	80,0	8	20,0	40	100	0,27	0,421
Poor	15	93,8	1	6,3	16	100	(0,03-2,33)	
Noise Level								
<85 dB	27	90,0	3	10,0	30	100	2,70	0,277
≥85 dB	20	76,9	6	23,1	26	100	(0,60-12,12)	

Based on the bivariate test results in table 2 shows that based on age group, workers aged > 33 and <33 years old mostly suffered from hearing loss, namely 82.4% and

86.4%. Age variable has no significant relationship with hearing loss. In the group of male workers, the majority experienced hearing loss as much as 90.9%, while in the group of female workers half of them experienced hearing loss which was as much as 58.3%. The gender variable has a significant relationship with the incidence of hearing loss ($p = 0.016$). The group of male workers has a risk of 7.14 times experiencing hearing loss compared to the group of female workers.

Workers who have educational background <high school and> high school mostly suffer from hearing loss that is 86.8% and 77.8%. Similar to marital status variables, most workers who have or have not married experience hearing loss. Educational variables and marital status do not have a significant relationship with hearing loss.

Based on the bivariate test results in table 2 shows that based on age group, workers aged > 33 and <33 years old mostly had hearing loss, 82.4% and 86.4%, respectively. Age variable has no significant relationship with hearing loss. In the group of male workers, the majority experienced hearing loss as much as 90.9%, while in the group of female workers half of them experienced hearing loss which was 58.3%. The gender variable has a significant relationship with the incidence of hearing loss ($p = 0.016$). The group of male workers was 7.14 more likely experiencing hearing loss compared to the group of female workers. Workers who have educational background <high school and> high school mostly suffer from hearing loss that is 86.8% and 77.8% respectively. Similar to marital status variables, most workers who have or have not married experience hearing loss. Educational variables and marital status do not have a significant relationship with hearing loss.

In addition, the workers who had a work period of ≥ 10 years mostly experienced the incidence of hearing loss as many as 97.9%. Likewise with respondents who have a working period of <10 years, almost three-fourths experience an incidence of hearing loss that is as much as 72.0%. Workers who have ten years or years of work 5 times 5 times the risk of hearing loss than those who have <10 years of work ($p = 0.063$; 95% CI 1.05-30.19). As for the behavior variable or the use of ear protection equipment (EPE), the majority of workers who do not use their EPE experience hearing loss which is 97.9%. However, most workers who use EPE do not experience hearing loss as much as 80.0%. The behavior of using EPE has a significant relationship with hearing loss ($p = 0.002$). Workers who do not use EPE were more likely 36 times more at risk of hearing loss than workers who use EPE. The workers who have poor and good knowledge mostly suffer from hearing loss. Likewise with the variable noise level of workers, most workers who are at the noise level > 85 dB and <85 dB experience hearing loss. Knowledge variable and noise level have no significant relationship with hearing loss.

4. DISCUSSION

Noise Induced Hearing Loss (NIHL) is a hearing loss caused by exposure to loud noise for a long time in the work environment. The type of deaf in this case is sensor neural deaf cochlea and generally occurs in both ears [8]. Based on the results of the study, the majority of stone cutting workers at the Filarin Stone Factory experienced hearing loss, which was 83.9%. The results of this study are in line with previous studies on the percentage of hearing loss in workers in the work environment with high enough noise coming from the electronic machine which has an implication on hearing loss in workers that is as much as 75% [4]. Hearing loss due to noise is characterized by lack of hearing accompanied by

tinnitus (ringing in the ears) or not. Furthermore, if it is heavy enough with complaints it is difficult to catch conversation with ordinary voice violence. But if it is more severe than even loud conversations are difficult to understand. Workers experiencing hearing loss vary from moderate to severe due to noise from the work environment that comes from a cutting machine and stone smoothing during the work day.

Based on the results of the study found the behavior of the use of ear protection devices has a significant relationship with hearing loss. Workers who do not use ear protection devices are 36 times more at risk of hearing loss than workers who do not use ear protection devices. This study is in line with the study of Nobles (2017) which states that the use of hearing protective devices in workers dealing with hearing loss [9]. In addition, the results of this study are also in line with Istantyo and Dini's research which states that ear protection devices is a variable associated with hearing loss [10, 11], workers who do not use ear protection devices is 3 times more likely to experience hearing loss compared to workers who use ear protection devices [10]. In controlling workplace noise, the use of ear protection equipment is the final step in the control hierarchy. Another control that can be done is to install a noise canceling machine. However, the factory may not provide that machine. So the use of ear protection equipment is an alternative control for hearing loss. The use of ear protection equipment can reduce the noise level of several decibels depending on the type of ear protection equipment and noise. Workers at the Filari Stone Stone Factory are mostly workers use earplugs as ear protection equipment when their working. Earplug is ear protection equipment that is used by inserting it into the ear canal until it closes tightly so that the sound does not reach the tympanic membrane and can reduce noise up to 30 dB. However, its use is not in accordance with procedures, for example for 1 day of work must continue to be used. However, some workers feel uncomfortable if they use it all day, so they release it even though they are still in the work environment. How to use ear protection devices can be an alternative to noise control if used in accordance with standards and procedural rules that should be. If it is not suitable, it will be less useful for noise control. Supervision of the use of ear protection equipment in the factory is still not strict because workers and factory owners still do not consider it important for health. Likewise the quality of the earplug used has not been too much attention.

In addition, the findings in this study are that gender variables have a significant relationship with hearing loss. Male workers mostly suffer from hearing loss which is as much as 90.9%. Male workers have 7 times the risk of hearing loss than women workers. Male workers are permanent workers at the Filari Stone Factory. The female workers are casual daily laborers. Thus, male workers are more often exposed to noise than female workers. Exposure to noise can have an impact on hearing loss. This is consistent with other studies that exposure to noise is associated with hearing loss [3, 12]. The noise that is allowed for someone is <85 decibels (dB) for 8 hours of work time [1]. If someone is exposed to noise > 85 dB within 8 working hours or more it will have implications for hearing loss [12]. Excessive noise can have an impact on damaged auditory corti receptors in the inner ear [8]. But in this study, the noise level did not have a significant relationship to hearing loss. In the group of workers who are in a noise environment <85 dB, most suffer from hearing loss. Likewise, workers in environments with noise > 85 dB are mostly experience hearing loss. Moreover, between workers who are in a noisy and non-noisy environment have a similar percentage of hearing loss event. Based on previous studies

that hearing loss is not only caused by noise levels, but can be caused by various risk factors including age, length of work and years of service [13].

Length of work is a factor that is not related to hearing loss, but is close to significant in relation to hearing loss when seen from the p value ($p = 0.06$). The results of the study are in line with previous studies which stated that there was no relationship of work period with hearing loss in workers in the Department of Metal Forming and Heat Treatment of Dirgantara Factory ($p = 0.753$) [10]. More than half of the workers have a long work period > 10 years. They do the same work every day. The factory does not move or rotate workers because the workers are experts in their respective fields and the Stone Factory has only a small amount of land and parts of work. Then it is impossible for workers to be moved. NIHL is a hearing loss caused by continuous exposure to noise with a certain duration to develop for several years. Length of work is how long the worker has worked and been in the work environment. Based on the results of this study it was found that workers who worked > 10 years 5 times the risk of hearing loss compared to workers whose years of service were <10 years. Likewise, according to previous studies it was found that work duration has a relationship with hearing loss in workers with an OR value of 16.2, which means workers who work > 10 years are 16 times at risk of hearing loss [9].

5. CONCLUSION

Most workers at the Filarin Stone Factory experience hearing loss. Factors associated with hearing loss are sex and behavior of wearing ear protection equipment. The unrelated factors are age, education, marital status, length of work, knowledge and noise level. Moreover, Filarin Stone Factory needs to provide quality ear protection equipment for workers and make regulations and supervision related to discipline in its use, especially for male workers. In addition, it is necessary to carry out routine inspection of hearing function on the workers.

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COMPETITIVE ADVANTAGES OF HIGHER EDUCATION FACING NATIONAL COMPETITIVENESS IN THE INDUSTRIAL REVOLUTION ERA 4.0

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Increasing the nation's competitiveness is the focus of universities as a driving force for competition at the global level. The competitive advantage of tertiary institutions has become a noble ideal so that it encourages the competitiveness of the nation in the industrial revolution era 4.0. Higher education institutions need to implement superior strategies to encourage national competitiveness. The role of universities must be directed towards economic growth based on innovation so that graduates create jobs. New technologies are emerging that have led to changes in scientific, economic and industrial disciplines. The era of the industrial revolution 4.0 is not only old literacy; reading, writing and mathematics, as basic capital to take part in society. Literacy needed for new graduates is skills for the future. Indicators of higher education competitiveness include input indicators, process indicators, output indicators and impact indicators. Input indicators, including scientific vision, mission, goals, objectives, curriculum, students, funds, facilities and infrastructure, data, technology, information systems, lecturers, learning resources, policies and regulations as well as applicable laws. Process indicators, including study periods, learning models and methods, quality assurance systems, governance, financing, collaboration, strategic partnerships, research and community service. Output indicators, including the number of graduates, graduate grades, graduate quality, research quality, publications, innovations and patents. Impact indicators, including the waiting period for graduates to get a job, recognition, graduate study, the suitability of graduates' expertise in the field of work and the influence of graduates on the workforce. Higher education must have the ability to manage strategic resources properly because it is the key to building competence and competitive advantage in facing the nation's competitiveness.

Keywords: competitive advantage, competitiveness, industrial revolution 4.0.

1. BACKGROUND

The contribution of tertiary institutions to the competitiveness of the nation can be increased if the tertiary educational organization is in a healthy condition at the level of tertiary, regional, national and global institution. One of the objectives of higher education autonomy is to produce superior human resources and be able to encourage the nation's competitiveness, especially in the era of the industrial revolution 4.0.

Law of the Republic of Indonesia Number 12 of 2012 explains that higher education is part of the national education system which has a strategic role in educating the life of the nation and advancing science and technology by paying attention and applying humanities values as well as the culture and empowerment of the Indonesian nation in a sustainable manner. Increasing the nation's competitiveness in the face of globalization, higher education is needed that is able to develop science, technology and produce intellectual, scientific, and or professional graduates who are cultured, creative, innovative and resilient in character.

To achieve this, the Directorate General of Higher Education (HELTS, 2003-2010) explained that there needs to be a change in the role so far as regulators and executors, to become empowerers, facilitators and motivators to be agents of change in the function of higher education reform, forming higher education which has a comparative advantage through improving the management function of higher education strategies, among others by increasing the intellectual capital management function of each tertiary institution. Therefore, in implementing the development agenda of the Ministry of Research,

Technology and Higher Education set the vision of "the realization of quality higher education and the ability of science and technology and innovation to support the competitiveness of the nation".

Quality higher education is intended to produce graduates who are knowledgeable, educated, and skilled, while the ability of science and technology and innovation is interpreted by the expertise of human resources and universities in carrying out research, development, and application of science and technology which is supported by the development of institutional input factors, resources, and network. The meaning of national competitiveness is the contribution of science and higher education in the economy, which is demonstrated by the superiority of technology products resulting from research by skilled higher education.

Indonesia's higher education world still has to face various challenges that are not light. The big problem for universities is to prepare superior human resources, namely academic ability (hard skills) supported by personality integrity and the ability to socialize in the world of work (soft skills). Other challenges include accountability to an increasingly large community, greater expectations in increasing access to cooperation and strategic partnerships and improving quality. The next problem is the environment of higher education competition, such as external events; demographic change, technology, industrial revolution, competition between institutions and global economic development.

Changes in community demands are not only on the ability to produce graduates who are measured academically, but must be able to prove superior quality that is supported by high accountability as well. Another condition is the increasingly fierce competition in universities. Previously it only competed with domestic tertiary institutions, but now it must compete with domestic and foreign foreign tertiary institutions. Not to mention the emergence of new universities supported by various business groups, community academies or large industries which of course have large funds as well.

The nation's competitiveness must be encouraged through increased human resources including through strengthening research and publications. Currently the government's goal in achieving national competitiveness according to the Global Competitiveness Report is related to the competitiveness of the Indonesian people to reach the 36th country in the world. It is time for the government through higher education to also transform research and publications. The government is pushing the country's economy from a resource-based economy to a knowledge-based economy. Therefore, research, publications are needed to produce innovations and patents. Higher education innovation products will have higher added value and the most important thing is that it must be illustrated in order to be commercialized.

Increasing access to higher education is an effort to strengthen the quality of Indonesia's human resources to encourage the nation's competitiveness. An affirmation policy for disadvantaged groups through the provision of Bidikmisi education fee assistance to study at tertiary institutions. The Bidikmisi Program in 2018 is targeted at 368,961 people. In the third quarter of 2018 the achievement of Bidikmisi recipients nationally was 302,764 people.

The government's mission is to improve access, relevance and quality of higher education to produce quality human resources. Higher education is directed towards the achievement of economic growth by encouraging graduates who are able to create jobs through entrepreneurship (entrepreneur) to overcome structured unemployment. Now entering the era of technological disruption, a combination of physical, digital and biological domains (Klaus Schwab, WEF, 2017). Cyber physical system based revolution,

a combination of digital, physical and biological domains (Klaus Schwab, WEF, 2017). Especially now that most companies use technology to sell products online (The Economist, 2017). Increasing importance of social skills for graduates in their work (The Economist, 2017). More than 55% of organizations state that the digital talent gap is widening (Linkedin, 2017). Indonesia needs to improve the quality of the skills of its workforce and graduates with digital technology (Parray, ILO, 2017). Emerging new technologies have resulted in extraordinary changes in all disciplines, economics and industry. The 4th wave of the Industrial Revolution in Indonesia has begun with the emergence of sharing economy (Gojek), market place (Bukalapak) and others.

During the industrial revolution 4.0 and later, almost 75% of the work involved the ability of science, technology, engineering and mathematics, the internet of things and lifelong learning. (Zimmerman, 2018). The current job market requires a combination of a variety of different skills from those currently provided by the tertiary education system (Marmolejo, World Bank, 2017). There needs to be relevance of employment to tertiary education, employers now complain that workers do not have sufficient skills (McKinsey Center for Government, 2012), Education to Employment: Designing a System that Works (survey of 8,000 universities and industries in 25 countries).

At present there are 10 main qualifications (skills) of workers that are needed by employers (WB, 2013), namely positive work habits, communication, technical, writing, writing, English (English), problem solving (problem solving), reading (reading), computer (computer), and working in teams (team work). Industrial Revolution Era 4.0, it is not just enough old literacy (reading, writing and mathematics) as a basic capital to take part in society. Data literacy readiness, ability to read, analyze, and use big data information in the digital world. Technology literacy, understanding the workings of machines, technology applications (coding, artificial intelligence, engineering principles and biotech). Also needed are human literacy, humanities, communication and design, lifelong learners and new literacy (Aoun, MIT, 2017). What is needed by the world of work is skills for the future. Higher education does not stop after obtaining a degree. Required social skills, competence to interact with a variety of new literacy cultures (big data, technology / coding, humanities, cyber security) and lifelong learning (Fadel & Echols, 2011. Preparing your Workforce for Tomorrow 'Challenges, Bellevue University & Cisco Webinar).

2. THEORY

The conception of competitive advantage and sustainable competitive advantage is one of the main issues in various scenarios of marketing strategies developed to produce organizational performance and sustainability. Although this conception is not a new concept, but it becomes very prominent in the realm of strategy theory after being well articulated (Porter, 1985) which later became one of the main references in various discussions about strategy, especially marketing strategy. Competitive advantage is finally seen as one of the strategic objectives to mediate various processes in order to produce good organizational performance.

Competitive advantage is seen as a mediating factor, it is necessary to explain what is a prerequisite to have consequences for organizational performance. To understand how the mediation process occurs and what are the prerequisite factors that start the process of creating good organizational performance, starting from the conception of resource-based theory of firm or resource-based company theory as developed by Penrose (1959), Wernerfelt (1984), Barney (1991, 1995), that one of the resources that gives a competitive advantage is a resource developed through various social approaches with social attributes

(Oliver, 1997) known as social capital (Coleman, 1988). In this connection social capital is one of the strategic instruments that is able to encourage the growth and development of competitive advantage which in turn is able to produce good organizational performance and ensure its sustainability.

The use of resources has many potential advantages for organizations such as achieving greater efficiency and subsequently lower costs, improving quality and possible market share and greater profitability (Collis, 1994). An analytical approach called Resource-Based View (RBV) emphasizes increasing competitive advantage derived from organizational strategic resources (Dierickx and Coll, 1989; Barney, 1991; Peteraf, 1993; and Teece et al., 1997). Competitive advantage allows an organization to obtain superior performance in a certain period (Pitts and Lei, 2003: 7). The essence of resource-based view is that organizations are fundamentally different because they have a set of resources (Grant, 2002: 139; Fleisher and Bensoussan, 2003: 187). The most effective achievement of competitive advantage is to use organizational competence (Wernerfelt, 1984; Barney, 1986; Rumelt, 1991; Evans, 1991; Peteraf, 1993; Amit and Schoemaker, 1993). The resource-based view approach states that companies can achieve sustainable competitive advantage and obtain superior advantages by owning or controlling strategic assets both tangible and intangible. Furthermore, the organization is a set of strategic and productive resources that are unique, rare, complex, complementary and difficult for competitors to imitate which can be used as elements to maintain their competitive strategy.

Recent theoretical and empirical developments prove that organizations with superior competence will produce better information about the needs and desires of stake holders and also better in building and marketing goods or services through well-coordinated activities. Superior competence also gives organizations the ability to produce and act based on knowledge of competitors' actions and reactions, which will help them build competitive advantage (Naver and Slater, 1990; Touminen et al., 1997).

Bogner and Thomas (1994) define core competencies as special expertise possessed by companies and knowledge that is directed to achieve higher levels of customer satisfaction compared to competitors. Furthermore, core competence is expertise that enables companies to achieve the basics of customer benefits (Hamel and Heene, 1994: 87) through the formation, improvement, renewal and use of resources that lead to sustainable competitive advantage.

To maintain competitive advantage, core competencies must add value, are difficult to replace, difficult for competitors to emulate, and can be transferred throughout the company (Barney, 1991; Grant, 1991, 1996). Furthermore, at least four mechanisms are associated with competencies, namely time-compression diseconomies, efficiency of mass assets, linkages between assets, and causal ambiguity (Dierickx and Cool, 1989) which help protect assets from obsolescence and sustainable competitive advantage resulting from core competencies .

Competence must integrate a number of expertise or technology, become a unique competitive force, and contribute to values and provide the ability to enter new markets (Prahalad and Hamel, 1990; Hamel and Heene, 1994). Bogner and Thomas (1994), which defines core competencies as special expertise possessed by companies and knowledge that is directed to achieve higher levels of customer satisfaction compared to competitors.

The competency dimension (Oliver, 1997) pays attention to strategic resources meaning resources that produce competencies must be rare, unique, special, intangible, difficult to imitate / replace and difficult to imitate. Meyer and Utterback (1993) emphasized

the important role of technological competence, research and development, production and manufacturing competencies, and marketing competencies.

Furthermore Hamel and Heene (1994) divide competencies into market-access competencies, competencies related to integration, and competencies associated with functionality. Hall (1994) believes that functional ability, culture, position, and arrangement as the shaper and determinant of overall corporate excellence. Barney (1991) presents a more concrete and comprehensive structure to identify the importance of competence to obtain sustainable competitive advantage. Barney (1991) expressed four indicators so that the competencies of the company can be a source of sustainable competitive advantage, namely: valuable, a rare competency and potential competitor (awareness), not easily imitated (inimitability), and not easily replaced (non-substitutability).

1. Valuable

Valuable competencies are competencies that create value for a company by exploiting opportunities or neutralizing the threats to the company's external environment. Competence can be a source of competitive advantage in a sustainable manner only when the competency is valuable. Competence is said to be valuable when the competency causes it to be able to compile and implement strategies to increase value.

2. Awareness

Awareness competencies are those possessed by few, if any, current or potential competitors. Value competencies that are owned by most existing or potential competitors cannot be a source of sustainable competitive advantage. An organization enjoys competitive advantage when it can implement value creation strategies that cannot be carried out by other companies. In other words, competitive advantage is generated only when companies develop and exploit competencies that are different from competitors. If the valuable competency was owned by the company and every company has the ability to use the same methods and techniques, and then implement almost the same strategy, then it is said that no one has a competitive advantage.

3. Inimitability

Valuable and rare competencies can only be a source of sustainable competitive advantage if other companies do not have them, cannot obtain these competencies. Lippman and Rumelt (1982) and Barney (1986) state that competence is very difficult to imitate (imperfectly imitable). Competence can be said to be difficult to imitate for one or a combination of the following three reasons:

- a. The ability to gain competence depends on unique historical conditions. When evolving, they take expertise, abilities, and resources that are unique to them, reflecting the paths traversed in history (Barney, 1995). That the company is able to develop competence because it is in the right place and the right time (Barney, 1999).
- b. The relationship between organizational competence and sustainable competitive advantage is ambiguous (causally ambiguous). Competitors are not able to clearly understand how companies use their core competencies as the basis for competitive advantage. As a result, competitors do not understand the competencies that must be developed to mimic the benefits of the organization's value creation strategy.
- c. Competencies that produce organizational excellence are social complex (socially complex). Social complexity means that some and often many organizational competencies are the product of complex social phenomena. Examples of socially complex competencies include

interpersonal relationships, trust and friendship between managers and between managers and employees and the reputation of the organization with suppliers and customers.

4. Insubstitutability

Competencies that are difficult to replace are competencies that do not have strategic equivalents. Two valuable corporate resources or two sets of organizational resources, strategically equivalent when each of these resources can be exploited separately to implement the same strategies. In general, the strategic value of competence increases the difficulty of replacing it. The less visible a competency is, the harder it is for an organization to find a replacement and the greater the challenge of competitors to emulate a company's value creation strategy.

The competitive advantage of an organization must be based on specific resources that become barriers to imitation and substitution of products or services. Increased competitive pressures can reduce competitive advantage. This indicates that a company, in order to survive in the face of increasingly intense competition, companies must take actions that can maintain and strengthen their unique competence (Reed and Defillipi, 1990). Organizational resources and competencies can be placed on a continuum to see that these resources and competencies are durable and cannot be replicated.

Prahalad and Hamel (1989) found that successful companies are companies that focus on increasing competence, which are used in new and innovative ways to achieve goals. The company's main concern is to use resources in challenging and creative ways to build core competencies. Competence also has a strong influence on company performance (Absah, 2007). Companies that have a management team with optimal expertise and competitive methods based on core competencies will be able to achieve higher performance than other companies that cannot do so.

The company's superior competence will obtain what information is needed and wanted by the stake holders. Companies that have employees with high competence, will be able to provide products and services that suit their needs and desires. Companies with superior competence can obtain sustainable competitive advantage and can further improve performance. Competitive advantage can be maintained, if the competency of the company is able to add value, rare, difficult to imitate, and difficult to replace. According to Godfrey and Hill (1995), competencies that are not easily imitated are the core (axis) of resource-based theory, and the central understanding of sustainable competitive advantage (Dierickx and Cool, 1989; Spender and Grant, 1996). Furthermore Pace et al. (2005) found that competencies that were difficult to replicate had a positive relationship with performance. Competence is protected from imitation in various ways. Competence derived from historical factors such as strategic location, copyright ownership, will protect these valuable resources from the act of imitating competitors.

Socially complex resources, such as good reputation and trust, are resources that require time and high costs to emulate. Causal ambiguity is ambiguity regarding the relationship between company competence and competitive advantage (Reed and Defillipi, 1990; Barney, 1991) will protect competence from imitation efforts (Lippman and Rumelt, 1982; Dierickx and Cool, 1989; Barney, 1991). Causal ambiguity will protect competence from imitation efforts because competitors do not understand the relationship between core competencies and competitive advantage.

The knowledge possessed by employees is one of the competencies that is difficult to imitate. Knowledge will be a competency that is difficult to replicate because it requires a long time and is expensive to replicate. In addition, employees with special expertise will

become a strategic advantage and are the basis for superior performance. As also found by Hatch and Dyer (2004) that competitors cannot quickly and easily imitate or replace the value of specific human resources. That competitive advantage will continue if it is based on intangible and socially complex human resources (Arthur, 1994; Huselid, 1995; Koch and McGrath, 1996).

Causal ambiguity is explained in two different ways. First, linkage ambiguity is ambiguity among decision makers regarding the relationship between competence and competitive advantage (Lippman and Rumelt, 1982; Barney, 1991). Second, characteristic ambiguity is focused on the character of competence, which is also a source of excellence and ambiguity. Characteristic ambiguity is ambiguity inherent in the resource itself.

Closedness (tacitness) is one of the characteristics of causally ambiguity (Reed and DeFillippi, 1990; Barney, 1995; Godfrey and Hill, 1995; Hart, 1995; Szulanski, 1996; Inkpen and Dinur, 1998; Simonin, 1999). Tacitness reflects that a competency is intuitive, non-verbal and unspoken (Hedlund and Nonaka, 1993: 118). Tacit knowledge is more ambiguous than articulates or explicit knowledge (Winter, 1987; Reed and DeFillippi, 1990; Kogut and Zander, 1992).

Explicit knowledge is described as formal, systematic and the purpose indicated in words or numbers (Baker et al., 1997). Explicit knowledge can be derived from a number of sources including data, business processes, policies and procedures, as well as external sources such as market information (Baker et al., 1997). While tacit knowledge is in the form of knowledge, experience, expertise, mental models, intuition and belief (Baker et al., 1997), which is very dynamic and special (Martensson, 2000; Tsoukas and Vladimirou, 2001). Competence is also characterized as causally ambiguous when the competency is within the culture and values of the organization (Masakowski, 1997) because competencies that are in culture are more certain and less mobile than knowledge that is in individuals or small groups. Itami and Roehl (1987) state that a key element of strategy is managing intangible assets such as expertise and reputation.

Bharadwaj et al. (1993) found that competitive advantage is very important in achieving superior performance in service companies. Competitive advantage can be obtained by having a unique set of skills and competencies that are difficult for competitors to emulate. Support was also given by Mehra (1996) who found that there was a strong relationship between the resources of the company and higher performance. Furthermore, the results of the study by Pace et al. (2005) found that based on the Resource-Based View (RBV) approach, the main cause of differences in performance among companies was due to differences in specific resources and accumulation of competencies.

Competencies that are difficult to move (immobility) are found to have a positive relationship with profitability and negatively related to margins. This is also consistent with Pace et al. (2005) who discovered a relationship between profitability and resources and how to manage them. O'Regan and Ghobadian (2004) also found that competence has a positive influence on strategy and overall performance achievement. However, studies conducted by Fernandes et al. (2005) titled Resources that drive performance: an empirical investigation gives different results. Fernandes et al. (2005) state that resources have an influence on performance, but employee competence has no effect on performance; environmental factors that are associated with demand are the factors that most strongly influence performance.

Competitive Advantage

Competitive advantage is the heart of organizational performance in competitiveness. Competitive advantage grows from the value or benefits created for

stakeholders that are greater than the costs incurred to create it. This value or benefit is willing to be paid and a superior value comes from offering a price lower than the competitor's price for equivalent benefits or offering unique benefits that exceed the price offered (Porter, 1985: 3). Competitive advantage according to Day and Wensley (1988) has at least two different but related meanings (Dröge, et al, 1995: 669). The first meaning focuses on excellence (superiority) in skills and or resources (resources), while the second meaning is about the superiority of performance results (performance outcomes).

Day and Wensley (in Cravens, 1996: 31) suggest that competitive advantage should be seen as a dynamic process rather than as an end result. It was also stated as a process consisting of sources of excellence, position superiority, and the achievement of final results and profit investment to maintain excellence.

Information can enhance competitive advantage through service quality. Cravens (1996) suggests four important ways: (1) rapid transfer and information processing shows the benefits of speed; (2) efficiency in the use of information systems reduces operational costs; (3) better decisions resulting from the use of relevant and timely information; and (4) the use of innovative information systems creates new opportunities.

There are many important programs and tools to improve quality, shorten delivery time, respond to customer requests, use companies to get a place in the market (Reese, 1994: 26). However, only companies that utilize information processing to respond to specific customer needs effectively and efficiently, will be able to win the competition.

Li (1997: 27) says that the role of marketing information systems is to assist managers in making decisions and enable companies to be able to react more quickly to customer needs. This makes it easy for managers to follow the extent to which these needs have been met. This feedback information is then used to modify, develop, or delete products and services, which will increase the efficiency and effectiveness of the company's operations and enhance competitiveness.

For service companies (service-based), quality is a 'source of life' which brings increased customers, competitive advantage and long-term benefits (Clow and Vorhies, 1993: 22). By providing intangible services, it is essential that customers form accurate expectations, and vice versa companies provide services according to or even exceeding the level expected by the customer.

Quality has a close relationship with customer satisfaction (Tjiptono, 1995: 54). Quality provides an impetus to customers to establish strong ties with the company. Thus the company can increase customer satisfaction where the company maximizes a pleasant customer experience and minimizes or excludes a less pleasant customer experience. In turn, customer satisfaction can create loyalty or customer loyalty to companies that provide satisfying quality.

In addition the company can also increase its market share through fulfilling customer-driven quality. This provides price advantages and customer value. Customer value is a combination of benefits and sacrifices that occur when customers use an item or service to meet certain needs (Bounds, et al., In Tjiptono, 1995: 55). If the quality produced is superior and the market share held is large, then profitability is guaranteed. So, quality and profitability are closely related. Companies that offer superior quality goods or services can definitely beat competitors that produce inferior quality. Meanwhile, according to Menon, Jaworski and Kohli (1997: 187) the quality of the product (service) is one part that is related to the creation of superior value for customers. The creation of superior value for customers is a stepping stone for companies to gain competitive advantage (Menon, Jaworski and Kohli, 1997: 187).

4. RESULTS

External factors that are important to consider for the development of higher education institutions in the future are (1) National economic growth, especially related to community income, because it will have a direct impact on the purchasing power of universities; (2) Potential prospective students, especially around the area of higher education and surrounding areas as prospective study participants; (3) Central and regional government policies in supporting higher education; (4) Higher education competition; (5) Technology and information system support and (6) Geographical factors, the region is an area of the national economic system and population mobility.

Assessment of the opportunities and threats of the external environment to the development of tertiary institutions will be assessed only on the important factors or factors that are most inhibiting / most threatening.

1. Internal Factors

Indicators that are very important and have high opportunities for the development of higher education are:

- a. Prospective students, are considered to have a very high number of senior high schools, with the potential of senior high school alumni every year.
- b. Income of the population. Until the next few years, industrial growth is still high, with the number of companies and small and medium businesses very large, the value of wages continues to increase, thus providing good value for the purchasing power of the community towards universities.

2. External Factors

Indicators assessed for the weaknesses of higher education are:

- a. Government factors, as policy makers can be a threat factor, because they often issue regulations that are difficult and quick to follow for universities, because to meet regulations often requires adequate resources. Local governments are also considered to be a threat factor because the carrying capacity of the growth of higher education has not been consistent.
- b. Geographical factors, assessed the threat of location as a center of economic growth that will invite competitors to enter, lack the barrier to entry of new tertiary institutions as competitors.
- c. Information technology, is a threat factor because it will greatly affect the carrying capacity of tertiary institutions not being able to adjust to the growing use of information technology in all aspects of higher education.
- d. Competition, is a high threat factor, because competition is very tight, which must be anticipated well, so competition becomes a positive factor collaboration in developing tertiary institutions

Based on internal and external factors of tertiary institutions, a SWOT matrix is developed to find out the strategies to increase the competitiveness of tertiary institutions.

Table 1 SWOT (Strength, Weakness, Opportunity and Threat) Matrix

	<p align="center">STRENGTH (S)</p> <p>1. Infrastructure facilities 2. Governance 3. Strategic cooperation and partnerships 4. Information system</p>	<p align="center">WEAKNESS (W)</p> <p>1. Lecturers and education staff 2. Tridharma culture 3. Research publications and patents 4. Quality assurance and</p>
<p>OPPORTUNITY (O)</p> <p>1. Prospective students 2. Potential for income</p>	<p align="center">STRATEGY S-O</p> <p>1. Making infrastructure as an attraction for excellence and promotion 2. Utilizing the ability of relations, all leaders continue enthusiasm to increase the number of students and overall quality</p>	<p align="center">STRATEGY W-O</p> <p>1. Further study throughout the Doctor lecturers and education staff 2. Recruitment of qualified lecturers to meet the ratio and development of information technology 2. Improving the quality of learning and research, innovation culture, patents and scientific publications, online, distance</p>
<p>THREAT (T)</p> <p>1. Government policy 2. Geographical 3. Information technology 4. Competition</p>	<p align="center">STRATEGY S-T</p> <p>1. Leaders are always aware at the speed of government regulation 2. Renewable information systems technology investment 3. Collaboration with superior universities in the surrounding area to reduce competition (barrier to entry) and open up opportunities for the rapid transfer of quality of higher education</p>	<p align="center">STRATEGY W-T</p> <p>1. Carry out cooperation and strategic partnership 2. Utilizing cooperation for the transfer of quality technology, tridharma, innovation, patents and publications 3. Utilizing strategic cooperation and partnerships for the barrier to entry protection of prospective students, lecturers, income and opportunities to establish new universities</p>

Source : analysis results, 2019.

The overall SWOT analysis is carried out by reviewing three interrelated components namely input, process and output in the organization of tertiary education as follows:

1. SWOT analysis for input components
 - a. Realizing the achievement of vision, mission, goals and objectives
 - b. Development of professional laboratory facilities and infrastructure
 - c. Development of student aspects
 - d. Implement and monitor curriculum consistently and continuously
 - e. Further doctoral education for lecturers and an expertise strengthening program for laboratory assistants, technicians and education staff
 - f. Development of income sources
2. SWOT analysis for process components
 - a. Development of competency-based learning processes and information technology
 - b. Increasing the implementation of national and international cooperation programs
 - c. Development of academic atmosphere

- d. Increased awareness and work culture according to quality assurance standards
 - e. Development of research and community service through a pattern of self-reliance and programmatic collaboration
3. SWOT analysis for output components
- a. Development of quality and competence of graduates according to the needs of institutions and stakeholders
 - b. Increasing national and international scientific publications
 - c. International seminars
 - d. Improvement of student soft skills

On the basis of the SWOT analysis and the input, process and output analysis above, the objectives of the tertiary competitive advantage strategy are:

1. Improving quality and governance services
2. Improving the quality and services of students
3. Improving the quality and service of human resources
4. Improving the quality and financial services, facilities and infrastructure
5. Improving the quality and education services
6. Improving the quality and research services
7. Improving the quality and service to the community
8. Improving the quality of outcomes and Tridharma achievements

To achieve the above targets, the focus of the development of tertiary institutions should be directed to 4 (four) main stages of activities, namely:

1. Increase the number of doctors by requiring all lecturers to study doctoral studies.
2. Improving the quality of research, service, technology, art, innovation works, patents and publications both nationally and internationally, it is hoped that a culture of improving the quality of tridharma and publications, innovations and patents.
3. Increasing the use of information technology in the implementation of tridharma, governance and supporters, lecturers have applied online learning technology, distance learning and blended learning.
4. International certification and accreditation. Higher education needs to be certified as early as possible to international standards in the field of higher education.

The strategy of achieving goals requires stakeholder involvement, consistency in implementation, evaluation, and support of all resources to realize the achievement of the vision, mission, goals and objectives.

5. DISCUSSIONS

The development of a tertiary institution will not be separated from the vision and mission, strategic plans and operational plans of tertiary institutions that have been formulated to boost the nation's competitiveness. Bottom-Up Planning and Top-Down support systems will always and always take precedence in the context of organizing sustainable development of tertiary institutions

There are four types of performance indicators of tertiary competitiveness to encourage the nation's competitiveness as follows:

1. Input indicators, including curriculum, students, funds, learning facilities and infrastructure, data and information, teaching staff, learning

- resources, learning motivation, student readiness in learning, policies and regulations as well as applicable laws.
2. Process indicators, including the study period, recovery implementation model, length of completing the final project, the number of students moving out or dropping out, the effectiveness of lectures, the quality of the lecture process and the use of learning methods.
 3. Output indicators, consisting of the number of graduates, graduate GPA, quality of graduates, quality of research, innovation and patents.
 4. Indicators of impact, including the waiting period for graduates to get a job, further study of graduates, suitability of graduates' expertise with the field of work, the effect of graduates on the workforce

Higher education performance that encourages national competitiveness includes 10 (ten) competitive advantages, namely, (1) increasing community access and commitment, (2) improving program quality, (3) improving the quality of research, publications, innovation and patents, (4) increasing quality of service to the community, (5) improvement of student soft skills and lifeskills, (6) improvement of management information systems, (7) improvement of human resource management autonomy, (8) improvement of financial and asset management autonomy, (9) public imaging.

Conclusions

The resource based approach emphasizes the importance of internal college resources to achieve sustainable competitive advantage. This perspective states that higher education performance is a function of how well it builds competitive advantage in dealing with valuable, scarce, hard to imitate and hard to replace resources.

Indicators of higher education competitiveness include input indicators, process indicators, output indicators and impact indicators. Input indicators, including vision, mission, goals, objectives, curriculum, students, funds, facilities and infrastructure, data, technology, information systems, lecturers, learning resources, policies and regulations as well as applicable laws. Process indicators, including study periods, learning models and methods, quality assurance systems, governance, financing, collaboration, strategic partnerships, research and community service. Output indicators, including the number of graduates, graduate grades, graduate quality, research quality, publications, innovations and patents. Impact indicators, including the waiting period for graduates to get a job, recognition, graduate study, the suitability of graduates' expertise in the field of work and the influence of graduates on the workforce.

Higher education with valuable and rare competencies will produce a greater competitive advantage compared to its competitors, which in turn results in superior performance. Universities that have competent resources will encourage the competitiveness of universities and the competitiveness of the nation. Higher education institutions that have the skills and competencies of future graduates who are superior and are recognized by users will be transformed into classy universities and encourage national competitiveness. Higher education has high quality research, publications, innovation and patent results and even industrializes with the business world and the industrial world. Competitive advantage and performance produced by tertiary institutions is a consequence of the special resources and competencies possessed. Thus, tertiary institutions must have the ability to manage strategic resources properly, because they are the key in building competency and competitive advantage, ultimately encouraging the nation's competitiveness.

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THE ROLE OF BAHASA INDONESIA IN THE INDUSTRIAL REVOLUTION 4.0

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Abstract

The fourth industrial revolution or Industry 4.0 has a wide impact on almost every aspect of human life including a language. In Indonesia, Bahasa Indonesia or Indonesian language has an important role as a communication tool used by Indonesian to express or deliver their intention and messages. For that matter, Bahasa Indonesia needs to be socialized and be used daily in a proper way so that the people do not get carried away by the era of the industrial revolution that is not by the Indonesian norm and culture. The use of language will affect the truth of the information conveyed.

Keywords: Industrial Revolution 4.0, Language, National Character

1. INTRODUCTION

1.1.BACKGROUND

With the rapid development of science and technology in the Industry 4.0, there will be a shift in social culture. The digital era will have an impact on human communication that is swift, agile, effective and efficient by using language as a source of information, language plays an important role in communication that is often used on daily basis through social media and electronics. The harsh language, cursing words, or any inappropriate words are often be used by people on social media to criticize or give negative comments to some contents that other people created. If bad words keep being used, especially on social media, it might damage the people's moral particularly for younger generation. Language skill could improve intellectuality and a sense of humanity. A language user must understand the linguistic etiquette related to what should be said at certain times and circumstances, what kinds of languages are appropriate in certain sociolinguistic situations, when and how to use their turn to speak, when to interrupt the conversation of others, and when to not speak at all. The industrial revolution becomes a sophisticated challenge; language becomes one of the important components in this globalization era. For this reason, in this paper the author will discuss the influence of Bahasa Indonesia in the industrial revolution 4.0.

1.2 Problem Formulation

The Influence of Bahasa Indonesia in the Industrial Revolution 4.0.

1.3 Purpose of Discussion

To know the opportunities of Bahasa Indonesia in facing the Industrial Revolution 4.0.

3. BASIS OF THE THEORY

Based on the dictionary the Industrial Revolution consists of two words namely revolution and industry where the revolution is a very rapid change while the industry is an effort to carry out the production process. Industrial Revolution means a rapid change in the implementation process of human labor being replaced by a machine. Related to the Industrial Revolution 4.0, the role of Language becomes very important. Language is a means of connecting the real world and the digital world. The use of Bahasa Indonesia is stated in the Republic of Indonesia Law Number 24 of 2009 concerning the State Flag, Language, and Culture, as well as the national anthem. According to Halliday, speakers are free to choose in connecting information units with whatever constituents are specified in structural sentences, that each lexical element gives new information (new form - noun, new nature of adjectives, activity, new - verbal), which is likely to be realized by phonological prominence. The use of text a and b, according to Hymes, is aimed at the reader in general, relatively easy to trace and only requires referents intended to be as clear as possible to interpret it, while the use of text c is intended for friends who are not specifically speaking to the wider community, and very difficult for the wider community to interpret without prejudice to presuppositions and previous experiences. To consider this, of course, one must understand the presumption of shared encyclopedic knowledge. In other words, one must have enough knowledge in using a language since the use of language could not be applied in all circumstances. There is a time we need to use a more polite way in speaking, the use of language depends on the situation and condition.

4. DISCUSSION

A language is a communication tool and one of the important elements of the country's progress that is used by humans to get to know each other, the presence of the internet has changed the way people look and behave, our world is entering the era of the industrial revolution 4.0 marked by digital patterns that make the Indonesian people feel hypnotized by the development of the digital world which make less and fewer people use Bahasa Indonesia correctly and in accordance with the rules that have been applied. Some young people today pay less attention to using proper language and tend to use language or expressions that are being trended throughout the world because of the influence of social media. If we do not do anything about this matter, there is a chance younger people will not know how to use words in Bahasa Indonesia properly. To address this matter, the government proclaimed the month of October as the language month to raise awareness of Bahasa Indonesia. This act is a good way to make people know how important to use Bahasa Indonesia properly and by using the language, it will help to maintain the identity of the nation. Minister of Education and Culture Muhadjir Efendy in the XI Indonesian congress as reported by Zhevri Eraldy (2018) gunungmaskab.go.id stated that the Indonesian congress is expected to improve the position of Bahasa Indonesia internationally, and also to improve the weaving of nationalities, identify quality development, fostering, and protection of language and literature, as well as producing formulations or recommendations that can be used as the direction of national and international policy on language and literature. The existence of Bahasa Indonesia in the era of the industrial revolution 4.0 needs to be promoted by every Indonesian citizen so that the Indonesian nation

is not carried away by the era of the industrial revolution that is not in accordance with the Indonesian language and culture. The influence of the social world must be faced with maintaining the nations' identity. Indonesian people need to be disciplined in using Bahasa Indonesia and must be compliant with the rules of using Bahasa Indonesia, not to mention the appropriation of using the language in a certain way based on the situation and condition. Expressing our intention and delivering messages using a proper language could protect us from the negative impact of Industry 4.0.

5. CONCLUSION

Industry 4.0 raises hopes and challenges in the use of Bahasa Indonesia as a media of communication be it on a face-to-face basis. Thus, Indonesian people need to be able to use Bahasa Indonesia properly so that they will not get affected by the negative impact of the revolution, they will be able to state their opinion clearly, and they will not take information for granted. For Indonesian people, the influence of industry 4.0 must be faced correctly while maintaining the identity of the country and its culture.

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CONCEPT OF MARKETING EDUCATION SERVICES 4.0

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Abstract

The Challenge of Higher Education is how to prepare and map the workforce from the struggle for education in facing the industrial revolution 4.0. This research aims to explain the concept of marketing education in the digital age. The method used is the study of literature. The results of the study imply that interdisciplinary curriculum and learning methods based on innovation reference research, must adapt business changes, be more competitive industries and follow the development of science and science. With students who handle mastery of data and technology, humanities knowledge, skills, leadership, and entrepreneurship, with the development of marketing services marketing strategies in accordance with the digital era.

Keywords: Product, price, promotion, place, process, people, physical evident, 4.0

INTRODUCTION

Science and technology and higher education are important factors in development in Indonesia. The importance of education for Indonesia is reflected in the opening of the 1945 Constitution of the Republic of Indonesia, which is to educate the nation's life. In line with the opening of the Constitution, the body of the constitution including Article 20, Article 21, Article 28 C paragraph (1), Article 31 relating to education, is written that the Government advances science and technology by upholding the values of religion and national unity.

The national education system must be able to guarantee equal opportunity for education, increase the quality and relevance and efficiency of education management to face challenges according to characteristics in the era of the industrial revolution which include digitalization, optimization and customization of production, automation and adaptation, interaction between humans and machines, value added services and business, automatic data exchange and communication, and the use of information technology. Therefore, the world of education and industry must be able to develop the characteristics of industrial transformation by considering the human resource sector that has competence in their fields.

For this reason, it is necessary to reform education in a planned, directed and continuous way to meet the digital era, in line with the vision of higher education, namely "The realization of high quality education and the ability of science and technology and innovation to support the nation's competitiveness (Anonymous, Law of the Republic of Indonesia No. 20, 2003 National Education System, 2004).

This study aims to explain the concept of marketing services marketing mix by looking at the digital age, so that it has a competitive advantage. The competitive advantage of a nation in the digital age is actually the ability to integrate a variety of available resources to have

connectivity in mastering communication technology, and big data to produce smart products and smart services, not just on large-scale work productivity.

According to (Kotler & Keller, 2012) "Marketing mix is as the set of marketing tools the firm uses to pursue its marketing objectives". The marketing mix consists of variables that universities can combine to influence the demand for services. These variables mutually support and influence each other, where the decision of one variable will affect other variables. Therefore, universities need to compile a marketing mix concept into a coordinated program in formulating strategic policies in various aspects ranging from institutions, fields of study, curriculum, resources, as well as cyber university development, research and development to innovation.

One of the main steps that must be taken by tertiary institutions is to improve campus data management and information that must be conveyed properly for educators and educators. With the existence of a reliable Information System will increase competitiveness of competitors and attractiveness to prospective students.

The components of the marketing mix of education services consist of 7 Ps, namely Product (academic services and socio-cultural services), Price (Educational Development Donations, development contributions, practical money and all components of costs), Place, Promotion, Physical Evidence (in the form of facilities and infrastructure, cyber university, certificate, the quality of graduates, the appearance of buildings, laboratories, sports fields, parking lots, parks, etc.), People (behavioral elements of higher education leaders, lecturers, administrative staff and students), Process (process teaching and learning students during college), (Nurbasari, 2011).

RESEARCH METHODS

The research method used is literature study.

RESULTS

In the 4.0 era, various nations in the world have developed knowledge-based economy (KBE), which requires quality human support. Therefore, education is absolutely necessary to sustain the development of education for the knowledge economy (EKE). In this context, educational institutions must also function as research and development centers, which produce superior research products that support KBE. The availability of quality humans who master science and technology greatly determines the ability of the nation to enter global competence, the free market economy, and the digital era that demands high competitiveness. Thus, education is expected to deliver the Indonesian nation to gain competitive advantage and comparative advantage in competition in the 4.0 era.

3.1. Education Service Concept Mix 4.0

1.1.1 Product

1.1.2 In higher education services, there are 3 (three) kinds of products offered to students, namely: (1) Instruction, (2) Research, (3) Public services. In the Tri Dharma College

clearly stated in the form of teaching, research, and community service. As the main product of higher education is learning, namely the teaching and learning process, with its by-products in the form of (1) Personal self discovery, (2) Career choice and placement, (3) Direct satisfaction and enjoyments (Bowen, 1981).

Higher education that will survive and be able to win the competition is a university that can offer a good educational reputation and has character, spiritual value, innovative and adaptive to technology, skilled in aspects of data literacy, technological literacy and human literacy. It is a bright prospect for students after graduating from the tertiary institution, with a choice of core competencies that are competitive in facing the 4.0 era, so students can choose core competencies that are in accordance with their interests and talents according to industry and business demands that are able to master information technology that will become a basis in human life.

According to (Prahalad & Gary, 1990), there are three components that characterize core competencies, namely: (a). Has broad access potential. For example, college graduates are needed because they are able to respond to the needs of the world of work, business and industry with interdisciplinary innovation and curriculum, responsive to the development of science and technology. (b). Have the ability to increase more benefits to the users of these higher education products which are responsive to the 4.0 revolution, with a digital human approach and digital-based expertise (c). The quality of its products is difficult to compete with other tertiary institutions, such as information technology-based lecture systems with blended learning and research-based learning models can be one of the solutions to realize quality education.

By applying the blended learning model and research-based learning approach, it is expected that the characters formed in students have the soul of a scientist. Each higher education leader can determine what curriculum will be produced that has the character that is in accordance with the digital era as capital to take part in society, namely a curriculum with new literacy: 1. Data Literacy, concerning the ability to read, analyze, and use information (Big Data) in the digital world. 2. Technology Literacy, that is, understanding the workings of machines, technology applications (Coding, Artificial Intelligence & Engineering Principles). 3. Human Literacy, concerning Humanities, Communication & Design (Frydenberg & Andone, 2016).

Many ways can be taken to produce higher education products that are able to compete in the digital age. For example, providing added value to graduates by providing supplies such as mastery of data and technology, humanities knowledge, entrepreneurial skills, and leadership.

1.1.3 Price

Prices in the context of educational services are all costs incurred by students to get educational services by a college. There are several ways of determining the price of education services carried out by various educational institutions (Nurbasari, 2011, pp. 12-13), namely:

- a) Unit Pricing, money paid by students per "unit" for example per modul taken, until obtaining a certificate, diploma. This method is very dynamic and flexible for students, depending on their economic and intellectual abilities.
- b) Two-part pricing, in this case the student pays the same fee, for example for

development money, then pays again in accordance with the number of courses or credit-credit contracts to be taken.

- c) Term of semester pricing, payment is set for one semester, students may take courses as much as possible according to regulations.
- d) Differential pricing, in this case educational institutions set different prices according to different segments, for example regular classes, employee classes, morning classes, afternoon classes, executive classes.
- e) Negotiated fees, the determination of payment can be negotiated (negotiation) between the parents and the institution, taking into account the ability, position, occupation of the parents.
- f) Quantity discount, educational institutions can set special discounted prices for those who enter in groups, for example prospective students who come from certain regions, or certain offices.
- g) Time discount, the price is determined based on prospective students who register earlier are subject to a lower fee or get a discount from those who register later than the normal price.
- h) Peak-load pricing, this can be done by educational institutions if there are many prospective students who want to enter, so the institution sets the price depending on who is able to contribute higher. As long as the candidate meets the specified graduation criteria.

In the price element of higher education must consider pricing such as tuition fees, construction costs, laboratory costs, voluntary contributions, scholarships, payment procedures, terms of installments and others. The price offered by higher education institutions is strongly influenced by the quality of the products offered, if the quality of the product is high and has competitiveness, unique, rare, different, then prospective students are not reluctant to pay higher or more expensive, as long as they are still within limits their affordability (Buchori, 2008).

2. High and low prices determined by universities are guided by: (1) quality of education services, (b) characteristics of the customer segment, (c) competitive situation. In the digital age, prices are similar to currencies, which fluctuate according to market demand.

3.1.3.Place/ Service Location

The problem of campus location, is inseparable from the demographic aspects that will justify the establishment of a campus in the location concerned, so that the development of campus locations requires a demographic analysis.

According to (Chau & Ngoc, 1969), educational planners have an interest in knowing demographic aspects that provide data on population distribution based on age and sex, economic activity sector, and geography.

Research on population distribution by age and sex will enable education planners to measure the relative number of school-age populations, which will be the basis and starting point for each educational policy; the distribution of population based on economic sectors, including according to work or livelihood will allow to make estimates, to approach

(approximative) workforce requirements, thereby setting technical, vocational, and tertiary education targets; and geographic population distribution will allow to estimate the cost of education, choice of type, size, and location of campus. In addition to the above, geographical population analysis can be used to see the movement from one place to another. This is closely related to transportation problems.

According to (Banghart & Albert Trull, 1973), transportation costs will increase household expenses. Thus, the location of the campus needs to be chosen close to the settlement or residence of students, thus increasing the efficiency of education costs for families.

Determination of location of Higher Education will affect the preferences of prospective students in determining their choice. The location of the tertiary institution needs to consider the environment of the area where the location is located (in an urban area, residential area, or educational area), all of which will have a logical consequence on the accompanying transport services, easily accessible (both physically and virtually), strategic and easy location achieved public transportation, will be an attraction for prospective students.

The availability of a university website will make it easier for prospective students to obtain the required information without having to come to the physical location where the college is located. In addition, striving for Cyber University programs, such as distance learning lecture systems, thereby reducing the intensity of lecturer and student meetings. Cyber University will be expected to be a solution for the children of the nation in remote areas to reach quality higher education.

3.1.4. Promotion

Marketing communication is a means used by educational institutions in an effort to inform, influence, persuade and remind target customers / prospective students about tertiary institutions with all their existences, to build dialogues that describe the "voice" of brands and build relationships with consumers. Marketing communication can contribute to brand equity by building a brand in memory and creating an image of a college.

No matter how great the quality of core competency a university has, if the community/prospective students have never heard of it and they are not sure that the quality of the core competency will benefit them, then they will never buy it. Some marketing communication mix that can be done by Higher Education for example: (1) Advertising, with print or electronic media, spots, billboards, (2) sales promotion, such as exhibitions and invitations, make direct contact with prospective students. (3) Public Relations:

- a). Relations with the Community, for example: meeting with the community, sponsoring activities carried out by the community such as soccer, basketball, competitions and others, providing scholarships, providing public facilities / facilities, open houses.
- (b) Relations with employees, recruitment advertisements in this way educational institutions will be increasingly popular in the community .; philosophy of educational institutions, can be developed in the form of vision and mission; internal media; special events for employees such as campus internal competitions; giving awards to lecturers, employees in the form of certain ceremonies; ceremonies on various holidays, campus birthdays; new employee orientation.
- (c) Relations with the press, for example press conferences; souvenir; banquets;

factory visits / media tours; regular news loading. (d) Relations with consumers, for example special events for consumers; exhibition; direct mail; sponsorship. (e) Relationships with the Central Government, Regional Governments, and environment, for example regular visits by government agencies; or educational institutions visit related agencies to establish closer relations; entertainment is held in order to provide entertainment at certain moments. (f) Relationships with Opinion Leaders, for example seminar fees; sponsors; informal relations; scholarships / assistance to opinion leaders (Buchari, 2009; 52).

By providing honest information and clear vision, it is expected that the final result obtained is a positive response or positive image from the community towards the higher education institution. It is further hoped that this institution of higher education will get more students and produce better graduates in accordance with the goals and targets expected in the face of the digital age.

3.1.5. People

Human resources in higher education services are grouped into four, namely administrators, lecturers and employees and students as users of the higher education services. The first three elements need to have professional competence, responsive, adaptive, creative, critical thinking, communicative, collaborative capable of spreading passion, inspiring and reliable to face the 4.0 revolution, a role that cannot be replaced by technology. In the process of delivering services to students, it is the lecturers who deal directly with the students, so that students are not very dependent on these resources. For this reason, the recruitment of human resources who will work and serve students in tertiary institutions must be as careful and as good as possible, because they will be the spearhead in delivering educational services to students.

Human resources for a tertiary institution is a dominant factor, the success and success of a tertiary institution is determined by its human resources, one of the components that can improve the image of tertiary institutions related to lecturers is for example those lecturers often appear in seminar forums outside campuses both domestically and abroad, then write in the media mas, or write books.

3.1.6. Physical Evidence

In the context of higher education services, physical evidence is an environment where universities and students can interact comfortably, peacefully, and safely where there are tangible elements that can support the performance or communication of the services to be delivered, such as lecturing equipment complete as an educational facility, has virtual classrooms, aesthetic, beautiful and functional building style and design as an educational institution, then supporting facilities such as virtual libraries, laboratories, worship facilities, parking lots, sports fields, cafeterias, and so on. Rejuvenation of infrastructure and development of education, research and innovation infrastructure. In creating innovative and adaptive resources to technology, it is necessary to adjust learning facilities and infrastructure in terms of information technology, internet, big data analysis and computerization.

Higher education must be able to provide the infrastructure, so it is expected to be able to produce graduates who are skilled in aspects of data literacy, technological literacy and

human literacy. So that it will have an impact on increasing business productivity and technology-based industries.

Quantity is no longer the main indicator for a college in achieving success, but the quality of its graduates. The success of a country in facing the industrial revolution 4.0 is closely related to innovation created by quality resources, so that universities must respond to the challenges to face technological advances and competition in the world of work.

3.1.7. Process

The service delivery process at an educational institution is a series of activities experienced by students while in education, such as the teaching and learning process, thesis guidance, examinations, graduation and so on. The process of delivering university services can be seen from two main aspects, namely the dimensions of the quality of administrative services and the dimensions of the quality of lecture services.

Service quality in general can be seen and measured through the dimensions of tangibility, reliability, responsiveness, assurance and empathy for students. As stated above, tertiary institutions that are engaged in services depend on the quality of services provided. Services consist of five dimensions including:

First, the tangible dimension, the ability of a tertiary institution to demonstrate its existence to external parties. Appearance and ability of physical infrastructure and the condition of the surrounding environment is clear evidence of the services provided by tertiary institutions. This evidence includes the physical facilities of the building, equipment and technological equipment used and the appearance of its staff including qualified lecturers in accordance with their fields of science.

Second, reliability is the ability of tertiary institutions to provide services (Tri Dharma College) that have been promised accurately, reliably and reliably, for example the excellence of competent core competencies. The performance of educational institutions must be in accordance with consumer expectations which means timeliness, the same service for all students, without errors, sympathetic attitude and high accuracy.

Third responsiveness is the willingness of universities, especially their staff to help and provide appropriate services according to student needs. This dimension emphasizes the attitude of all staff of educational institutions as a service provider that is attentive, precise and fast in service. Namely facing student requests, questions, complaints and problems with the delivery of clear information. Allowing students / consumers to wait without a clear reason causing a negative perception in the quality of service, for example at the time of registration to anticipate the queue, the addition of officers who serve students, and provide a few seats for them.

Fourth assurance. This dimension emphasizes the ability of tertiary institutions to awaken the confidence and self-confidence of students that educational institutions, especially lecturers, administrators and staff are able to meet the needs of their students for quality and competitive tertiary products according to the components mandated in the Tri Dharma College, which expected to be able to create competitive graduates to respond to the industry 4.0 era.

Fifth empathy. That is giving sincere and individual attention given to students by trying to understand their desires. This dimension is the ability of educational institutions to treat

students as special individuals. Of all the activities carried out by a tertiary institution, it will ultimately lead to the value that will be given to students regarding the satisfaction they feel.

Based on the above, universities should be able to formulate new educational methods that are able to adjust the needs in the digital age, namely:

First, organized education refers to the spirit of discovery, which is an educational model that is oriented to activities to be able to achieve "great discoveries" that are useful for changes in human life in the future. Research is carried out on the basis of "collective work" directed at "solving major problems" and "major discoveries" so that the educational methods organized by universities must really focus on the field of study of scientific studies conducted under the blended learning model and research based.

Secondly, education is held on the spirit of assembling thinking, or education organized to institutionalize "creator" thinking, so that the main task is to produce as many inventors as experts are needed by the business and industrial world. This kind of education might be similar to vocational education, but the difference lies in the broad, multidisciplinary "way of thinking" and the resulting competencies capable of giving birth to new products, both in the form of goods and services.

Third, presenting successful market participants and the industry/ practitioners or activists in the business and industrial world, regardless of their academic title. The practitioners were asked to convey transparently what was done at any time so that students have the enthusiasm and motivation to be like them. The presence of practitioners will be able to provide change and make life innovations, both from the aspects of science, medicine, literature or humanities.

Fourth, education must be based not only on disciplines but on market needs. Academic titles no longer determine specifications, but expert certificates from central figures in the field of study. Lectures need not be offered in the classroom, but in the practice location determined by the patron. Bring 'futurelog' that can predict life revolution what will happen in the future.

4. Conclusion

There are two main streams of tertiary institutions in the face of the industrial revolution 4.0 that can be offered to the public, namely to reconstruct the tertiary model of tertiary education as a producer of superior human resources needed by society at large, and build on existing learning innovations.

Quantity is no longer the main indicator for a college in achieving success, but the quality of its graduates. Higher Education must be able to answer the challenges to face technological advances and competition in the world of work in the digital age. In creating innovative and adaptive resources to technology, it is necessary to adjust learning facilities and infrastructure in terms of information technology, internet, big data analysis and computerization.

Suggestion

Reconstruction of higher education curricula that are responsive to the industrial revolution 4.0, such as curriculum redesign with a digital human approach and digital-based expertise. Preparing graduates who are able to adapt to the Industrial Revolution 4.0 to increase Higher Education's competitiveness against competitors and as an attraction for prospective students.

Indonesian universities need to change three things in terms of education, the most fundamental is to change the nature and mindset of students. Furthermore, the campus must be able to hone and develop the talents of their students. Finally, Higher Education should be able to change the learning model towards blended learning and research based in accordance with the needs of the digital age with a focus on the concepts of communication, collaboration, and networking.

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THE INFLUENCE OF INDUSTRY 4.0 ON THE COMPETITIVENESS OF THE LOCAL GOVERNMENT TO MAKE PROSPEROUS COMMUNITY IN MALUKU INDONESIA

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Abstract

To increase regional competitiveness, the local government needs to pay attention to the potential of its region to obtain prosperity. Based on the RPJMN or Indonesia Medium-Term National Development Plan 2020-2024, the Maluku Government is developing financial development in the field of tourism and fisheries. Efforts to improve competitiveness through human resource competency development are needed to advance the people's prosperity to welcome the revolution of industry 4.0. The local government of Maluku needs to be able to create good products, take more initiative, and be more innovative to raise competitiveness and fulfill the public expectation in the field of tourism and fisheries. Based on the literature review, there are three strategies namely deregulation, technology, and human resource development which influence regional competitiveness in the era of industry 4.0.

Keywords: Industry 4.0, Regional Competitiveness, Community Prosperity

1. INTRODUCTION

1.1. RESEARCH BACKGROUND

Industrial concept 4.0 was first introduced publicly in the Hannover Messe exhibition in Hannover, Germany, back in 2011. The industrial revolution has changed for the third time, and now we are experiencing the fourth industrial revolution, which is followed by changes in politics, economy, and culture. The said revolution has changed many aspects of human life, including the economy, the people's work-life, and lifestyles.

The first revolution happened in 1784 with the discovery of steam engines and mechanical devices, the second revolution happened in the 19th century which was marked by the human's discovery of electricity, the third revolution happened in 1970, the year in which robots and computers were first innovated.

The industrial revolution 4.0 will bring many changes to the consequences. This revolution was predicted to be more compact and efficient but some risks may arise, for example, it might reduce human resources in the industry because machines or robots could do the work better and faster in some fields.

The industrial revolution is the momentum of changes from the structure of agrarian society to an industrial society, from human resources or power to machine power. In one of its studies, the World Economic Forum (WEF) stated that the industrial revolution 4.0 was marked by technological reform that was able to erase the boundaries of economic activity, be

it from a physical, digital and biological perspective. The existence of regional autonomy can encourage regional excitement to develop the economy.

On the constitution law No. 32 of 2004, regional development must pay attention to the potential and diversity of the region, each region has its characteristics to achieve optimal development. In the RT RPJMN 2020-2024 (Technocratic design of Indonesia Medium-Term National Development Plan), it is stated that the Infrastructure Work Program must connect large infrastructure with small industrial zones by made the community, special economic zones, tourism zones, rice fields, estate zones, fishponds, and of course fisheries and tourism industry zones since those 2 fields are Maluku's best potential. The local government also needs to develop and accelerate the infrastructure in rural areas, border regions, and underdeveloped areas. The challenge of local government is no longer regional autonomy or decentralization but the regions are demanded to increase competitiveness in welcoming the industrial revolution in 2030.

1.2 Problem Formulation

How the Industrial Revolution 4.0 influenced the competitiveness of local governments in Maluku, Indonesia.

1.3 Purpose of Discussion of Problems

Knowing the impact of the Industrial Revolution 4.0 to the competitiveness of local governments of Maluku to achieve community welfare or prosperity.

2. BASIS OF THE THEORY

Suparmoko (2002, p99) explained that the existing economic capacity in the local area is feasible to be developed so that it will continue to develop as a source of livelihood for the local people and can help to support the regional economy.

Porter (1997) revealed that there are ten important prerequisites for improving competitiveness in a country or region, namely:

- a. A sense of urgency and awareness about improving competitiveness that is widely known by the community and the local government.
- b. A joint paradigm needs to be developed to increase competitiveness.
- c. The use of the cluster-based approach for making rapid progress.
- d. Economic and social policies need to be integrated, not as separate, different or contradictory.
- e. Businesses and governments need to carry out their respective roles and be more active and innovative than before
- f. Communication and cooperation between business entities and government.

- g. The seventh and eighth prerequisites relate to mutually supporting development through parallel efforts at the regional level, and complementary strengthening between national and regional initiatives (across countries).
- h. All efforts must be action-oriented, not merely analytical.
- i. The need for leadership in both the public and private sectors.

These prerequisites are implied in the 1993 GBHN the tourism sector.

3. DISCUSSION

The development of science and technology is the dynamics of change that are interrelated with one another. Regional competitiveness is highly dependent on a conducive business climate, comparative advantage, and competitiveness of regional specialties. Government competitiveness in the tourism sector according to the Minister of Tourism, Arif Yahya, is that there are three strategies in developing tourism in the industry 4.0 era, namely deregulation, technology, and human resource development. In welcoming the Industrial 4.0 revolution, the government through the Ministry of Tourism has prepared a digital platform called the New ITX-Indonesia Tourism Exchange. The digital tourism program to support local communities in promoting and selling tourism and fisheries products so that small, micro and medium business entities could sell their products through digital marketplaces. Maluku government this strategy because their target is millennial generation since the digital media is mostly used and controlled by millennial, the statistic says that 70% of digital media users are millennial. It is said that the millennial generation will lead other generations in facing industry 4.0 era.

A lot of countries have prepared the development of tourism for the 4.0 era. Spain is one of the most successful countries in applying the digital-basis for promoting their tourism by building a digital ecosystem, expansion of inspiration, arrival, destination, to post-trip, all are in digital form.

As for the fisheries industry sector in the context of facing the industrial revolution 4.0, based on the 2015-2019 marine and fisheries development roadmap, the head of the sovereignty department stated that the fisheries sector has problems, especially in eastern Indonesia including the province of Maluku. Some of the problems are the cultivation, management, and production of fish and seaweed are not optimal, the lack of human resources, equipment to manage the fisheries. To solve those problems and anticipate the industrial revolution era 4.0, the local government and people in the communities must utilize digital technology to spur productivity, such as through IKM (small and micro business) e-smart program so that the buying and selling activities would be much safer and easier since the program is provided with Big Data Technology, Autonomous Robots, Cybersecurity, Cloud, and Augmented Reality.

4. CONCLUSION

From the literature research, it is found that in the development of tourism there are three strategies namely deregulation, technology, and development of human resources (HR) which plays a very important role in realizing competitiveness in the industry 4.0. Other than that, for the fisheries sector, everyone involved in this sector needs to increase their skill, competency, knowledge so that they will not be replaced by machines and they could upsurge the economy and other factors which will bring prosperity for the people in the region.

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THE INFLUENCE OF LEADERSHIP AND TOURISM POLICY IMPLEMENTATION TOWARDS LOCAL REVENUE

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Abstract

The goal of this research is to describe the influence of leaderships towards tourism policy implementation at West Bandung Regency. Research method is Quantative research and collect data by quessioner, interview , observation and documentation. The variables were leaderships as the independent variables, the dependent variable was tourism policy implamentation. Data have been analyzed through (Multiple Regresion).The result of this research showed that leaderships planning influence the tourism policy implamentation. The influence of leaderships and toward tourism policy implamentation is positive it means that the more higher leaderships the more higher the tourism policy implamentation and it has mean in real rank $p < 0.01$. By this research, the hypothesis, which has been proposed, leaderships will influence tourism policy implamentation. The result has showed that the mean of tourism polcy implementation is 0. 4570 or the grade variation of Tourism Policy Implamentation is 45,70 percent depending on leaderships

Keywords: Leaderships, Tourism Policy Implamentation

1. INTRODUCTION

Indonesia as one of the famous countries, rich and has thousands of natural attractions scattered throughout the region, has a great opportunity to be able to siphon travelers, especially tourists from foreign countries that can generate foreign exchange for the country. Imagine, because almost all regions in the country have their own attractions.

The development of tourism in Indonesia is currently being pushed to become one of the sectors that contributes greatly to economic development and improving people's welfare. This is driven by the development of Indonesia's tourism world which has continued to increase from time to time, seen from the increasing number of tourists visiting tourist destinations in Indonesia, which are famous for its natural beauty, population friendliness, and cultural diversity. At the regional level, the sector is expected to be a support for regional income whose future contribution has favorable prospects. This is also a priority for the Regional Government

West Bandung Regency where the tourism sector is one of the sectors that is expected to be able to support local revenue. Nationally, tourism is expected to be the main sector of the largest foreign exchange earner. the target of achieving the tourism sector as the sector that contributes the most to the country's foreign exchange.

Optimization of revenue from the tourism sector should be the focus to get serious attention seeing the very potential nature in West Bandung Regency. Until now what has happened is the lack of role of the local government to develop and optimize this potential so that the private sector will have the opportunity to develop it. Many things might encourage it even more so if everything related to the government must at least follow a long bureaucratic system and policy implementation not to mention the leadership factor is very influential for the continuity of such things to run smoothly so that local governments can get the maximum

potential from the tourism sector of the Regency West Bandung in order to increase Local Revenue (PAD).

2. LITERATURE REVIEW

2.1 Leadership

The leader must be able to anticipate changes, be able to correct weaknesses, and be able to bring the organization to the target within a predetermined time period. In summary, leaders and managers have the most opportunity to turn "straw into gold" or vice versa, can "turn a pile of money into ash" if he missteps and is not wise. Thus leadership will be the key to opening an organization's success. Numerous studies show that role leadership in organizations occupy the highest ratings. Vietzhal Rivai (2004: 1-2) reveals the importance of leadership, "because there are many who need a leader figure, in some situations a leader needs to appear to represent his group, as a place to take risks when there is pressure on his group, and as a place to put power" . This opinion reinforces that the role of leadership in an organization is a fundamental part of acting as the motor of policy direction.

A. Dale Timpe (2000: 277) defines, "leadership is the ability to integrate a group of individuals into a productive team or unit to achieve goals". This understanding is more directed to how individuals can work together into a productive team in their performance directed to achieve goals.

While Mulyasa (2009: 107-108) defines "leadership as" the ability to move, influence, motivate to invite, direct, advise, guide, order, forbid, and even punish (if necessary), and foster with the intention that humans as media management wants to work in order to achieve administrative objectives effectively and efficiently. " From the definition it proves that being a leader is not arbitrary, but must be someone who has extraordinary abilities and wills.

From various opinions about leadership understanding which is used as a dimension and then used as a basis in research then indicators are prepared, adjusted to the research needs. The leadership in this study in the organization namely the West Bandung regency government associated with the tourism sector, then the dimensions of various opinions such as Dale Timpe viewed leadership from integrity, intelligence, courage, initiative and judgment. Mulyasa stated that leadership has a role as educator, manager, administrator, supervisor, leader and innovator.

Thus the focus of this research is based on leadership variables as exogenous variables adjusted to the conditions of the study using the dimensions of educator, manager, administrator, supervisor, leader, and innovator.

From the above opinion it can be concluded that leadership can be interpreted namely the ability to influence its members so that they are able to work together, thus forming harmonious interwoven work with consideration of efficient and effective aspects to achieve work performance levels in accordance with those set by certain organizations.

Implementation of Tourism Policy

The definition of tourism according to Law No. 9 of 1990 is everything related to tourism, including the exploration of objects and tourist attractions and related businesses in the field. According to Heriawan (2004), "Tourism is a series of travel activities carried out by individuals or families or groups from their original place of residence to various other places with the aim

of making tourist visits and not to work or earn a living at the destination". . The visit in question is temporary and in time will return to its original residence. has two important elements, namely: the trip itself and a temporary stay at the destination with various tourist activities.

In Act Number 10 of 2009 concerning tourism states that tourism is a travel activity or part of the activity which is carried out voluntarily and is temporary to enjoy the objects and attractions of tourism. or tourist attraction. The most important element in tourism activities is not aimed at earning a living, but if on the sidelines of the earning activities it is also specifically carried out tourist activities, part of these activities can be considered as tourism activities. People who travel are called tourists.

This is in line with what is stated in Law Number 10 of 2009 concerning Tourism which states that the Implementation of Tourism is intended to increase national income in order to improve the welfare and prosperity of the people, expand and equalize business and employment opportunities, encourage regional development.

There are so many benefits that can be obtained if the development of tourism is directed and can attract tourists to visit. For the region itself, the business activity is a potential in exploring PAD, so that the regional economy can be improved, opening up employment opportunities, the tourism industry is a very long chain of activity, so that many open job opportunities for people in the area, adding to the country's foreign exchange, increasing the number of tourists who come, the more foreign exchange will be obtained, stimulate the growth of indigenous culture, and support the movement of regional development (Spillane, 1987: 61).

Ministry of Home Affairs, 2013). One effort to increase regional revenue is by optimizing the potential in the tourism sector. Efforts to increase local revenue, the development program and utilization of resources and regional tourism potential are expected to contribute to economic development. The development of the tourism sector concerns social, economic and political aspects (Spillane, 1987: 14).

Policy implementation is an action taken by government bureaucracy both individually and in groups that are intended to achieve the objectives as formulated in the policy. (Dalail: 2014.201)

In implementing policies that need to be considered are environmental conditions, resources and relationships between organizations. Implementation of policy is an important aspect of the entire policy process (Wahab. 1993: 53)

Local Own Revenue (PAD)

The decentralized government system adopted in Indonesia starting in 2001 led to considerable changes, where the decentralized government system was formed with the aim of overcoming existing problems where the previous government system had not been able to overcome accelerated development.

The central government issued Law Number 32 of 2004 concerning regional government and also Law Number 33 of 2004 concerning financial balance between the regional government and the central government. Regional governments are expected to be more independent, because they have the freedom to increase creativity in developing existing potential, and can reduce dependence on the central government is not only in financing but also related to the management of regional revenue and expenditure or fiscal decentralization. Sources of regional revenue in the implementation of decentralization come from Local Original Revenue (PAD), Balance Funds, and Other Legitimate Revenues (Ministry of Home Affairs,

2013). One effort to increase regional revenue is by optimizing the potential in the tourism sector. Efforts to increase local revenue, the development program and utilization of resources and regional tourism potential are expected to contribute to economic development.

Halim (2004), Regional Original Revenue (PAD) is revenue received by the region from sources within its own territory that are collected based on regional regulations in accordance with applicable laws and regulations.

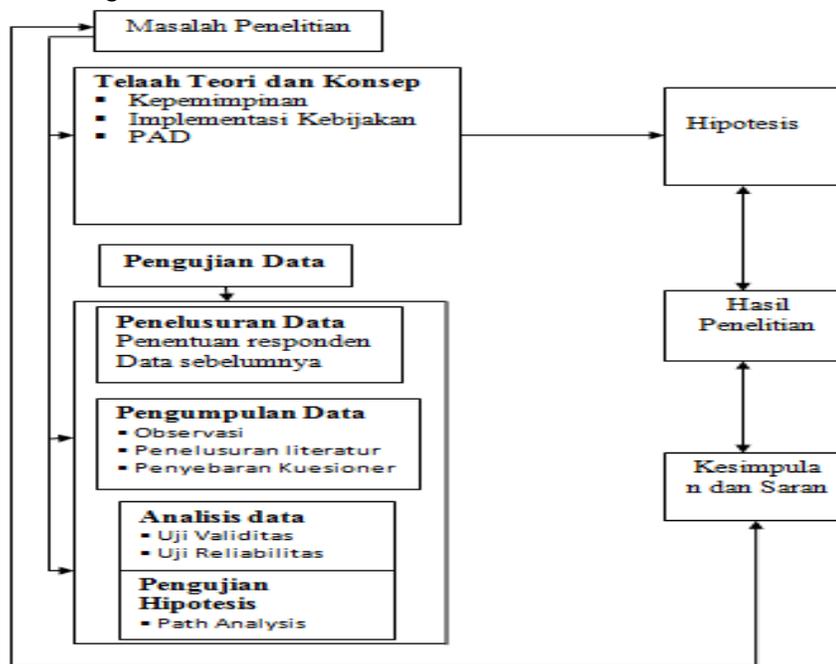
Law Number 33 of 2004, what is meant by Regional Original Revenue (PAD) is revenue that is earned by the region from levies based on local regulations in accordance with the law

The definition of regional original income according to Law Number 33 of 2004 concerning Financial Balance Between the Central and Regional Governments, Regional Original Revenue (PAD) is revenue received from the regional tax sector, regional levies, the results of regionally owned companies, the results of wealth management.

3. Research Methodology

The research method used is descriptive and verification (verification and descriptive research). Descriptive research is research that aims to provide a description (description) of the variables studied. Verification research is to determine the relationship and influence between variables through hypothesis testing based on data collected in the field. The unit of analysis in this study are employees who are in the Government of West Bandung regency, local residents and tourists.

With the Research Design as follows:



Processing data collected from the results of questionnaires and secondary data collection is done in 4 stages, namely editing, entry, tabulation and data analysis. Since the model in this study is a causality model (relationship / effect of cause and effect), then to test the proposed hypothesis used Structural Equation Model (SEM) test equipment.

The implementation of this research is based on a survey method using 2 types of analysis, namely (1) descriptive analysis especially for variables that are qualitative and (2) quantitative analysis, in the form of testing hypotheses using statistical tests.

4. Results and Discussion

Validity test

Leadership

Correlation coefficient values of each statement between 0.361 to 0.679. According to Sugiyono (2016: 183) if the value of the correlation coefficient of a statement of 0.3 or more (above 0.3) then the statement is declared valid. Because the value of the correlation coefficient is more than 0.3, then P1 through P 17 is declared valid.

Policy Implementation

Correlation coefficient values from statements between 0.329 to 0.542. According to Sugiyono (2016: 183) if the value of the correlation coefficient of a statement of 0.3 or more (above 0.3) then the statement is declared valid. Because the correlation coefficient is more than 0.3, P36 to P 53 is declared valid

Local revenue

Correlation coefficient values between 0.435 to 0.542. According to Sugiyono (2016: 183) if the value of the correlation coefficient of a statement of 0.3 or more (above 0.3) then the statement is declared valid. Because the correlation coefficient values are more than 0.3 then P53 to P 56 is declared valid.

Reliability Test

The Cronbach Alpha Value of Leadership

Reliability Statistics

Cronbach's Alpha	N of Items
.909	17

Source: Questionnaire. The data is processed using SPSS.22

In table 5.11 the Cronbach's Alpha Leadership value is 0.909. According to Sekaran (2013: 293) the measurement tool can be said to be reliable if it has a Cronbach's alpha value greater than 0.6. Because the leadership variable has a Cronbach's alpha value greater than 0.6, the data on the Leadership variable is declared reliable.

Cronbach's Alpha Value of Policy Implementation is 0.823. According to Sekaran (2013: 293) the measurement tool can be said to be reliable if it has a Cronbach's alpha value greater than

0.6. Because the Policy Implementation variable has a Cronbach's alpha value greater than 0.6, the data on that variable is declared reliable.

Cronbach's Alpha Value of Policy Implementation

Reliability Statistics

Cronbach's Alpha	N of Items
,823	18

Source: Questionnaire. The data is processed using SPSS.22

Cronbach's Alpha Regional Original Revenue of 0.815. According to Sekaran (2013: 293) the measurement tool can be said to be reliable if it has a Cronbach's alpha value greater than 0.6. Because the Local Revenue variable has a Cronbach's alpha value greater than 0.6, the data on the variable is declared reliable

Table 5.14 Cronbach's Alpha Value of Original Local Revenue

Reliability Statistics

Cronbach's Alpha	N of Items
,815	3

Source: Questionnaire. The data is processed using SPSS.22

Normality test

1. Leadership = 0,200 is greater than 0.05, it means that the data is normally distributed
2. Policy Implementation = 0.79 more than 0.05 means that data is normally distributed
3. Regional Original Income = 0.81, greater than 0.05 means that the data is normally distributed

Respondents' Responses

Leadership

Can be explained that the leadership variable there are 17 statements ranging from P 1 to P17. The number of values obtained 18,406 with an average value of 3.61 (agree).

Policy Implementation

The statement that gets the highest score is P.41 The work unit has Human Resources (HR) that support the implementation of the policy. Statement P 41 scored 1,254 or an average of 4.18 (strongly agree). This statement shows that respondents are well aware that implementing policies in work units where respondents need Human Resources that can implement policies and respondents also know that KKB has adequate Human Resources both in quantity, in quality and in competence. So it is not surprising that 124 out of 300 respondents (41.33%) stated that they strongly agreed that the KKB had human resources that supported the implementation of policies,

Implications of Local Original Revenue

Respondents' Responses About Local Revenue can be explained that respondents gave a response "strongly agree" to the statement that the tourism sector can be a Source of Local Original Revenue. Respondents' responses reached a score of 1,215 with an average value of 4.05 (strongly agree).

Coefficients

column t, it can be explained that the calculated value t Policy Implementation = 37.405. While the value of the table according to Junaidi (2010: 6) the value of t table (for 300 respondents minus 1 variable = 299 with $\alpha = 0.05$) is equal to 1.65. So the value of t count > t table

According to Priyatno (2013: 114) t test is used to determine whether an independent variable has a significant effect on the dependent variable partially. The method is to compare the value of the t test with the value of t table. If t arithmetic > T table then H_0 is rejected and H_a is accepted, meaning that there is a positive influence of the independent variable on the dependent variable (Priyatno, 2013: 115)

Noting that the value of t arithmetic > t table, and referring to the opinion of Priyatno (2013: 115) that if t arithmetic > t table then H_0 is rejected and H_a is accepted, then it can be determined that there is a positive and significant effect of the Implementation of Policy on Local Revenue.

Simple Linear Regression Equations can be written:

$Y = a + b X$. The constant value $a = 1.019$ and the constant value $b = 0.164$. So the equation can be written as $Y = 1.019 + 0.164 X$. The meaning of this equation is if the Regional Original Revenue without Policy Implementation will produce a value of 1.019. But if it is added by 1 unit of Policy Implementation then the Regional Original Income will change from 1.019 to $1.019 + 0.164 = 1.183$

To find out how much influence the Policy Implementation has on Local Revenue can be seen in the Rp.46 table below:

Table 5. 13. Coefficient of Determination of Policy Implementation

Summary Model

Implications of Local Original Revenue

Model	R	R Squared	Adjusted R Square	Std. Error of the Estimate
1	.908 ^a	.824	.824	.63774

a. Predictors: (Constant), Policy Implementation

Source: Questionnaire. The data is processed using SPSS.22

In table 5.26 the value of $R = 0.908$ means the value of the correlation between the Implementation of the Policy with Local Original Revenue (PAD) = 0.908 is categorized as a very strong relationship value.

If the correlation is drawn using the AMOS Application Program, the results can be seen in Figure 4.1. This figure shows the correlation in the direction of the Policy Implementation towards PAD. One-way correlation shows that there is a positive influence on the implementation of policy on PAD with a value of 0.91 (very strong).

Effect of Policy Implementation on PAD

In table 5.26 the value of $R^2 = 0.824$. Mean Determination Coefficient Value = $0.824 \times 100\% = 82.4\%$. The meaning is that the implementation of the policy has a contribution to affect the Local Revenue of 82.4%. The remaining 17.6% is due to other variables not examined in this study.

Leadership

This research has proven that the value of Leadership variable 18,406 with an average value of 3.61 (agreed). To increase the value of leadership according to respondents' perceptions, the KKB should need to optimize improvements related to Statement P16 to create excellence by:

1. provide services that are fast, precise, true to the people who need services from KBB employees.
2. Providing application programs that make it easier for the community to obtain KBB services without having to come to the KBB office, where the application program is it is easily accessible to people from various locations

Improvements related to Statement P17 Developing products in a way that leaders need to create new products / new services / new facilities in accordance with the needs and desires of the KBB community. For example:

1. Issue regulations that free the community to pay administrative costs if they want to take care of licensing, making a certificate
2. The time for completion of licensing is no more than 2 days or 3 days

3. Inspire the community to make products / services that meet the needs of the community and generate profits for its business people, raising chickens, catfish, cows, goats.

Improvements relating to Statement. Leaders have the ability to decide Some activities that should be done to improve the ability to decide are:

1. Leaders decide on activities by adhering to the principle of propriety and must be careful in accordance with applicable regulations but the decision making is done quickly, precisely, safely.
2. The leaders (Bupati, Sekda, Head of Agency, Head of Agency) need to make a decree about the limits of authority allowed by the Sub-Section Head. Head of Sub-Section, Section, so that the leaders under him can immediately make decisions.

Tourism Sector Policy Implementation

This research has proven that the value of the Policy Implications variable is 20,775 with an average value of 3.85 (agree) There are 3 statements of the Policy Implementation variable that obtained the lowest value from respondents, namely:

1. Coordination is not optimal in managing Natural Resources and Artificial Resources with a value of 964 and an average value = 3.21 (good).
2. Coordination is not optimal in managing Artificial Resources with a value of 1,070 with an average value of 3.57.
3. Policy implementation develops the potential of the physical environment is not optimal

Understanding the causes of low scores is the lack of optimal coordination, so the way to improve it is by the KKB government setting regulations on the obligations of work units related to tourism to hold a coordination meeting discussing the coordination of the management of Natural Resources and Artificial Resources once every month. The material discussed is Natural Resources and Artificial Resources for Tourism with the subject conducting brainstorming on issues relating to Natural Resources and Artificial Resources at KBB. At the Coordination Meeting the causes of the problem (labor, raw materials, machinery, methods, finance, budget, political, economic, social, cultural, security and security, and science and technology) were explained. It is determined what must be done, who does it, when it must be completed with funds from where, how to complete it. In this way it is expected that coordination which becomes a weak point in Policy Implementation can be overcome.

Implications of Local Original Revenue

This research has proven that the variable value of Local Original Revenue is 3,703 with an average value of 4.52 (strongly agree). This value illustrates that the majority of respondents think strongly agree that the Local Original Revenue variable conducted by KBB is already very

good. because it is already very good, then only an effort is needed to maintain the respondents' perceptions about the Local Revenue

Conclusions and suggestions

Leadership

This research has proven that the value of Leadership variable 18,406 with an average value of 3.61 (agree). To increase the value of leadership according to respondents' perceptions, the KKB should need to optimize the improvements relating to Statement creates excellence.

Policy Implementation

This research has proven that the value of the Policy Implications variable is 20,775 with an average value of 3.85 (agree) There are 3 statements of Policy Implementation variables that get the lowest score from respondents, namely:

1. Coordination is not optimal in managing Natural Resources and Artificial Resources with a value of 964 and an average value = 3.21 (good).
2. Coordination is not optimal in managing Artificial Resources with a value of 1,070 with an average value of 3.57.
3. Policy implementation develops the potential of the physical environment is not optimal

Local Revenue

This research has proven that the variable value of Local Original Revenue is 3,703 with an average value of 4.52 (strongly agree). This value illustrates that the majority of respondents think strongly agree that the Regional Original Revenue variable conducted by KBB is already very good. because it is already very good, then only an effort is needed to maintain the respondents' perceptions about the Local Revenue

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THE RANKING OF NATIONAL HIGHER EDUCATION INSTITUTIONS AS THE FOUNDATION IN BUILDING QUALITY CULTURE OF PRIVATE UNIVERSITIES (PTS) IN INDONESIA

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Abstract

The presence of private tertiary institutions in Indonesia, which reaches more than 90% of all existing tertiary institutions, has made a major contribution to the development of human resources (HR), but Private Universities (PTS) are faced with resources that are expanded with facilitated resources, such as financial resources that rely solely on students.

The Ministry of Research Technology and Higher Education continues to encourage the quality of tertiary institutions with various efforts, one of which is the ranking of national scale tertiary institutions, so that the classification of tertiary institutions will be made with the aim of building a foundation for clustering and ranking PTS for continuous improvement and organizational health, formulating the hallmark of university quality documented in the Higher Education Database, conduct cluster review and ranking based on the identifier for guidance purposes.

National Scale Higher Education Ranking is a university that meets the criteria of the Director General of Institution, Science, Technology and Higher Education as an institution that ranks tertiary institutions at the national level. Based on the standards on each of the required criteria, namely aspects of human resources, institutions, student affairs, research and community service, as well as aspects of innovation.

The method for calculating a college cluster score is; 1). HR Score: a. % lecturer $S_3 \geq 50\%$ score = 4, smaller proportionately decreased; b. % of LK lecturers and $GB \geq 50\%$ score = 4, smaller down proportionally; c. Student ratio $1 \leq 40\% \leq 20$ scores = 4, $20 < X < 45$ scores go down proportionally, $X < 1$ or $X > 45$ scores = 0. 2). Institutional score: a. Institutional accreditation: highest score = 4, smaller proportionally down; b. Study program accreditation: accreditation A score = 4, accreditation B score = 3, accreditation C score = 2, non-accredited score = 0. c. Number of internationally accredited study programs: if ≥ 10 study programs score = 4, smaller down proportionally. d. Number of foreign students: data used in the last 2 years, weight: degree (60%) and non degree (40%), for degree score = 4 if the number of foreign students is ≥ 30 , for non degree score = 4 if the number of foreign students is ≥ 50 . e. PT cooperation weight: nonPT = 50%: 50%, MoU: MoA: IA = 20%: 40%: 40%, DN: LN = 50%: 60%, suspension of cooperation data: if $\geq 95\%$ score = 4 the rest follows proportional. 3). Student Performance Score: determined by the belmawa team and student institutions, minimum score = 0, and maximum = 4. 4). Research and community service scores: the research and community service performance was carried out by the Dtjen Risbang team (score 0-4), the highest number of scientific publications of scopus-indexed lecturers with scores = 4, smaller down proportionally (accessed the last 5 years). 5). Innovation Performance Score: determined by the DG Innovation Team based on data related to innovations reported by tertiary institutions, minimum score = 0, maximum = 4.

With the calculation of the clustering scores mentioned above, tertiary institutions especially PTS that have limitations can measure their own scores and will be motivated to add aspects that are still lacking by means of efficiency and effectiveness of their resources, so that the quality of PTS can be improved.

Keywords: National Scale Higher Education Ranking, motivation, Private Higher Education (PTS), quality.

1. BACKGROUND

The number of Higher Education Institutions (PT) in Indonesia was 3,302 consisting of 3178 Private Universities (PTS) and 124 State Universities (PTN). Based on these data, the percentage of private universities was 96.24% compared to State Universities. Thus PTS provides a very high contribution to the development of human resources (HR) in Indonesia. Therefore improving the quality of PTS must be a priority for the government.

The existence of PTS which is managed by the community, on one hand contributes to the development of large human resources, but on the other hand has many limited resources. In order for PTS to achieve superior quality and be included in the clustering of PT ranking nationally, strategic steps are needed and do not require a variety of resources.

National Scale Higher Education Ranking is a university that meets the criteria of the Directorate General of Institutional, Science, Technology and Higher Education as an institution that ranks tertiary institutions at the national level. The standards for each of the required criteria are aspects of HR, institutions, student affairs, research and community service, and innovation aspects. (The page <http://property.ristekdikti.go.id>).

Human Resources Aspect

Human resources are the main input in managing PT which consists of lecturers and education staff. Qualification standards for lecturers are those who have a doctorate degree and have an educator certificate (Serdos). Superior criteria for PT if the number of lecturers in accordance with these qualifications is compared with all lecturers who have a National Lecturer Registration Number (NIDN) in one PT.

- a. Lecturers who are doctoral qualified and have educator certificates are a benchmark (benchmarking) of the ability of tertiary institutions to develop science and technology and the implementation of tridarma of tertiary institutions, with the following calculations:

Percentage of Doctorate Qualified Lecturers = $(\text{Doctor} / T) \times 100\%$

Doctorate = Number of permanent lecturers with doctoral qualifications

T = Total number of permanent lecturers (NIDN)

1. % S3 lecturer $\geq 50\%$ score = 4, smaller down proportionally

2. If it is smaller then it decreases proportionally, for example a PT% of S3 lecturers is X, if $X \geq 50\%$ then the score = 4 and if $X < 50\%$ the score = $X / 50 * 4$

Source document:

- Higher Education Database Data Center in the Center for Science, Technology and Higher Education Data and Information.

b. Certified Educator Lecturer

Percentage of permanent lecturers who have educator certificates for lecturers until the end of the current year who have a National Lecturer Registration Number (NIDN).

Source document:

- Lecturer Certification Result Data from the Directorate of Career and Human Resources Competence, Directorate General of Science, Technology and Higher Education Resources.

c. Lecturers with professorship, associate professor and associate professor are among the counts to achieve superior PT because of the guidance and career development of lecturers who contribute greatly to the quality of the process and the results of learning, engineering, and research, with the following calculations:

1. % Lecturer L, LK&GB \geq 40% score = 4, smaller down proportionally
2. If it is smaller then it decreases proportionally, for example a PT% L, LK&GB is X, if X \geq 40% then the score = 4 and if X < 40% the score = $X / 40 * 4$

Source document:

- Data on credit score assessment participants from the Directorate of Career and Human Resources Competence, the Directorate General of Science, Technology and Higher Education Resources;
- Data on credit score assessment participants from the Subdivision of Educators and Education Personnel, Higher Education Resources Section, Higher Education Service Institutions;
- Database of Higher Education Database at the Center for Data and Information on Science, Technology, and Higher Education.

d. Lecturer and Student Ratio

In realizing the educational goals, namely, educating the younger generation through a process of quality, character, competitive, and inclusive education services, thus the ratio of permanent lecturers is needed compared to the number of lecturers. Based on the Regulation of the Minister of Research, Technology, and Higher Education of the Republic of Indonesia Number 2 of 2016 that the Calculation of the ratio of lecturers to students Lecturers and students in a study program must have an ideal ratio. The ratio of lecturers to students in the study program, namely: 1). 1 (one) lecturer to 45 (forty five) students for the religious studies, humanities, social studies, and / or applied science families (business, education, family and consumers, sports, journalism, mass media and communication , law, library and museums, military, public administration, and social workers); and 2). 1 (one) lecturer compared to 30 (thirty) students for the natural sciences family, formal science family, and / or applied science family (agriculture, architecture and

planning, engineering, forestry and environment, health, and transportation), the calculation as the following:

Lecturer Ratio = $\frac{\text{osen Lecturer}}{\Sigma T}$

Σ Lecturer: Number of NIDN Lecturers

ΣT : Number of NIDN Lecturers + Number of NIDK Lecturers + Number of NUP Lecturers

Source Document:

- Higher Education Database Data Center in the Center for Science, Technology and Higher Education Data and Information.

e. Educational Personnel

Educational Staff is tasked with managing, developing, supervising administration, and technical staff to support the education process in the education unit. The role of educational staff to create an educational atmosphere that is meaningful, fun, creative, dynamic and dialogical makes the need for educational staff to have commitment and professional performance to improve the quality of education in accordance with the position and trust given to them, with the following formula:

Number of Educational Personnel = $\Sigma L + \Sigma P + \Sigma A + \Sigma K + \Sigma D$

L = Educational Laboratory Institution

P = Librarian

A = Archivist

K = Financial Manager

D = Academic Administration

Source Document:

- Educational Personnel Data on Higher Education

Institutional Aspects

In the institutional aspect, the accreditation of tertiary institutions will be assessed, the lowest number of accredited study programs, international accredited study programs, number of higher education collaborations, International Scale Higher Education Rankings, Number of Science and Technology Parks, Higher Education Centers, and Ratio of Number of Lecturers Against College student

- a. Higher education accreditation is an assessment activity to determine the eligibility of tertiary institutions or is a form of recognition of an educational institution that guarantees minimum standards so that graduates meet the qualifications to pursue higher education or enter specialized education, or to be able to carry out their professional practice. The assessment score is as follows:
 1. Institutional Accreditation: Highest score = 4, smaller down proportionally

2. Study program accreditation:

Accreditation A Score = 4

Accreditation B Score = 3

Accreditation C Score = 2

Not accredited Score = 0

PS Accreditation Score = The average score of all PS

- b. The lowest number of accredited study programs is an excellent indicator to measure the performance of study programs that have been accredited A (superior) and B (excellent) in accordance with the quality standards set by the National Accreditation Board of Higher Education and other Independent Accreditation Institutions by referring to the National Standards of Higher Education .

The assessment score is:

Minimum Number of Study Programs B = rod Accreditation Study Program A
+ Σ Accreditation Study Program B

Source Document:

- National Higher Education Accreditation Board; and Independent Accreditation Institutions.

- c. International Accredited Study Program, the lowest number of accredited study programs is an excellent indicator to measure the performance of study programs that have been accredited A (superior) and B (excellent) in accordance with quality standards set by outputs, outcomes and education quality system / management in a study program . This recognition or recognition is based on criteria that measure the quality dimension and has been agreed at the national and international levels. The international accreditation or certification institutions referred to are ABET, AACSB, ASIIN, IFT, KAAB, APACPH, and AUN. With the following assessment formula:

If ≥ 10 study programs, the score = 4, smaller down proportionally

Source Document:

- Page: <http://www.abet.org/accreditation/what-is-accreditation/why-abet-accreditationmatters/>;
- Page: http://www.aunsec.org/pdf/5.2.1.2.1_AUN-QAGuidelines.pdf.

- d. The number of Higher Education cooperation is one of the indicators calculated in the rating of PT in this case PT can collaborate in the academic and / or non-academic fields with other universities, the business world, or other parties, both domestic and foreign. Cooperation weights are as follows:

Higher Education: Non Higher Education = 50%: 50%

MoU: MoA: IA = 20%: 40%: 40%

Domestic : Foreign = 40%: 60%

Cooperation scoring data: if above percentile $\geq 95\%$ are given a score of 4, the rest follows proportional.

Source Document:

- Collaborative Data on Higher Education;
- Page <http://laporankerma.ristekdikti.go.id>.

- e. International Scale Universities Ranking is a university that meets the criteria of an international tertiary ranking institution.

The weights of ranking indicators of world universities by the Quacquarelli Stmonds Institute (QS):

1. Academic Reputation (40%)

Measured using a global survey, where academics are asked to identify institutions that are trusted by the best people in their field. The purpose of academic reputation, namely to provide confidence for prospective students to choose an international academic institution.

2. Employer Reputation (10%)

Measured using a global survey, where employers are asked to identify the tertiary institutions that they think have produced the best graduates. The purpose of employer reputation is to provide confidence for prospective students that the market share of graduates from a university is sought / needed by large employers.

3. Faculty / Student Ration (20%) Measured by comparing the number of academic staff with the number of students registered.

The aim of the faculty / student ratio is to identify colleges that provide small class sizes and the best individual supervision.

4. Quotations per Paper (20%)

Measured by counting the number of citations from one study published by university journals. QS uses Scopus as a database of academic journal articles.

5. International Faculty (5%)

Measured by counting the number of foreign / international students registered in the faculty.

International Student (5%)

<https://www.topuniversities.com/qs-world-university-rankings/methodology>.

6. International Student (5%)

Measured by counting the number of foreign / international students registered at the university. It aims to assess how successful a university is in attracting students and academics from other countries.

Source Document:

- <https://www.topuniversities.com/qs-world-university-rankings/methodology>.

- f. The number of Science and Technology Parks, Science and Technology Areas is an integrated area that combines industry, universities, research and training centers, entrepreneurship, banking, the Central Government and Local Governments in one location that enables the flow of information and technology more efficiently and quickly. The Science and Technology Zone is used to measure the performance of the institutionally managed Science Techno Park (STP), management, programs, networking, and development to enhance the growth of technology-based startups through incubation and spin-off processes.

The performance measures of the Science and Technology Region are adjusted to the tasks and functions carried out by each of the Science Regions, Technology Regions, and National Science Technology Areas, as follows:

1. The Science Region has produced technology that is ready to be applied in an actual industrial environment (level of technological readiness ≥ 7);
2. The Technology Area has a condition of the performance of new businesses on an ongoing basis;
3. National Science and Technology area shows initial performance in the form of:
 - Carry out research on an ongoing basis;
 - Produce startup companies; and
 - Able to attract industries to the region.

Source Document:

- <http://stp.ristekdikti.go.id/>

- g. The Center for Excellence PT is a research and development institution, both independent and collaborating with other institutions (consortia) that carry out international research activities in specific fields in a multi and interdisciplinary manner with very high standards of results and relevant to the needs of users of science, technology, and product innovation.

The criteria for establishing a research and development institution as a Center for Excellence in PT are:

1. The ability of institutions to absorb technology from outside;
2. The ability to develop research activities; and
3. The ability to disseminate research results so that their benefits are felt by many people and have an impact on economic growth.

Research Score Calculation Process, Community Service:

Research Performance Conducted by the Directorate General of Research and Development Team (score 0-4)

Data on the number of Scopus indexed scientific publications accessed from the Scopus database for the past 5 years: Highest number of publications / lecturers score = 4, smaller down proportionally.

Source Document:

- Guidelines for the Development of the Center for Science and Technology Excellence in 2105 (<http://kelembasional.ristekdikti.go.id>)

- h. The ratio of the number of lecturers to students, in realizing the educational goals, namely, educating the younger generation through a process of quality education services, character, competitive, and inclusive, thus it requires an adequate ratio of permanent lecturers and students, so that lecturers can better observe, direct behavior and ability from students.

Ratio of Number of Lecturers to Students

Student Ratio $1 < x < 20$ score = 4

$20 < x < 45$ scores go down proportionally,

$x < 1$ or $x > 45$ score = 0

Source Document:

- Higher Education Database Data Center in the Center for Science, Technology and Higher Education Data and Information.

Student Aspects

Assessment on the student aspects is the number of students who are entrepreneurial, the presentation of graduates of competency and / or professional certificates, the percentage of direct graduates working, the number of outstanding students, the number of college students, foreign students, and scholarships

- a. The number of students in entrepreneurship is an indicator to measure students' interest and soul in entrepreneurship. Entrepreneurial interest and spirit is characterized by:
 1. Following the entrepreneurship course;
 2. Following entrepreneurship training;
 3. Obtain entrepreneurial grant funds; and
 4. Develop a start up independently.

To develop the nation's competitiveness, it is necessary to develop an entrepreneurial spirit and spirit among students so that one day they can be a group of people who create jobs (job creators) and not just job seekers.

Formula:

Number of students as entrepreneurs

Source Document:

- Higher Education Data;
 - Higher Education Database Data in the Center for Science, Technology and Higher Education Data and Information.
- b. Presentation of competency-certified and / or professional-certified graduates is an indicator to measure tertiary graduates who pass the competency and / or profession test organized by national committees determined by the Ministry of Research, Technology and Higher Education, professional organizations, and accredited certification bodies according with statutory provisions. With competency certification and / or standardized professional certification, Indonesian tertiary graduates have the competitiveness to enter the national, regional and international job markets.
- LBKP Percentage = $(\Sigma\text{PLUKP} : \Sigma\text{PUKP}) \times 100\%$
 LBKP = Competency-Professional Certified Graduates
 PLUKP = Participants Pass the Competency-Profession Test
 PUKP = Competency-Profession Test Participants

Source Document:

- College data;
 - Higher Education Database Data in the Center for Science, Technology and Higher Education Data and Information;
 - Professional Organizations; and
 - National Certification Agency.
- c. The percentage of direct graduates working is an indicator to measure graduates who get jobs in accordance with their expertise with a waiting period of less than one year based on the Tracer Study (TS) report.

LPTLB Percentage = $(\Sigma\text{LBBKMT1T} : \Sigma\text{LTSPT}) \times 100\%$

LPTLB = Higher Education Graduates Who Work Directly

LBBKMT1T = Graduates Work according to the Field of Expertise with a Waiting Time of Less Than One Year

LTSPT = Graduate in College Tracer Study Report for TS-2 Period

Source Document:

- College Tracer Study Report.
- d. The number of outstanding students is an indicator to measure student achievement at national and international levels. Activities carried out in the form of competitions / championships / contests / competitions / recognition in the fields of reasoning, creativity, interests, talents, and organization.

Formula:

Number of outstanding students at national and international levels.

Source Document:

- College Data

- e. The number of college students is an indicator of the success of the implementation of educational programs in order to expand opportunities for residents to receive education at certain levels.

Formula:

Number of students = Aktif Active Students + Σ Non Active Students + Baru New Students

Source Document:

- College Student Data Reports;
 - Database of Higher Education Database at the Center for Data and Information on Science, Technology, and Higher Education.
- f. The number of foreign students is a stakeholder of foreign nationals who study in tertiary institutions by fulfilling the requirements of academic abilities and requirements in the field of administration of study permits and immigration.

Formula:

Amount of MA = APMAPDDIKTI

MA = Foreign Students

MAPDDIKTI = Foreign Students Registered in PDDIKTI

Source Document:

- Higher Education Database Data Center in the Center for Science, Technology and Higher Education Data and
- g. The number of scholarship recipients is funding assistance that only covers the cost of study (either partial or full), both semesters and those that are completed, with funding sources coming from the state or the private sector.

Formula:

Number of MPB = BPBP + Σ PBS

MPB = Student Scholarship Recipient

PBP = Government Scholarship Recipients

PBS = Private / Foundation Scholarship Recipients

Source Document:

- Scholarship Student Data Reports from Universities.

Research and Community Service Aspects

- a. Number of international publications

International publications are the results of research published in international scientific journals or proceedings that have an International Standard Serial Number (ISSN) and / or books that have been published by universities or other publications and have an International Standard Book Number (ISBN).

Formula:

1. Law Number 12 of 2012 concerning Higher Education;
2. Minister of Research, Technology, and Higher Education Regulation Number 20 Year 2017 concerning Provision of Profession Allowance for Lecturers and Professor Honors Allowance.

International journals are journals that meet the following criteria:

1. Scientific work published is written in compliance with scientific principles and scientific ethics;
2. Having ISSN;
3. Written using the official languages of the United Nations (Arabic, English, French, Russian, Spanish and Chinese);
4. Has an online version of the issue;
5. Editorial Board is an expert in its field from at least 4 countries;
6. Scientific Articles published in 1 issue number of at least the writing comes from 2 countries; and
7. indexed by international databases: Web of Science, Scopus, Microsoft Academic Search.

Source Document:

- Web of Science, Scopus, Microsoft Academic Search, Google Scholar, Sprout.

b. Number of Intellectual Property Registered

Registration of intellectual property which is a right arising from the ability to think or think that produces a product or process that is useful for humans consisting of patents, copyrights, brands, plant varieties, trade secrets, industrial designs, and integrated circuit layout design .

Formula:

- a. Law Number 19 of 2002 concerning Copyrights;
- b. Law Number 13 of 2016 concerning Patents;
- c. Law Number 15 of 2001 concerning Trademarks;
- d. Law Number 29 of 2000 concerning Plant Varieties;
- e. Law Number 30 of 2000 concerning Trade Secrets;
- f. Law Number 31 of 2000 concerning Industrial Design; and
- g. Law Number 32 of 2000 concerning Layout Design of Integrated Circuits.

Source Document:

- Directorate General of Intellectual Property, Ministry of Law and Human Rights
- c. Number of R&D prototypes

The initial form (example) or standard measure of a basic research (level of technological readiness from 1 to 3) or applied research (level of technological readiness from 4 to 6).

Formula:

Criteria for the level of technological readiness refer to the Regulation of the Minister of Research, Technology and Higher Education Number 42 Year 2016 concerning Measurement and Determination of the Level of Technology Preparedness.

Source Document:

- Research and Community Service Information System, Application of Measuring Level of Technology, Insinas, Industrial Technology Development Program (PPTI), and other responsible sources.
- d. Number of Industry Prototypes

The prototype is the result of technological development that has passed the test on the actual environmental system (the level of technological readiness).

Source Document:

- Application of Measuring Level of Technology, Insinas, Industrial Technology Development Program (PPTI), and other sources that can be accounted for.
- e. Number of national publications

National publications are the results of research published in national scientific journals or proceedings that have an International Standard Serial Number (ISSN) and / or books that have been published by universities or other publications and have an International Standard Book Number (ISBN) National journals are journals that meet the following criteria:

1. Scientific work published is written in compliance with scientific principles and scientific ethics;
2. Having ISSN;
2. Written in Indonesian and / or the official languages of the United Nations (Arabic, English, French, Russian, Spanish and Chinese);
3. Has an online version of the issue;
4. Editorial Board is an expert in its field;
5. Scientific Articles published in 1 issue number at least the writing comes from several universities; and
6. Indexed by national database.

Source Document:

- Google Scholar page, Sprott.
- f. Higher Education Research that is directly applied in the community

Formula:

Number of studies applied in the community per year

Source Documents:

College Data

Innovation aspect

- a. The number of Innovation Products that are Utilized by the Industry

Innovation products are the results of research, development, assessment, application and / or engineering activities by tertiary institutions that produce novelty that is applied and is commercially, economically, and / or socio-culturally beneficial.

Formula:

Innovation product criteria:

1. Having the lowest technological readiness level of 9 (nine);
2. Having an element of novelty (novelty);
3. Has intellectual property and commercial potential.
4. Unique (Selling Selling Point), which is a unique selling proposition or known as Unique Selling Point (USP) which is a business factor that has made it different and / or better than others;
5. Has benefits to the community;
6. Enter the priority area; and
7. Is the result of research from domestic universities.

Source Document:

- Study of Product Identification Innovation in Higher Education.

- b. Number of Technology-Based Starter Companies

The growth and development of innovative industries or technology-based startups in Indonesia will benefit employment creation, increase the local economy, increase tax revenues, generate foreign exchange from exports and use local products.

Formula:

Number of PPBT = Σ PP

PPBT = Starter-Based Technology Company

PP = Startup / Digital Startup Company

Source Document:

- Beginner Company Data in Higher Education;
- Page <http://ppbt.ristekdikti.go.id/ibt/>.

Building a Quality Culture in Private Colleges

In an effort to improve the quality of higher education that must be considered is the firmness of vision and orientation, that higher education is a public institution that provides educational services to the community and at the same time as an institution for the development of

knowledge that aims to create a society that is compliant, skilled, competent and skilled. In order to achieve these objectives, it is necessary to build a quality culture.

Building a culture of quality or quality culture in higher education needs a clear plan and stages. Clarity starts with the Determination, Implementation, Evaluation, Control and Improvement (PPEPP) steps in terms of policies, manuals, standards used in the Internal Quality Assurance System (SPMI), and various forms documented in SPMI documents.

In implementing SPMI, commitment, paradigm change, mental attitude and work ethic are needed so that the organization, human resources, documents and budget are oriented to improving quality culture. Finally, it is not an obstacle to improving the five aspects assessed in the ranking of tertiary institutions, because quality culture is not only a necessity in state tertiary institutions, but also a necessity in private tertiary institutions as well.

Conclusion

The ranking of national tertiary institutions in Indonesia is carried out by the Ministry of Research in Technology and Higher Education. The basis for ranking is the five aspects that are suspected, namely aspects of human resources; institutional aspects; student aspects; aspects of research and community service and aspects of innovation.

The aspects of human resources consist of the number of doctoral qualified lecturers, educator certificates, professors' professors and associate professors, the number of students and education staff. Institutional aspects; Higher education accreditation; The lowest number of accredited is excellent; International Accredited Study Program; Number of Higher Education Collaborations; International College Ranking; Number of Science and Technology Parks; Center of Excellence PT; Ratio of Number of Lecturers to Students. In the complicated aspects of student affairs are the number of students who are self-employed; Presentation of certified competencies and / or professional certification; Percentage of direct learning works; Number of outstanding students; Number of college students; Number of foreign students; Number of students receiving scholarships. Research and Community Service Aspect Number of Intellectual Property; Number of R&D prototypes; Number of industrial prototypes; Number of national publications; Higher Education Research that is directly applied in the community. Basically, an indicator that discusses the number of Innovation Products utilized by the Industry; Number of Technology-Based Starter Companies.

In order for a university to meet the criteria determined by the ranking of national-scale tertiary institutions, it is necessary to have the firmness of vision and commitment implemented in the Internal Guarantee System so that a culture of mutual support is formed. Private tertiary institutions need to improve the quality culture to catch up with state universities that have already performed quality assurance.

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THE IMPLEMENTATION OF QUANTUM LEARNING TO BUILD A QUALITY PERSONAL WHO IS READY TO FACE GLOBAL COMPETITION

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Abstract

Globalization has its meaning as the changing process between countries, nations, and cultures without seeing the limit of geo-social politic borders and geo-national ideologies. Globalization has changed the space and time universally from human values to a greater family spectrum of global citizen followed by some consequences of the impact of values and interests. Global citizen will bring result to global value that has to be ready to make the life of human to be strong and survived. Education is a strategic tool to prepare human being accordingly to face the demand of globalization, which needed people who has value to compete, people with greater quality. Personalities who are master to intellectual aspects, new basic skills, social skills, also personality aspects that have emphasized basic values such as integrity, independency, creativity, risk taker, survival, respectful, humorously able to work in team, committed, fair, patience, excited, etc. The development of those values ideally has to be done in integrated way by family, school and society. Schools through the learning have accommodating this value development by learning and using appropriate model approaches, such as quantum learning approach. One of the learning models with typical characteristics that have been developed on the learning stages and situation that are more towards the development of noble value characters. This is a presentation of learning that identified learning with a symphony of 'musical performance' which emphasizing on student's participation to change the circumstances, self-motivation, intriguing the talents, and togetherness as well as behavioral refinement. Conducive way is to build the potential of basic values. Utilization of the precious values of quantum learning model to build a qualified person is needed by having professional skills; therefore teachers with a reliable ability are needed to maximize their potentials.

Keywords: globalization, qualified person, quantum learning, basic values.

INTRODUCTION

Discussing the problem of education will never end so as to arrive at a perfect and settled final destination. This happens because the condition of education is not something that is silent but dynamic, changing, and never steady. The education area is an area that is very tied to the conditions of society. It is influenced by changes in science and technology, especially in the era of globalization where the free flow of information in and out of all regions of life in the world community can not be controlled. The openness then encourages the emergence of various changes that cannot be prevented by any force that causes rapid outbreaks of previous education patterns or policies.

Globalization also makes it difficult to determine the quality parameters of education in terms of inputs, processes, products and outcomes because the criteria and demands become very volatile following changes in the conditions and demands of the world

community. These conditions require the quality of education that is constantly being improved. A quality that is capable of being accountable and has a competitive advantage in navigating future lives.

For the Indonesian people, running through the era of globalization requires a very hard effort, not only because it has to meet various demands that are very rapidly changing in the future but also have not been able to integratedly address current problems or accommodate sharing challenges and demands. All problems faced include the ineffective quality of human resources.

When compared with other countries, the current condition of education in Indonesia is in a state of concern, the results of a survey conducted by the Political & Economic Risk Consultancy (PERC) show that the ranking of Indonesia's education quality in Asia is on the 46th, other data on the quality of human resources in the year 2000 put Indonesia in 12th place out of 47 countries while data from the UNDP report which contained HR quality index numbers from 174 countries, in 1999 it was on the rank of 105th, in 2000 it dropped to 109th and in 2005 it was on the rank of 110th. (Suyatno, 2002: 115).

There are many factors behind this condition. Various common problems that have already emerged, such as curriculum issues and education staff, especially teachers, have not yet been completely resolved. The problem of education management is increasingly prominent with the increasing demands of efficiency and the implementation of a decentralized and regional autonomy system. The low internal and external efficiency of the education system (called education relevance) is indicated by a lack of linkage between product areas with users of education or real life needs, which are often accused of causing unemployment (Syarif, H. 2002: 55).

HID is relatively low, among others, it is also caused by the low academic quality and low academic quality due to the low quality of the education process. Blazely et al.'s research (Suderadjat. 2003: 3) found that learning in Indonesia tended to be still theoretical and not related to the environment in which students were located, so students were unable to apply what they have learned. Education seems to make them unfamiliar with their own society so that it is less valued and meaningless.

Efforts to tackle the conditions and quality of education in Indonesia are basically unilateral. There needs to be a very strong commitment and effort from all parties to carry out various educational orientations including the reorientation of educational goals. In a more operational environment, because the most basic areas are in curriculum and learning, there may need to be re-organization of subject matter, re-formulation of learning processes and evaluations.

DISCUSSION

1. Quality Personal

Education in the era of globalization should be directed at education that pays attention to the quality of human resources (HR). The quality of human resources greatly determines the quality of the nation, which is crucial for the future survival of the nation. The quality of the nation today is a nation that can live in a modern, industrial society. The quality

of human resources needed is a person with quality personal. Personal figure who can harmonize intellectual potential, skills and personality. Intellectual potential, among others, is manifested in analytical skills, focus, organization, and practical technical multi-language mastery. Skills are displayed in mastering new basic skills and social skills. New basic skills are displayed in the form of hard skills, including mastery of mathematical logic, ability to solve problems and reading abilities. Soft skills are displayed in the ability to work together, presentation skills and computer use. The next potential is personality which is displayed in several characters such as having high integrity, being independent, creative, taking risks, etc. (Widayati, S.2002: 94)

Anderson Consulting (Feisal, YA, 2002: 130), describes the profile of global people as the people who have higher skill levels, increased productivity, quality of results, better leadership, heightened work ethics, ability to work in team, cross functional team involvement, more working hours or indicated by the attitude and character of positive self concept, responsive, not easily discouraged, knowledgeable, capable of structural principals, capable of arguing, committed and full of confidence, brave and able to make decisions, ready to face changes and challenges, hardworking and able to work in synergy that is beneficial and skilled and virtuous (Wanie, G.K., 2002: 29). Quality people in the global era also strongly emphasize the emotional intelligence side as stated by Goldman, D. that the basic abilities that are urgently needed towards a prosperous society are "emotional intelligence" which is displayed in the form of self-awareness, impulse control, perseverance, enthusiasm and self motivation, empathy, and social skills.

2. Quality Education and Learning

The characteristics of an open and very dynamic era of globalization cannot be accommodated by patterns of education and learning that isolate themselves. Education needs to be developed in strategies that are adaptive and in accordance with the various needs of the era. Educators must be able to prepare students who are able to fairly compete but still wise, also able to collaborate and cooperate with other nations. People of the globalization era are people who care about their rights, are very familiar and have solidarity with each other, the people who do not only have the ability of knowing how or knowing what. The people know how to understand and communicate material. Learning to Do, which directs learning to foster creativity, productivity, resilience and professionalism, or Learning to Be that emphasizes the development of self-potential for independence, reasoning ability, imagination, anesthetic awareness, discipline and responsibility and Learning to Live Together, which instill understanding living in harmony in both national and international space.

The global era learning strategy that emphasizes quality personal development is a learning strategy that refers to the future and is oriented towards developing the potential abilities of students that emphasize the development of capacity for inner force. Planting and developing life values such as adaptive capacity, creativity, initiative, innovation, the ability to explore and take advantage of opportunities in students becomes very important. These factors must be reflected in the curriculum and translated into the most proportional learning patterns but offer a lot of positive land to develop potential of children as expected. Characteristics of teachers needed are teachers who are able to understand the profession as a true calling of life. Teachers who in the learning process are able to seek positive

rewards so that students can do self reward, can empathize and have the ability to learn (long life learning) (Widayati, S., 2002: 84).

Quantum Learning as One of the Alternatives to Building Quality Personal

Constructing a quality personal as a demand for globalization characterized by being competent in terms of intellectual, social and personality is not easy. However, there are many ways that can be taken, including improving and updating the model or learning approach as one of the most practical areas that are directly in contact with human resources. The area, position, function and character of learning that can accommodate various demands in the field are quite representative as one of the media to improve problems or make efforts to improve national education.

Departing from the notion that the most basic problems of education in Indonesia are on the side of the quality of learning, it is necessary to reform the approach or learning model from a conventional pattern which is still largely dominated by expository strategies to more innovative models, the learning model that is able to build many potential students in a more comprehensive and integrated way. Building a quality person requires a quality learning pattern. Of the various learning models that have the characteristics of quantum learning are quite representative to accommodate these demands.

1. The Concept of Quantum Learning

Quantum teaching is defined as "a lively change of learning with all its nuances, incorporating all links, interactions and differences, and focusing on dynamic relationships with the classroom environment as a foundation and framework for learning. (DePorter, 2003). Quantum learning is an innovative learning model, based on a different concept or foundation of reason because it presents the workings of the brain and the way of learning humans as a way of learning students. This learning combines aspects of suggestion, acceleration and neurolinguistic program (NLP) as a form of unifying potential psychological, time, language and actions. Through suggestion, efforts are made to create an atmosphere that is very favored by humans in the form of songs, pictures, closeness and attention to build a comfortable and pleasant learning environment. Acceleration is built to build an effective learning experience by speeding up the process through uniting elements of entertainment, play, color, physical fitness, ways of thinking and emotional health while through NLP is built using positive language to get positive actions. One potential collaboration model that is very unique but effective.

2. The Foundation of Quantum Learning

Quantum learning changes the various interactions that occur into learning activities. Interaction is what changes the abilities and talents of teachers and students into light that will benefit their progress effectively and efficiently. To realize the energy of teachers and students into the light of learning, two main concepts are used, namely acceleration and learning facilities. Acceleration is done by various efforts to erode the barriers of traditional learning while learning facilities are conditioned to make learning easier. The acceleration and learning facilities will greatly support the planting of the principle of quantum learning that places learning in the most representative areas for

students with the slogan "bring their world to our world and deliver our world to theirs". One statement that contains a compromise value and the harmonization of two regions while "bridging" the entry of our world (the teacher) to their world (students). When understanding between the teacher and student area has been formed, learning will become harmonious as an "orchestra". Teachers have the flexibility to guide, direct and lead students in learning and understanding material effectively. Quantum Learning also adheres to the five principles that place all activities and businesses as a meaningful and interpretable area, a form of suggestion that is proven to influence children's learning outcomes. The five principles are: a) everything speaks, b) everything aims, c) experience before naming, d) recognizes faithful effort and e) celebrates success.

Quantum learning is directed at building and increasing participation through changing conditions that are done to increase motivation, interest, memory, listening power, behavior smoothness and togetherness. Learning emphasizes four aspects, namely a) image and self-development, b) life skills training, c) learning about how to learn and d) specific academic, physical and artistic abilities. The design of the curriculum is developed with and for harmonizing three important aspects of human life namely, academic skills, presentations or physical skills and life skills while the learning interactions rely on the concept of world harmonization of students and teachers so that they display full contact learning activities, where learning activities involve all aspects of human personalities in the form of thoughts, feelings, body language, knowledge, attitudes and beliefs and perceptions of the future. Quantum learning focuses on students, explores students' potential and places students as a very valuable and potential position.

3. Approach to Quantum Learning

Quantum learning places learning as an "orchestra" in the context area and content. The context area is related to the learning environment while the content area is in the form of packaging of the material to be delivered. The success of quantum learning is strongly supported by our ability to build a learning environment appropriately. Environmental structuring is directed at creating and maintaining a positive attitude, through conditioning in a healthy learning environment, both physically and mentally. The arrangement of the learning environment is directed at two environments, namely the micro and macro environment. The micro environment is related to the place where students carry out the learning process, work and create as their own and can be controlled by themselves. The arrangement of the learning environment is emphasized in structuring the conditions, music and design of the room because it is considered to affect students when receiving, absorbing and processing information. The aim is to create a comfortable and relaxed atmosphere because it is hoped that with this atmosphere the potential of students will develop more optimally. The macro environment is related to the "wider world". Diamond (DePorter, 2003) states that the emphasis on learning that involves more interaction in a wider and richer environment will give birth to more qualified students. Through interaction in the community environment, students will be trained to interact, good at managing problems when facing challenges and easy to accept new things they need to be able to live.

The quantum learning design is done with the TANDUR strategy, stands for the term *Tumbuhkan* (Cultivate), *Amati* (Observe), *Namai* (Name), *Demonstrasikan* (Demonstrate) and *Rayakan* (Celebrate). One form of labeling is thinking ideas that place learning as something that is alive and begins with something that exists and is considered valuable. The word "Cultivate" is directed at building interest through one direction of understanding and its impact on students. The word "Observe" emphasizes the high value of natural experience to try and feel the impact on students while the word "Name" gives students the freedom to give keywords, concepts, models, formulas, strategies or methods. "Demonstate" provides an opportunity to demonstrate while "Celebrate" gives an opportunity to feel recognized.

4. Quantum Learning Model

The quantum learning model should hold a symphony in a musical performance. The main purpose of learning that leads to increasing student participation is done through changing circumstances, increasing motivation and interest in learning, increasing feelings of togetherness, memory, listening power and smoothness of behavior. With the principles of learning that are the foundation, the teacher must be able to roll out an orchestra for the success of student learning. The teacher must be able to translate the needs of students by harmonizing the context area with the content.

a. *Orchestrating the success of learning through a learning environment (Context)*

The orchestra in this area is divided into four parts, namely 1) an exciting atmosphere, 2) a solid foundation, 3) an environment that supports and 4) a dynamic learning design. These four sections must be a strength interaction that supports acceleration of learning once and is a necessary condition for optimal student learning success.

- 1) Building an exciting atmosphere, manifested in the form of creating a learning atmosphere that empowers students. To create this atmosphere, teachers need to understand and be able to apply various aspects of learning such as the power of intention and positive outlook to establish sympathy and mutual understanding, happiness and wonder, a sense of belonging and showing exemplary.
- 2) A solid foundation is carried out in several ways, communicating with learning objectives, reinforcing the principles of excellence, believing in students' abilities and abilities, agreements, policies, procedures and regulations, and maintaining learning communication to grow and develop.
- 3) A supportive environment, related to spatial planning, light, color, table and chair arrangements, plants, or all things that support the learning process.
- 4) Dynamic teaching design. It is the teacher's effort to enter the students' world both before and when learning take place. Some tips on how to adjust learning with each student modality, provide strategies and tips on how to establish partnerships with students, starting from large groups, continuing in small groups, and ending with individual learning. Based on

this strategy, the design framework tips are implemented as a combination of TANDUR.

b. Orchestrating the success of learning through content (Contents)

The content dimension is divided into four parts. The two sections examine the dimensions of the teacher in orchestrating the presentation in prime and elegant facilities while the other two dimensions relate to students, in the form of tips on the practical skills of learning and life skills.

- 1) Excellent presentation, regarding the abilities that must be mastered by the teacher in communicating with an emphasis on the quality of interactions according to the prescribed learning design. The teacher orchestrates learning according to the modalities and styles of students, therefore the teacher must master the principles of visual, auditory and kinesthetic communication.
- 2) Orchestrating elegant facilities.
Orchestrating facilities is a way to facilitate student interaction with the curriculum, facilitate student participation in learning activities so that according to their wishes, one strategy offered for this activity is to apply KEG principles (Know It, Explain It, Get It and Give Feedback).
- 3) Orchestrating learning skills and life skills.
Learning skills can help students achieve learning goals efficiently and quickly without ignoring the consistency of learning interest because learning is maintained, focused but relaxed. There are four strategies that can be developed, including by utilizing learning styles, creating prime circumstances for learning, organizing information and raising student potential.

Quantum Learning and Quality Personal

Constructing a quality personal characterized by intellectual integrity, emotional, skill and personality requires a touch of appropriate and innovative learning patterns. Learning that is able to revive the entire target area in an integrated and meaningful manner. Quantum learning has sufficient characteristics and can be developed for these goals. The concept of a quantum learning model is built on the understanding that learning must be developed in harmony with how the brain works, a fundamental concept that places the potential of students in a proportional position. Quality personal profiles are also accommodated by concepts that color the quantum learning curriculum which combines three target elements, namely academic skills, physical skills and life skills.

Referring to the concept and focus of the goal, the development of quantum learning is presented in a very humanistic way, empowering contextual areas and strongly focusing on human potential (students). Learning is designed by combining the elements of positive suggestion that presents psychological facilities and infrastructure with time and action to be presented like an "orchestra" that combines the content side with the context. The learning strategy prioritizes processes and participation but is carried out quickly and without constraints by presenting a comfortable and supportive learning environment so as to create harmonious learning formulas. An area of learning atmosphere that is very

accommodating to build emotional side, student psychology but also has the potential to develop intellectual potential and skills.

CLOSURE

The characteristics of an open, dynamic and easily changing global era have an impact on human life. Quality demands are something that cannot be ignored and education must be able to accommodate those needs. The global human profile is a quality person who is able to display intellectual potential, skills, personality and emotional integrity. The ideal personal figure that can only be built in enough time with serious and integrated efforts from many parties. Education is one of the most strategic and potential areas to accommodate these targets. Learning as one of the manifestations of the implementation of education offers a lot of hope. With a variety of approaches and learning models offered at certain limits, demands for quality personalities are expected to be accommodated through quantum learning.

The success of the presentation or implementation of quantum learning ultimately leads to the figure of a teacher who not only has concern or interest to understand the nature of quantum education and learning, but teachers who are willing, capable and have high dedication to put learning goals in proportion to the quality of learning outcomes. Teachers who have quantum characters, or Quantum Teachers, are personal figures of teachers who are enthusiastic, authoritative, has positive thinking oriented, outgoing, humorous, flexible, good at communicating, able to work together, sincerely interesting and optimistic. One positive character who inevitably needs to be built on the teacher before building the character of his students.

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THE INFLUENCE OF HUMAN RESOURCE MANAGEMENT AND TOTAL QUALITY MANAGEMENT IMPLEMENTATION TOWARD JOB SATISFACTION AND THE INTENTION TO MOVE DIVISION

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Abstract

The aims of this study is to know: 1) Is there any influence of employee's perception in Human Resource Management and Total Quality Management implementation toward job satisfaction, 2) Is there any influence of employee's perception in Human Resource Management and Total Quality Management implementation toward the intention to move division in one of government-owned corporation at Jakarta. Research sampling is 115 employees by using sampling technique is Purposive Sampling technique. Data analysis is using descriptive statistic and the hypothesis test uses Regression. Research finding shows that: 1) There is significant influence of employee's perception towards Human Resource Management and Total Quality Management implementation to job satisfaction, 2) There is significant influence of employee's perception towards Human Resource Management and Total Quality Management implementation to the intention to move division.

1. INTRODUCTION

Aviad A. Israeli and Rachel Barkan (2004:444) said that service management develops, and it becomes important. This phenomenon is caused by many organizations understand that those cases emerge to manage of service elements in its organizational environment. In order to get competitive benefit beside that company can survive.

Company with that condition needs to notice the service given to customer, by the way of managing a good service aspect in organizational internal. A good management will produce the advantage in competitive climate. With competitive ability in this competition environment is expected that company can survive.

Therefore, according to Neeru Malhotra and Avinandan Mukherjee (2004: 164-165) stated that: by citing some experts' opinions before, they explained that service quality is the important base to customer's satisfaction (Cronin and Taylor, 1992; McAlexander et al., 1994), repurchasing (Schneider and Bowen, 1995), producing customer's loyalty (Zeithaml et al., 1990), customer retention (Zeithaml et al., 1996). It influences also market share of company and beneficial level (Schneider and Bowen, 1995).

From two experts' opinions above, it is clear that organization notices and manages service aspects well in an internal organization will be able to serve an excellent service. Competitive advantage will be achieved also company can survive if it is created the excellent service from company. It is because the excellent service will create customer's satisfaction. Some impacts of satisfied customer such as: those customers will be interested to use service in the future; produce a loyal customer, there is no retention customer who uses other company service; expand market share of company because by serving satisfied service so it will produce a loyal customer and retention. All that conditions are believed by

the existence of loyal customer and retention also the increasing of market share of company will produce profit or company benefit.

Tung-Chun Huang (2001:132) explained that the effective strategy of human resource management coordinates all human resources systematically, it measures and implements so it influences to employee's attitude directly which help a business to achieve the competitive strategy.

Boseline, Paul and Wiele, Ton van der (2002:167) mentioned that "positive perception of employee to the concept of human resource management/ total quality management cause the satisfaction level is higher and it decreases of the intention to get out of organization.

The research result of Paul and Wiele, Ton van der which is entitled *Employee perceptions of HRM and TQM, and the effect on satisfaction and intention to leave*. Managing Service Quality, Vol. 12. No.3,2002 pp 165-172 produces the conclusion that employee's perception to human resource management and total quality management implementation has the correlation to job satisfaction and the intention to leave organization. The aim of this study is to know the influence of employee's perception to human resource management and total quality management implementation toward job satisfaction and the influence of employee's perception to human resource management and total quality management implementation toward the intention to move division.

2. LITERATURE REVIEW

Employee's Perceptions for the Implementation of Human Resource Management/ Total Quality Management

In the context of service management of an organization that plays the important role to success the achievement of a goal in the organization. The organization is a group of people who work together to achieve the organization's goal. To what extent an organization can run effectively is influenced by how far the role showed by each other both individually and grouped. It is seen in organization that run-in service field.

The definition of service from Huseyin Arasli (2005:41), it defines as the economic activity, which is specifically produced the intangible product like education, exhibition, hostelry that provides foods, transportation, assurance, trading, governance, finance, development, maintenance and healthy medicine, and job.

Goran Svensson (2003: 267) describes service phenomena as follows the ministries which deals with the crucial issues in the state of affairs, challenges and operations management in business operations in several organizations, which discusses the improvement of performance in operations in service. Intangible and heterogeneous services, served, realized, and accepted as a simultaneous process; a service is an activity or process. This is the main value created in the interaction of participant service providers in the service process, but it cannot be stored in a warehouse, and there is no allocation of ownership.

The description above shows that service is different from tangible products. Where tangible goods are produced do not require the presence of customers in a service process. Tangible goods are produced in a factory and their products can be stored in warehouses. Another difference, tangible goods can be standardized, let it made with machine molds,

the quality is between one and the other standard. If the item is sold there will be a transfer of ownership from the seller to the buyer.

According to Gronross as quoted by Kotler (2001: 203-204): "that service marketing requires not only external marketing, but also internal marketing and interactive marketing." Service marketing requires not only external marketing, but also internal marketing and interactive marketing.

Kotler and Armstrong (1995: 21-3) call external marketing, internal marketing, and interactive marketing as "marketing strategies for service firms".

External marketing is an activity to prepare goods, set prices, distribute, and promote services to customers, otherwise it has been known as marketing mix (Kotler, 2001: 203).

Internal marketing (Kotler, 2003: 451), namely activities to train and motivate employees to provide the best service for customers. service companies must effectively train and motivate their employees and other employees supporting employees to work together as a team to provide a service that satisfies to consumers. So that all human resources in a service company need to practice marketing "... in getting everyone else in the organization to practice marketing (Berry in Kotler: 2001: 203).

The interactive marketing (Kotler, 2003: 451), is "the employees' skill in serving the client", namely the expertise of company employees serving consumers. Thus, in the marketing of employee expertise services are very important in the consumer's perspective.

In the picture, it can be seen that Internal marketing is a company activity (company) to train and motivate employees to provide the best service to customers, while interactive marketing between employees to customers.

This can be understood from the explanation of Pervaiz K. Ahmed and Mohammed Rafiq. (2003: 1177-1178) that the main premise is underlined by Berry (1991) is that the concept of "employees as customers" in internal marketing is the same as external customers, customer's internals have a desire to satisfy their needs. With the logic that by satisfying the needs of internal customers, an organization will have a better ability to provide the quality expected to satisfy external customers. It means that a company needs to consider treating employees as internal customers. Because basically both a company employess and a customer of the company both it has intention to be fulfilled their needs. Employees who are satisfied with their needs will provide quality services to internal customers. This means that if internal customers are satisfied, external customers are satisfied. Thus, what is meant by internal marketing is a concept in which company management considers its employees as internal customers.

The above mentioned that the definition of internal marketing is an activity to train and motivate employees to serve customers in the best way. So, the output of internal marketing is in order to provide the best service to customers of service companies.

What is the scope of internal marketing? Ahmed, Rafiq and Saad argue that (2003: 1222) that internal marketing is inherent with a focus on multifaceted employee development. The comprehensive internal marketing program is related to employee recruitment, training, motivating, communication and retention efforts.

From the above understanding, the scope of internal marketing includes everything related to employee development, which includes recruitment, training, motivation, communication and retention efforts. Recruitment is a management effort to choose the best candidates for company employees. The prospective employess prior to

carrying out his duties in certain positions had previously been trained in order to have expertise in accordance with company standards and to understand and to know everything and his obligations as an employee. As for the training of prospective employees, the main job of management is to motivate employees to carry out their duties and obligations seriously and to produce the best job targets according to the company's standards and direction. Other management activities are no less important besides building motivation, also it develops communication both vertically and horizontally so that all policy practices and problems that arise in the field can be addressed properly and eliminate gaps or gaps between the elements that exist in the company.

The final element of internal marketing is employee retention, which is an effort to retain employees who are good and loyal to the company. This is important, because it would be better to retain loyal and quality employees, rather than wasting time recruiting new employees who are not necessarily of quality and loyalty.

This employee retention effort has relevance to the opinion of Albert Caruana and Peter Calleya (1998: 108) about internal marketing as his opinion that the concept of internal marketing explains that organizational personnel are the first market of the company. The main objective of the Internal Marketing function is to get employees at all levels who have the motivation and understand the intention of customers.

Likewise, the opinion of Albert Caruana and Peter Calleya (1998: 108-109) states that if an employee is seen as a customer, this is called the internal market. He considers to employees as an internal market is the main motivation for service-oriented and actively customer-oriented behavior, using a marketing approach, where a variety of activities are used internally actively, in a fun and coordinated way of marketing.

From this opinion it is clear, agreed that internal marketing is that the company's employees are considered customers of the company, also the company's first customer before the company's external customers or real customers of the company's products. The second of these opinions are that internal marketing is aimed at retaining employees who have work motivation and understand the intention of the company's customers.

In this sense, it implies that the company before paying attention to customers, first of all must pay attention to its employees as the company's first customers. With this attention, employees are expected to have work motivation to understand customers and provide the best service to customers.

More clearly and in detail from the description above is from Gi-Du Kang, Jeffrey James and Kostas Alexandris (2002: 279) that: Internal Marketing is a management approach that empowers and motivates all components in the organization to be able to evaluate themselves and understand consumer desires and service oriented. Both employees in the front office who provide services and in the back office that supports employees in the front office, to meet customer needs (external customers).

Thus, what is meant by internal marketing in that opinion is essentially the empowerment and motivation of the company management to all employees. Both frontline employees who provide services to customers as well as employees who are in the back line, who support the efforts of front-line employees to provide services in accordance with the desires of their customers.

The definition of internal marketing is what is meant by Human Resource Management, as Raymond A. Noe et al. (2003: 5) defines Human Resources as follows Human Resource Management states policies, practices, and systems that affect employee behavior, attitudes and performance. In other words, Human Resource Management is a

policy, its implementation as well as a system created or created by a company that affects its employees in behaving, behaving and working.

The above mentioned that Human Resource Management is a policy, practice/ implementation and system. So, what is meant by HRM Practices (implementation of Human Resource Management) as disclosed by Raymond A Noe et al. (2003: 5) is that: Human Resource Management Practices includes analyzing, and designing work, determining human resource requirements (Human Resource Planning), finding potential employees (recruiting), selecting employees (selection), teaching employees how to carry out their work and preparing them for the future (training and development), employee payroll (compensation), evaluating their performance (Performance management) and building a positive work environment (employee relations).

Therefore, there are eight aspects regarding the implementation of Human Resource Management namely: 1) Analysis and finishing work, 2) Employee Planning. 3) Recruitment, 4) Selection, 5) Training and development. 6) Compensation, 7) Performance Management, 8) Employee Relations.

The realization of effective Human Resource Management will support the goals and objectives of the organization (Raymond A Noe et al., 2003: 5). Effective Human Resource Management, according to Raymond A Noe et al., (2003: 5) can improve company performance that contributes to customer and employee satisfaction, innovation, productivity and a good reputation in the corporate community.

Thus, many benefits for a company by implementing effective management. Disclosed by Raymond A Noe et al (2003: 6) that at present only heeding Human Resource Management can contribute to the level of profitability, quality and other business objectives through enhancing and supporting business operations.

In order for a company to be sustainable in this competitive climate, besides the effective Human Resource Management, there are other aspects that need to be considered by a company Raymond A Noe et al. (2003: 26), i.e. Meeting Customer Needs for Quality (Meeting customer needs for quality).

The impact is if it does not pay attention to quality (quality) then the business activities of a company will be hampered. This was stated by Raymond A Noe et al. (2003: 26) that if the company does not continue to pay attention to quality standards, the company's ability to sell products or services to intermediaries, suppliers or customers will be limited. Therefore, it is very important the quality standards of either products or services, applying the concept of quality known as "Total Quality Management" (Total Quality Management).

Raymond A Noe et al. (2003: 26) gives the meaning of Total Quality Management (TQM): Total Quality Management is any attempt by a company to increase continuous efforts regarding people, machines, and systems related to work.

In another part Raymond A Noe (2003: 26) gives the meaning of Total Quality Management (TQM): A collaboration in doing business that considers the talents and capabilities of both the workforce and management to improve quality and productivity.

If Human Resources Management and Total Quality Management are carried out consistently, it will have an impact on the behavior, attitudes of company employees and in addition, these employees will have their own perceptions of the implementation of Human Resource Management / Total Quality Management in the company.

Referring to Boseline, Paul and Wiele, Ton van der's (2002: 167-168) research, there are 9 (nine) aspects which are the point of view of employee perceptions of the

implementation of Human Resource Management / Total Quality Management. The nine aspects are as follows: 1) Format of information delivery; 2) Insight in goals and objectives (Clarity of goals and objectives); 3) Secondary work conditions; 4) Co-operation within (business) units (Cooperation in business units); 5) Information sharing (information exchange); 6) Leadership, 7) Customer focus; 8) Co-operation between (business) units (Collaboration between units / parts; 9) Salary (salary).

1. Job Satisfaction

The definition of job satisfaction according to Noe et al.(2003:430) is as a nice feeling; it is an impact of someone's perceptions for her job that is fulfilled the requirements of the important job values for an employee.

García-Bernal et al. (2005:280) explains that satisfaction can be defined as a conclusion and respond for attitude of variable intensity that is centered specifically in the achievement aspect and or the consume happens in real event when an individual evaluates the object.

Therefore, satisfaction is responding of attituded for something or a condition that has been experienced which is the assessment result for that condition. García-Bernal et al. (2005:280) also argued that job satisfaction is the level where someone feels satisfied with her job, it has the impact to her better life and even the satisfaction in someone's life.

Likewise, the definition of job satisfaction from Locke in Yoon, Seo and Yoon (2004:397) that job satisfaction is a nice emotional statement as the impact from the evaluation to her job which achieves or support job values achievements.

Because of that, job satisfaction is the nice emotion or feeling for an employee if the job has done can achieve job values achievement for that employee. It is almost the same with the definition above, job satisfaction Noe et al. (2003:430) is a nice feeling as the impact of employee's perception for job that can fulfill job values of an important employee.

From those two definitions above, it can be inventoried that job satisfaction is feeling. That feelings are a happy feeling of employee. This feeling appears from that employee's perception for her job. The importance of job satisfaction for the employee, García-Bernal et al. (2005:279-280) stated that employee's satisfaction has been one of corporation's goals in the recent years. An organization does not achieve the competitiveness level in a good quality in product level or customer service level, if the employee does not feel satisfied or they do not know their organization. As a sample, staff's motivation and commitment can be the determining factors for the organization's success. However, according to García-Bernal et al. (2005:279-280) human resource management that is tended to improve job satisfaction has been the attractive subject and it gets a good development in professional world or academic world, and also it is believed the influence of satisfaction to business performance.

Yoon, Seo and Yoon (2004:397) mentioned that job satisfaction is the nice emotional statement as the impact of evaluation to her job that achieves or supports somene's job values achievements. The correlation of job satisfaction to employee's satisfaction based on R.S.M. Lau (2000:425) cited in the opinion of Locke (1976) that employee's satisfaction shows often as job satisfaction, which is a happiness or positive emotional feeling that is caused by the assessment of her job experience. Therefore, employee's satisfaction is the reflection of employee's job satisfaction during they do job tasks.

There are some factors which determines job satisfaction of the employee, as stated by Garcý'a-Bernal et al. (2005:279) there are four types which are: Economic aspects, Interpersonal relations, Working cnditions, and Personal fulfillment.

In addition, Robert W. Rowden and Clyde T. Conine Jr (2005:215) mentioned the factors determine job satisfaction because it is one of most researchable and it is also almost understood in the organization today. Some factors are associated to job satisfaction is salary, benefit, promotion, communication, supervision, co-worker, etc.

The condition of job satisfaction of employee can be reflected when those employees serve customer in form of service quality, which is customer will evaluate how employee service quality level in serving that customer. In can be understood in the study of Neeru Malhotra and Avinandan Mukherjee (2004:163) that job satisfaction of employee is important to give service quality because customer is satisfied can only be created by the satisfied employee.

Therefore, job satisfaction must be noticed by a company in order that employee can give the best service quality for customer of that company, which is in turn can cause customer satisfaction. Because customer who satisfied created by the satisfied employee. It means that customer satisfaction is the reflection of job satisfaction of employee who serve that customer.

Relating to this job satisfaction, there are some aspects that becomes employee's notice according to the study of Boseline, Paul and Wiele, Ton van der (2002:170) are: 1) Satisfaction to job security; 2) Satisfaction to be honest and respectful treatment; 3) Satisfaction of achievement of your job efforts; 4) recommend to company as a good company for work; 5) the whole of Satisfaction with this company.

An employee is asset of an organization. Without employee (human resource) so the organization will not do the operation in order to achieve company's goals that is appropriate to the planning. As modern as anything technology owned by company, as sophisticated as anything tools owned, so the existence of human resource keeps being needed, and it is not ignored.

1. The Intention to Move Division

Anderson and Sullivan (R.S.M. Lau, 2000:425) states that there are many similarities between employee's satisfaction process and customer satisfaction. Customer's needs and the intention are satisfied when they feel goods and services assessed fulfill or it is over the expectation. As contrary, there are some aspects of employee's and the intention needs that want to be fulfilled her satisfaction as stated by Hackman and Oldham, (1980) in R.S.M. Lau (2000:425) who said that employee has desire and needs to be satisfied if they accept remuneration from company. That remunerations include: compensation, promotion and recognition, development and the nature of work, which fulfill or over the expectation.

Therefore, both customer and employee are the same to be satisfied; it is in line with the opinion of Kotler (2003:461) that company needs to try "*satisfying employees as weel as customer*", which means employee's satisfaction is same with customer's satisfaction. If the company wants to try to satisfy customer so it must be togetherness with the effort to satisfy the employee.

Remember that the importance of employess's satisfaction to create customer's satisfaction so according to R.S.M. Lau (2000:425) changes the organizational paradigm that assumes "employess as servant" becomes "employee as customer".

Employee's treatments by that company relates to the opinion from Yavas Turgay Avci and Osman M. Karatepe (2003:258) as follows: in other words, employee feels to be able to do her work effectively with many possibilities they will continues to work at that company. Otherwise, employee who can not give service quality as consistency, quickly, accurately and they can not solve the repairing of problems, many possibilities they will leave company or they at least have intention to move division because they can not work. It is caused there is no possibility to work well for them at that division.

Lau (2000:425) reveals that employee's needs and desire are satisfaction when they feel that the achievement from organization that covers compensation, promotion, recognition, development and the meaningful work are fulfilled, or it is over the expectation. The meaning from that statement is someone who works in company basically they have necessities and desires to get satisfaction felt when they work at company. As a reward in form of remuneration of that employee. The form of remuneration from company depends on Lau is compentation, promotion, recgnition, development and the meaningful work. That satisfaction appears if the form of achievements felt by employee from that company is felt to be fulfilled from employee's expectation or all the rewards are over the expectation.

However, there are some aspects are believed to influence employee's intention to leave work as: training, empowerment, teamwork, unclear role and commitment. As the opinion above, Turgay Avci and Osman M. Karatepe (2003:255) make a conclusion that the potential impact of organizational variable (management attitude and job environment) to service improvement performance by employee and its impact to employee job satisfaction and the intention to leave work.

There are some factors that cause employee to move division as stated by Boseline, Paul and Wiele, Ton van der (2002:165) that: *"...cooperation, information, leadership, salary, work condition and goal setting in relation to employee satisfaction and the intention to leave the organization"*.

The Previous Studies

Albert Caruana and Peter Calleya (1998: 108) explain internal marketing as follows the concept of internal marketing explains that organizational personnel are the first market of a company. The main objective of the Internal Marketing function is to get employees at all levels who have the motivation and understand the intention of customers. This is the study of Human Resource Management and Total Quality Management.

In this sense, it implies that the company before paying attention to customers, first of all must pay attention to its employees as the company's first customers. With this attention, employees are expected to have work motivation to understand customers and provide the best service to customers.

Furthermore, Albert Caruana and Peter Calleya (1998: 108-109) stated that If an employee is seen as a customer, this is called the internal market. He considers employees as an internal market is the main motivation for service-oriented and actively customer-oriented behavior, using a marketing approach, where a variety of activities are used internally actively, in a fun and coordinated way of marketing.

With highly motivated employees, these employees are committed to the organization. Caruana and Peter Calleya (1998: 109) argue that the basic thought of internal marketing is that employees are seen as internal customers and work / careers as internal products. Job / career products must attract, build and motivate employees by satisfying the needs and desires of internal customers to achieve their goals. Thus, internal

marketing is a view of companies that treat employees as corporate customers. The products offered by the company to these internal customers (employees) are work or careers. The career offered by the company to these employees (internal customers) must attract, build and motivate employees in order to satisfy the needs and desires of employees in achieving the goals of the employee.

Boseline, Paul and Wiele, Ton van der (2002: 165) with the results of their research of companies that implement Human Resource Management / Total Quality Management in their business practices are viewed from the perception of their employees. According to his research, employee perceptions of the implementation of Human Resource Management / Total Quality Management have to do with job satisfaction and the intention to leave work / move parts.

The results of his research stated that: "... cooperation, information, leadership, salary, work conditions and goal setting in relation to employee satisfaction and the intention to leave the organization" (Boseline, Paul and Wiele, Ton van der, 2002: 165). Thus collaboration, information, leadership, salary, working conditions and organizational goals are related to employee satisfaction and the desire to leave the organization.

Furthermore, Boseline and Wiele (2002: 170) explain that the positive perception of employees towards the concept of human resource management / total quality management causes higher levels of satisfaction and less intention to leave the organization.

5. Hypothesis

Hypothesis 1

There is significant correlation between employee's perception towards human resource management and total quality management implementation to job satisfaction.

Hypothesis 2

There is significant correlation between employee's perception towards resource management and total quality management implementation to the intention to leave organization.

6. Research Framework

The target of this study involves on three variables are: The influence of employee's perception in human resource management and total quality management implementation as independent variable and job satisfaction also the intention to move division as dependant variable.

Referring to the study of Boseline, Paul and Wiele, Ton van der (2002:167-168), there are 9 (nine) aspects which become the point of view of employee's perception towards human resource management and total quality management. Those ninth aspects are: 1) *Format of information delivery*; 2) *Insight in goal and objectives* ; 3) *Secondary work conditions*; 4) *Co-operation within (business) units*; 5) *Information sharing*; 6) *Leadership*; 7) *Customer focus*; 8) *Co-operation between (business) unit*; 9) *Salary (gaji)*.

Based on the study of Boseline, Paul and Wiele, Ton van der (2002:170), there are some aspects which becomes employee's attention and it relates to work satisfaction, are: 1) Satisfaction to wok security; 2) Satisfaction to be honest and respectful treatment; 3) Satisfaction for reward of your job; 4) Recommend to company as a good company to work; 5) the whole satisfaction with this company.

There are some factors that cause employee wants to move division like stated by Boseline, Paul and Wiele, Ton van der (2002:165) that cooperation, information, leadership, salary, work condition and the organization goal relate to employee's satisfaction and the intention to leave that company.

RESEARCH METHOD

This study used descriptive method. It was conducted to explain the characteristic or phenomenon of a variable studied, to give an aswer for the question who, what, when, where, and how.

James R. Taylor (1996) gave opinion that descriptive research was often used in marketing research to determine the correlation level of variable. Therefore, in this study was conducted to know the correlation level among variable, which was next used to test hypothesis about the correlation of variable. The study was conducted in one of Government-owned cooperation at Jakarta. Research population was all of employees in Government-owned cooperation at Jakarta. According to Surakhmad (1982:100), sampling technique used purposive sampling and the researcher obtained research sample was 115 people.

Data analysis method used descriptive statistic by counting Mean and using hypothesis test.

The aim of this hypothesis test was to test the accurateness of research hypothesis which was based on data obtained. The value of differentiator whether that hypothesis was accepted or rejected was Critical Value (Donald R. Cooper, dan Pamela S. Schindler,2003:525).

To hypothesis test, the assessment criterion was determined based on Probability Value (p value) that it was compared then with significance level was 0.5.

With this significance level, it could become basic to accept or reject H_0 , so the basic of decision making was formulated as follows:

- If P value < 0.05 , so H_0 was rejected, H_A was accepted
- If P value $> 0,05$, so it could not be rejected H_0 , H_A was rejected

So, to support the research hypothesis, so the hypothesis test result needed to fulfill the qualifications such as:

“Reject H_0 and Accept H_A , where P value < 0.05 ”

H_0 : There was no significant (correlation) influence among two variables.

H_A : There was significant (correlation) influence among two variables.

Data analysis method used the test of correlation using statistical technique of Product Moment Correlation Analysis by using SPSS Program.

Next, to know how strong the correlation level of independent variable (X) and dependent variable (Y) were used the guidance to give the interpretation of correlation coefficient (Sugiyono, 2006).

2. Research Findings and Discussion

1. The Effect of Employee's Perceptions in Human Resource Management and Total Quality Management Implementation to Job Satisfaction

Research results show that :

- 1) P value = 0.016, where p value < 0.05, so H_0 is rejected, H_A is accepted, so it means that it is accepted H_1 states that there is significant influence of employee's perceptions towards The Implementation of Human Resource Management and Total Quality Management to Job Satisfaction
- 2) The number of effect is determined by employee's perceptions towards the implementation of Human Resource Management and Total Quality Management to job satisfaction by the value of R square (R^2) = 0.464 (46.4 %), it means that the effect number of employee's perceptions value towards the implementation of Human Resource Management and Total Quality is 0.464%, while the rest is 43.6% is influenced by other factors.
- 3) Beta = 0.682 shows that the correlation value of employee's perceptions in the implementation of Human Resource Management and Total Quality toward satisfaction is strong.
- 4) The value of Beta = 0.682 is positive (+), it means that if the value of employee's perceptions in the implementation of Human Resource Management and Total Quality is raised so employee's satisfaction is also raised.

2. The Effect of Employee's Perceptions in the Implementation of Human Resource Management and Total Quality Management to the Intention to Move Division

Research results show that :

- 1) P value = 0.00, where p value < 0.05, so H_0 is rejected, H_A is accepted, it means that it is accepted H_1 states that there is significant influence of employee's perceptions towards the implementation of human resource management and total quality management to the intention to move division.
- 2) The number of effect is determined by employee's perceptions towards the implementation of human resource management and total quality management to the intention to move division by the value of R square (R^2) = 0.042 (4.2 %); it means that the effect number of employee's perceptions towards the implementation of human resource management and total quality to the intention to move division is 4.2%, while the rest is 95.8% is influenced by other factors.
- 3) Beta = -0.225 shows the correlation value of employee's perceptions in the implementation of human resource management and total quality management to the intention to move division is weak.

- 4) The value of Beta = 0.682 is negative (-) means that if employee's perceptions in the implementation of human resource management and total quality management is raised, so it means that the intention to move division is down or vice versa if the value of employee's perceptions in the implementation of human resource management and total quality management is down so it means that the intention to move division is raised.

The research results can be concluded as follows:

- 1) There is influence of employee's perceptions value towards the implementation of human resource management and total quality management to satisfaction is 0.464% while the rest is 43.6% is influenced by other factors, with the correlation value is strong and positive. Positive in this case if the value of employee's perceptions in implementation of human resource management and total quality management is raised so it means that employee's satisfaction is raised.
- 2) There is influence of employee's perceptions value towards implementation of human resource management and total quality management to the intention to move division is 4.2%, while the rest is 95.8% is influenced by other factors. The correlation value of employee's perceptions in the implementation of human resource management and total quality management to the intention to move division is weak and negative. It shows that if the value of employee's perceptions in the implementation of human resource management and total quality management is raised, so it means that the intention to move division is down or vice versa if the value of employee's perceptions in the implementation of human resource management and total quality management is down so it means that the intention to move division is raised.
- 3) This research result is in line with the opinion of Boseline dan Wiele (2002:170) who stated that: "*The analysis reveal that positive perception of individual employees on the HRM/TQM concept lead to a higher level of satisfaction and less intention to leave the organization*". This analysis reveals that positive employee's perceptions to the concept of human resource management and total quality management cause the higher of satisfaction level and it reduces the intention to leave the organization.

3. Conclusion

Based on research results and statistical processing data, so it can be concluded as follows:

- 1) There is influence of employee's perceptions value towards the implementation of human resource management and total quality management to satisfaction is 0.464% while the rest is 43.6% is influenced by other factors, with the correlation value is strong and positive. Positive in this case if the value of employee's perceptions in the implementation of human resource management and total quality management is raised so it means employee's satisfaction is raised.

- 2) There is influence of employees's perceptions value towards the implementation of human resource management and total quality management to the intention to move division is .2% while the rest is 95.8% is influenced by other factors. The correlation value of employee's perceptions in the implementation of human resource management and total quality management to the intention to move division is weak and negative. It shows that if the value of employee's perceptions in the implementation of human resource management and total quality management is raised, so it means the intention to move division is down or vice versa if the value of employee's perceptions in the implementation of human resource management and total quality management is down so it means that the intention to move division is raised.
- 3) This research results are in line with the opinion of Boseline dan Wiele (2002:170) who said that: " *The analysis reveal that positive perception of individual employees on the HRM/TQM concept lead to a higher level of satisfaction and less intention to leave the organization*". This analysis reveals that employee's positive perceptions towards the concept of human resource management or total quality management cause the higher of satisfaction level and it reduces the intention to leave organization.

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OFFICIAL EDUCATION IS A PROFESSIONAL EDUCATION TOWARDS THE INDUSTRIAL ERA 4.0 IN INDONESIA

(Case Study at STKS Bandung; Bandung College of Social Welfare)

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Abstract

Bandung college of social welfare is one of the official university which is a highest level of education in order to produce professionals worker who are ready to use in the field of social welfare. This profession is needed/indispensable, especially in Indonesia, which had a population of 269 million in April 2019 (Dwi Hadya Jayani, this article was published on Katadata.co.id, <https://databoks.katadata.co.id/datapublish/2019/04/29/>) 11% of them are people with social welfare problems (unemployment, poor people, etc.). Social work as a profession is based on the helping knowledge or help science in empowering people to aim social independence whether directly or indirectly towards the industrial era 4.0. In fact there are still some problems found in the administration of education at STKS Bandung, such as:

1. There are still having lecturers who do not have field experience in the field of social work, even though they have been certified as social workers.
2. The curriculum content plays more on the theoretical level (science) than the practical level, especially in the case work setting.
3. Use of social work laboratories; both indoors and outdoors are considered to be underutilized.
4. Do not have services that are real time online (such as radio, or social media managed by professional admins) as social media campaigns in an effort to optimize social services to the community.
5. The number of students in each class consists 40 persons; even more, and position settings are considered to be less optimal in the process of student centered education and learning.
6. Prospective students of STKS (raw material) are high school/vocational high school graduates in the field of social work which incidentally are not accepted at leading state/private university (remaining qualified).
7. Towards the industrial era 4.0 in the global era, learning materials that support the mastery of English (as one of the international languages) and information technology are considered to be inadequate

Therefore in this paper based on the theory and experience of the author in the field of social welfare, it convey in studies in the form of solutions to problems faced by STKS Bandung.

Keywords: Official education, Professional education, Industrial era 4.0

1. INTRODUCTION

Among management sources known as 6 M: Man, Money, Machine, Material, Method, Market (Terry, in Suhendra, 2007: 41), Man is the key, because in fact the other 5 M is to achieve the Management Vision that managed by human.

It is a very appropriate policy if President Jokowi (Ir. H. Joko Widodo) at the meeting of his volunteer supporters in Sentul Bogor on July 14, 2019 delivered the main program in the second period of his administration (2019-2024) is Building Human Resources while continuing the first program his administration (2014-2019) is to build infrastructure in an integrated manner. This is a consistency of promise in the election campaign for candidates for President and Vice President which among others will issue Smart Cards in the form of scholarships for basic education to tertiary institutions/university level.

The policies of President Jokowi's volume II are highly commendable, in line with Indonesia's "Demographic Bonus" which began in 2020 in an effort to optimize national productivity and face global competition by prioritizing the excellence of human resources. If in the previous two decades we were proud of comparative advantage, today we are "conditio sine qua non" we must change to competitive advantage. With the comparative advantage of passive sources (petroleum, coal, etc.) and our natural resources will be reduced to thinning, then the quality of human beings in driving the progress of the nation is an absolute non-negotiable condition.

From the description above, the presence of professional education is the answer that is available through Law No. 20 of 2003 concerning the National Education System (Article 29 concerning Official Education). Official education is a step to prepare graduates who are "ready to use" (ready to work, not just ready to know).

The object of the author's research is the Official Education of Bandung College of Social Welfare under the auspices of the Ministry of Social Affairs R.I who prepares social workers in the field of social work. Social work (social work) according to Dubois and Milley (1992: 1-5) is "A helping profession, an empowering profession, help people to enlarge their competence and increase their problem solving and coping abilities. Help people resources focus on person and environment). In other words, social work is a helping science to improve human empowerment, improve problem-solving skills, be oriented towards people and their environment. Therefore social workers motivate, facilitate, mediate, and advocate for people with social problems to be independent and not unemployed anymore.

The land of social workers is still very large, bearing in mind that of Indonesia's current population of 269 million, 11% of them are people with social welfare problems (Dwi Hadya Jayani, this article has been published on Katadata.co.id, <https://databoks.katadata.co.id/datapublish/2019/04/29/>).

In the coming era it is necessary to increase service acceleration, global communication (borderless country), so the ability and mastery of English and information technology are absolutely necessary.

In a short research by the author which conducted on several person who is a source of information (informants) in July 2019, found several findings of problems in the effort to achieve professionalism are:

1. The educators (lecturers) based on "Bandung College of Social Welfare (STKS) in Figures 2018" consist of 70 lecturers with government official status, with 33 doctoral degrees, and 37 master level education programs; as well as outside lecturers totaling 13 people with 9 doctoral degrees and 4 with master level degrees. From a number of the lecturers, it was assumed that less than 50% had worked in

social work implementing institutions such as the Social Service, correctional center, Orphanages, Nursing Homes and so on. This has an effect on the delivery of lecture material which tends to be more theoretical, not implementative/practical. Whereas the social work science is applied science.

2. STKS study program level D-IV based on "STKS in Figures 2018" consists of 155 credits. Divided into 113 credits (73%) theoretical studies (compulsory and optional), 36 credits (23%) social work practicum, and 6 credits (4%) thesis writing. For professional study programs the number 36 credits (23%) of social work practicum is certainly very little.
3. The social work laboratory for Case Work settings has not been used optimally. Noted that STKS students whose 8 semester study program to accomplish practices social work setting a case work in the social work laboratory only a few times at a few meetings of Social Work courses with Individuals and Families totaling 3 credits. This is certainly far from enough.
4. While practicum in the community for community development during the study is only done in practicum 1 weighted 12 credits that are carried out in concurrently, and practicum 3 weighted 12 credits that are carried out by home stay/block placement. In an effort to solve social problems from problem identification until problem solving is found, sometimes even to the stage of social action development, the weight of 12 credits in each stage of the practicum is certainly considered to be too short of time.
5. STKS prospective students in general are prospective students who are not accepted at leading public/private tertiary institutions or universities that are more popular, with higher accreditation, and study programs where graduates are more interested in employment, such as medicine, mining, industrial engineering, economics, law, management and others. In other languages, that STKS prospective students are generally high school graduates whose intelligence levels are below the level of intelligence of students accepted into study programs that have better job access.
6. Do not have services that are real time online (such as radio, or social media) as social media campaigns in an effort to optimize social services to the community, which can directly answer community questions/problems through radio, or social media in full time 24 hours managed by final year students who are accompanied by supervisors.
7. The number of students in each class reaches 40 peoples; even more, and the position setting causes the lack of interaction between students and lecturers, so it is considered less optimal in the education and learning process that focuses on students.
8. There is still a lack of mastery of English and information technology that is very necessary in the industrial era 4.0. Allegedly less than 50% of students are able to speak English and master information technology.

The purposes of writing this paper are:

1. Theoretically the author wants to be able to contribute thoughts about efforts to develop and enrich the education of the profession of social work (social work science).
2. Practically the author wants to contribute thoughts and practical experience who had been the Head of the Regional Office of the Ministry of Social Affairs of North

Sulawesi Province in 1997 - 2001, and also the Director of STKS Bandung in 1992 - 1997.

3. RESEARCH METHOD

The research method that author used is a qualitative research method, with several reasons, namely:

1. Qualitative research methods are also called naturalistic research methods, because the research is conducted in natural conditions (Sugiyono, 2010: 8). The author collecting data and information toward situations and conditions that exist in STKS Bandung without making special treatment.
2. In qualitative research methods, the main instrument is the researcher himself (human instrument) who has the theoretical capital and insight toward the object under study. In this case the authors believe in having theories and insights over the focus of research.
3. The author wishes to produce in-depth research until discovered the meaning of reciprocal trait (interactive and mutual/reciprocal)

The data collection techniques that the authors did in this research were conducting semi-structured interviews and observations to get primary data and documentation studies to get secondary data.

To optimize valid and reliable data, researchers used triangulation techniques and in inductive manner. The informants are chosen based on purposive sampling, that is, the informants who know the data and information needed and are willing and have the time. Key informants in this study were the Acting Task of Director of STKS, with additional informants such as Assistant Director I (Academic Fields) and Assistant Director III (Students and Alumni Fields), and 2 (two) alumni who work in the social services field.

The data analysis was performed using the Miles and Huberman Models (Sugiyono, 2010: 246) through four stages as shown in the following figure:

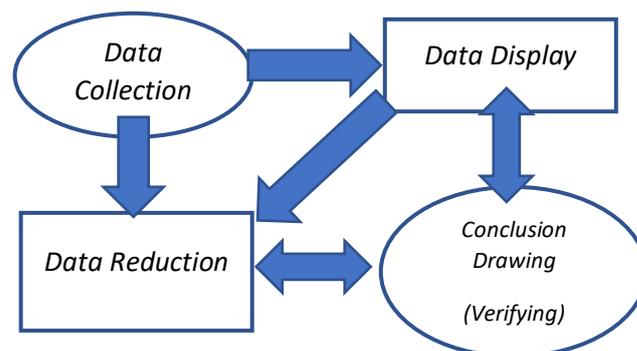


Figure 1

Qualitative Data Analysis Model of the Miles and Huberman Models

(Sugiyono, 2010: 247)

4. RESULTS AND DISCUSSION

According to the purpose and use of research is for discovery, proof, and development (Sugiyono, 2010: 3), then in the discussion and results of this paper the author bases 7 (seven) problems found in research at Bandung College of Social Welfare. The author tries to examine the problem and convey the solution as follows:

1. To get professionals worker who have theoretical and implementative capabilities, it is necessary to work together with institutions that run social welfare programs to be able to hire/place employees (lecturers) periodically and with sufficient time.
2. Reviewing the curriculum in order to create a balance of theoretical subjects with practicum, by optimizing indoor laboratories (social work laboratories) so that graduates are ready to use and professional.
3. There are no more than 30 students in each class. In the lecture process seating arrangements are made in a semicircle, or other settings that make interactive lecturers and fellow students easily.
4. Practicum development in the community with a community development approach must be done with sufficient time with a block placement system (home stay), so that students can carry out social work management processes. It starts with obtaining complete and objective information, so students can start identifying problems, following up, and designing a community empowerment program.
5. Conducting optimal social campaigns through various means such as the Real Work Lecture (Practicum) program, and providing social services on air.
6. Organizing socialization to religious leaders about the importance of the profession of social work, so that it can be socialized by them about the profession of social work that is no less important than other professions in religious broadcasts (lectures, religious studies). It is hoped that the younger generation will be interested in the profession of social work in an effort to build a nation through a humanitarian approach.
7. Do the practice of social work with social methods "insertions" nuanced religion, because philanthropy and charity are eternal torches of social work. Is not before the birth of the science of social work, human relief efforts have been carried out with a philanthropic and charity approach that is in religious manner?
8. Improving learning materials that support the mastery of English and information technology for students and lecture.

5. CONCLUSION

In order to realize official education as a professional education to support independence towards the industrial era 4.0 in Indonesia, with the object of research Bandung College of Social Welfare as one of the official education under the auspices of the Indonesian Ministry of Social Affairs, the authors convey the following conclusion:

1. Creating an education system with a focus on practice rather than theoretical. Starting by making the curriculum more practical than theory, creating a more interactive classroom learning atmosphere by limiting the number of students and classroom settings, optimizing laboratory use, and creating a comprehensive student practice or Practicum system; which can identify existing problems while making appropriate solutions. So as to produce output in the form of undergraduate social work that is "ready to use" and professional.

2. Increasing the capacity of teaching staff by cooperating with existing social service institutions, so that lecturers can practice directly and provide social services to clients concretely.
3. Conducting social campaigns about social work to the community, both through student practicum, on-air social services to the community and online through social media, as well as through insertion social work methods based religious through religious leaders, so brand awareness arises. from society towards the social work profession. Which in turn is expected to attract the interest of young people towards social work.
4. From this, it is expected that potential qualified raw material is interested in becoming a social worker and voluntarily registering to be a student at Bandung College of Social Welfare as the only one of the Indonesian educational institution that educates and produces professional social workers.

Hopefully this research provides benefits.

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OPTIMIZATION OF BREAKFAST CEREAL PRODUCT USING DESIGN EXPERT PROGRAM

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Abstract

Current demand for gluten-free products is increasing along with the high demand of consumers for products that have a high health impact. Consumers who need gluten-free products are those who have special needs such as celiac sufferers, diabetes, and obesity. Composite flour formula is one of the main factors that can affect the characteristics of the products produced. Optimization for composite flour needs to be done so that the characteristics of gluten-free cereal flakes products match the attributes of gluten-containing flakes. Optimization of composite flour formula was carried out using the Design-Expert version 11.0 program with the D-optimal method. The results of the composite flour optimization using the Design-Expert version 11 program showed that the optimal formula can meet national and international quality standards for flakes products.

Keywords: Breakfast cereal flakes, Gluten-free, Composite Flour, Design Expert program

1. INTRODUCTION

Breakfast cereal is one type of food that is often consumed in several countries. The consumption level of breakfast cereal in Europe is as much as 2 Kg of breakfast cereal per capita. Ireland is a country with the highest consumption of breakfast cereal. The breakfast cereal industry in Europe produces 1.1 million tons annually. The process of making breakfast cereal includes several stages of the process, namely grinding, boiling, mixing, cooking, extruding, puffing, and cooling. This breakfast cereal consists of several forms such as flakes, puffs, shreds, and granola.

Breakfast cereal has an essential role in the diet and ensures the function of the organism works well as in the digestive tract system. Breakfast cereal, especially flakes, is an important type of breakfast food, especially in western countries [1].

Ready-to-eat cereal is usually consumed with milk. The recommended method of consumption is 30 g of cereal serving added with 125 mL of skim milk [2]. Flakes are processed products that are consumed by soaking in milk [3].

Breakfast using cereal can provide valuable nutrients. Ready to eat breakfast cereal contains low-fat content, good complex carbohydrates, fortified by vitamins and minerals, and provides dietary fiber intake. Nutrition from ready-to-eat breakfast cereal is beneficial, and like other breakfast meals, it contains high micronutrients, fiber, CHO, protein, and low fat and cholesterol content. The composition and quality of breakfast provide essential benefits for health. Regularly consuming ready-to-eat breakfast cereal will increase immunity to chronic diseases for children, and reduce blood sugar and cholesterol levels in the blood [4].

From the USDA National, Nutrient Database stated that the reformulation of ready-to-eat cereals conducted by the company is very oriented to consumer demand. The nutrition data is updated to illustrate the formulation and fortification changes that have been made. Data from the company showed a change in the breakfast cereal formulation. Changes in formulas can be caused by several reasons, such as health reasons and consumer demand for more healthy cereals.

Consumer demand for healthy cereal is a factor affecting trends in breakfast cereals. Wheat, fiber, and sugar levels are considered by consumers when choosing cereal products. The Diet Guidelines Advisory Committee in 2010 concluded that there is some evidence that a high fiber content diet is essential for digestive health and lowers the risk of cardiovascular disease, obesity, and diabetes. Fiber intake for adults is still 40-50% below recommended levels [5]

Today, people who are busy working choose to consume products that contain essential nutrients and fiber [3]. Consumers pay more attention to their health. This is the reason why proper fiber intake is not only important to get proper quality nutrition, but also has a taste that is liked by consumers. A delicious cereal flavor is caused by a microstructure that will absorb milk by diffusion when it is consumed [6].

Healthy food does not have a specific definition, but generally is a term for foods that provide nutritional intake and provide benefits for health. Healthy food is a group of foods that include functional food, high nutritional food, natural food, organic food, and some food supplements. Consuming gluten-free products can also reduce the risk of serious long-term complications such as celiac disease that is difficult to treat. Some foods can be an alternative substitute because they have high gluten-free proteins such as beans, cereals, grains, tubers such as potatoes, tapioca, taro, and arrowroot. Until now, various studies have been conducted to design and develop gluten-free foods for consumers with special needs using these alternative sources [7].

Today, consumption of gluten-free products continues to increase, and consumers demand more gluten-free products that they can consume. Consumers are also looking for alternative products that are conventionally processed. Other ingredients containing gluten are staple foods that globally consume. This trait can be associated with complex gluten structures [8]. Gluten is a protein that forms the main structure in flour and forms the desired crumb structure of many food products, especially baked products [7]. Gluten is formed from the fraction of gliadin and glutenin. Gluten is an important factor in shaping crumbs in the manufacture of bread. The market for gluten-free products is increasing beyond the demands of gluten intolerance sufferers. This increase in demand for gluten-free products is mainly due to the latest claims of gluten-free products that provide health benefits to the general public. Manufacturers of gluten-containing products must start making gluten-free products that have same characteristics or not much different from products with gluten. This aimed to satisfy consumer's demand for gluten-free products [8]

The main challenge in developing gluten-free products is ensuring that the product has the desired taste and texture, such as products that contain gluten. Gluten-free cereal food products are made from gluten-free flour or unmodified starch or modified starch, so the product will provide only carbohydrate and fat intake. Mechanical and sensory challenges must be found solutions in preparing gluten-free products because dough without gluten has a weak structure and a different texture from products that contain gluten. The gluten-free products that are produced should be not only gluten-free but also have nutritional content comparable to products that contain gluten [7].

The difficulty in product optimization is the number of parameters that must be optimized at the same time, and not all parameters can be known at the beginning of the optimization phase. Optimizing, some of the objectives carried out together will provide efficient solutions based on goals and not exacerbated in other objectives [9].

Composite flour that will be used to make cereal flakes is taro flour, mung bean flour, and black mulberry leaves. The three components have excellent nutritional content so that they are expected to provide more health value to the products produced. The purpose of composite flour production is to obtain the preference characteristics of raw materials and to obtain specific functional features [10]. Composite flour used as a material in making breakfast cereal flakes consisting of taro flour (*Colocasia esculenta*), mung beans (*Phaseolus radiatus* L), and black mulberry leaves (*Morus nigra*).

Taro can be a source of local ingredients that can be used as an alternative food. Taro is a source of local food that is high in carbohydrates, in 100 grams of taro contains 145 Kcal of energy, 34.20 grams of carbohydrates, 0.4 grams of fat and 1.2 grams of protein [11].

Tuber processing is an effort to support food diversification programs by utilizing local food sources. Taro is generally processed by boiling, fried, made into chips, and usually, the leaves and stems are used as ingredients for making vegetable soup. Taro can also be processed into flour as a raw material for making various processed foods. Taro flour can be made into cakes, bread, donuts, and others to enrich existing nutritional value [11]. Taro tubers can be transformed into various semi-finished food products such as flour, pasta, etc., or finished products such as snacks, cakes, noodles, and others. Taro flour is processed into baby food in the United States, various cakes in the Philippines and Colombia, bread in Brazil, and different foods such as dodol, cakes, and chips in Indonesia [10]. One of the functions of starch can be to change the texture, thickening material, suspended solids, or facilitate food processing [12].

Mung beans have been considered typical traditional food throughout the world for more than 3500 years. Mung beans are often consumed as sprouts in fresh salads. Mung beans are famous for their detoxifying properties. Mung beans are recognized to have high nutritional value. Mung beans have a protein of around 20-25% of the total dry weight, including 60% globulin and 25% albumin as the primary protein fraction. The current intake of mung beans increases significantly with other cereals. Proteins in mung beans contain a large number of essential amino acids including phenylalanine, leucine, isoleucine, valine, tryptophan, arginine, methionine, and lysine. Mung beans are considered a substantive dietary protein source [13].

Mung beans contain carbohydrates by 55-65% of their dry weight. Carbohydrates contained in mung beans are easy to digest compared to carbohydrates contained in other nuts. Mung beans produce lower calories compared to other cereals, so they are beneficial for people with obesity and diabetes. Mung beans contain tannin, phytic acid, trypsin inhibitors, hemagglutinin, and other antinutrients that have health benefits and have a detox function [13].

Mulberry leaf is one of the traditional medicines commonly used in China [14]. Mulberry leaves are used in Asia and Europe as food and drinks for sore throats. Some health benefits can be obtained from consuming mulberry leaves. Mulberry has been widely known for having a therapeutic effect on diabetics. Many studies on the hypoglycemic mechanism of mulberry leaves. The main active ingredient in mulberry leaves is flavones, polysaccharides, and alkaloids. Flavonoids in mulberry leaves have benefits like antioxidants, anti-bacterial, anti-inflammatory, anti-viral, lowering blood sugar, lowering

blood pressure, and can improve heart and liver function. The polysaccharides contained in mulberry leaves have a significant hypoglycemic effect and inhibit the increase of lipids in the blood [14].

This research aims to optimize the formula of composite flour, which consists taro flour, mung bean flour, and black mulberry leaves. This research aims to obtain the best flakes formula according to the standard that has been determined using the Design-Expert version 11.0 D-optimal method.

2. MATERIAL AND METHODS

2.1. Material

The materials that will be used to make gluten-free cereal flakes are a mixture of flour made from taro tuber flour, mung bean flour, black mulberry leaf flour obtained from the Cibodas Lembang area, then mixed with the skim milk powder, salt, sugar, and water.

2.2. Methods

2.2.1. Preliminary Research

Preliminary research consists of three stages. The first step is making flour from black mulberry leaves. The process used in making the flour is bleaching and without using bleaching. After the powder is finished, then a preference test is performed. Flour with the highest preference value will be used in primary research. The attributes of flour tested are color and aroma. The second stage of the preliminary research is to make flour from taro. The third stage of preliminary research is testing the nutritional content of raw materials. The nutritional content analyzed is carbohydrate content and protein content.

2.2.2. Determination of Composite Cereal Flakes Optimal Formula

The research method that was carried out was the optimization of cereal flakes from composite flour using the Design-Expert program (version 11.0, Licensed by Stat-Ease Co., 2018, Minneapolis MN, USA). Design Expert 11.0 is a program used to process statistical data based on linear programs. One of the functions of the Design-Expert program is to determine the optimal formula for product development or manufacturing of new products. The first step in finding the optimal formula is to determine in advance the number of independent variable components in the flakes. The optimal formula will be determined the upper and lower limits of the independent variable. Components that are used as an independent variable in making cereal flakes are taro flour, mung bean flour, and black mulberry leaves. The total concentration of the independent variable must be determined in advance so that the program can provide formula design data according to the number of independent variables. The number of replications and responses to be used as test parameters are then determined. The responses tested on the optimization results in this study were protein levels and carbohydrate levels. The Design Expert program will produce several designs of flakes formulations that will be made and tested. The results of laboratory testing of the design of the flakes product formula are inputted into the Design-Expert program to be processed statistically. The effect of each response used as a parameter to the finished product will be known after data processing is complete. The Design Expert program will provide the optimal formula for breakfast meal flakes based on the results of the data processing and the estimated response rate of the optimal formula given. The

optimal formula for flakes is then made and tested according to a predetermined response to verify the results provided by the Design Expert program. Its chemical content characterizes the optimal breakfast meal flakes formula.

3. RESULTS AND DISCUSSION

3.1. Preliminary Research

3.1.1. *Black Mulberry Leaf Flour*

The results of the organoleptic test on black mulberry leaf flour showed that the sample with blanching treatment was preferred by panelists when compared with samples without blanching treatment.

3.1.2. *Taro Flour*

Taro flour is made using 5 kg taro tubers (*Colocasia esculenta*) which was dried using a cabinet dryer and sifted using an 80 mesh sieve to produce 1000 g of taro tuber flour.

3.1.3. *Testing of Raw Material Nutrition*

Testing the nutrient content is done on taro flour and mung bean flour where nutritional testing includes carbohydrate content and protein content. Based on the test results found taro flour contains carbohydrates of 85.27 g.100g⁻¹ and proteins of 6.45 g.100g⁻¹ and mung bean flour contain carbohydrates of 63.9 g.100g⁻¹ and protein of 27.5 g.100g⁻¹.

3.2. Main Research: Optimal Formula for Composite Metal Flakes

3.2.1. *Data Analysis Using Design Expert 11.0*

Protein Levels

The results of data processing by the Design Expert program on the levels of composite flour flakes based on taro flour (A), mung bean flour (B), and black mulberry leaf flour (C), gave rise to recommendations for linear polynomial models. The results of the variance analysis (Table 1) processed by the Design Expert 11.0 program on protein levels of cereal flakes showed significant results. The description of influence given from each of these relationships can be seen from the estimated coefficients of each relationship. Below is the coefficient of each factor contained in the coded equation as follows:

$$\text{Protein Content} = -51.66 + (-60.02)A + (-58.86)B + (-60.31)C$$

The resulting mathematical model shows that protein content is influenced by the addition of mung bean flour (B) because it has the largest coefficient value among the three components.

Different colors on the contour plot graph (Figure 1) show the response value of composite breakfast protein flakes from the lowest (blue), which is 6.85 g.100g⁻¹ to the highest (red), which is 9.78 g.100g⁻¹. The three-dimensional graph (Figure 1) shows the interaction between components where the difference in surface height shows the response values of different protein levels in each formulation.

Carbohydrate Levels

The results of carbohydrate composite flour flakes based on taro (A), mung beans (B), and black mulberry (C) tubers obtained the recommendation of the polynomial model suggested by the Design Expert 11.0 program to be linear. The results of the variance analysis (Table 2) processed by the Design Expert 11.0 program on carbohydrate levels at breakfast meal flakes showed significant results. The influence given from each of these relationships can be seen from the coefficients of each relationship.

$$\text{Carbohydrate level} = 1135.64 + 1072.13A + 1068.91B + 1067.74C$$

The result of mathematical model showed that the carbohydrate content of breakfast meal flakes is influenced by the addition of taro flour (A) because it has the highest coefficient value among the three components.

Different colors on the contour plot graph (Figure 2) show the response rate of carbohydrate composite breakfast meal flakes from the lowest (blue), which is 63.21 g.100g⁻¹ to the highest (red), which is 74.79 g.100g⁻¹. The three-dimensional graph (Figure 2) shows the relationship of interaction between components where the difference in surface height shows the response values of different carbohydrate levels in each formulation.

3.2.2. Selected Formulation

The optimization process of each independent variable will be given a certain level of importance to achieve the objectives sought (Table 3). This level of importance will determine the formula produced by the program and the quality of the breakfast meal flakes product.

The selected formulation is the optimal solution or formulation predicted by Design Expert 11.0 based on the analysis of the response of protein content and carbohydrate levels. The accuracy of the formulation and the value of each response can be seen in desirability. Desirability is the degree of accuracy of the results of optimal solutions or formulations. The closer to the value of one, the higher the value of the accuracy of the formulation, so it can be concluded in this study with a desirability value of 0.962, that the formulation produced has relatively high accuracy.

The Design Expert 11.0 program provides 100 possible optimal formulations of composite flour flakes based on taro tubers, mung beans, and black mulberry leaves. The formulation chosen is a formula that has the highest desirability value.

The optimal formula chosen is 25.016% taro flour, 20% mung bean flour, and 5.004% black mulberry leaf flour. This optimal formula is estimated by the Design Expert 11.0 program to contain carbohydrates of 69 g.100g⁻¹ and proteins of 9.563 g.100g⁻¹ (Table 4). The contour plot and 3-D desirability graph of gluten-free flakes can be seen in Figure 3.

3.2.3. Verification

The optimal formula selected for cereal flakes products is then analyzed in the laboratory. The results of laboratory analysis are then compared with the levels of carbohydrates and proteins provided by the program. Comparison between the program calculations results and laboratory analysis is intended to measure the degree of accuracy of the program in addition to the desirability factor. Based on the data generated (Table 5),

the difference between the two results is relatively not too far away so that the program can be said to have good accuracy in determining product formulation.

According to the Indonesian National Standard (SNI), the nutrient content for flakes products has a minimum protein content of 5 g100g⁻¹ and a minimum carbohydrate content of 60 g100g⁻¹. In this study, the protein and carbohydrate content of cereal flakes products in this study were by SNI requirements, both from the results of program calculations and also the results of laboratory analysis.

3.2.4. Characterization of Selected Formula

Antioxidant Levels

Antioxidants are needed by the body to protect the body from attacks by free radicals. The IC₅₀ value is the concentration of substrate solution or sample that can reduce DPPH activity by 50%, or it can be said that the number shows the concentration of extract (mg / L) which can inhibit the oxidation process by 50%.

Based on the testing of the content of the antioxidant activity in selected formulation samples, the results were 239,845 mg.kg⁻¹. The results of the study stated that the value of the antioxidant activity of selected formulated composite flour flakes products was categorized as weak.

Fat Level

Fat and oil are essential food substances to maintain the health of the human body; besides fat and oil are also useful energy sources apart from carbohydrates and proteins. Fats and oils are found in almost all foods at varying levels. The heating process can reduce the fat content of food, as well as the fatty acids, both essential and non-essential [15].

Based on the testing of the fat content of composite flour flakes products, the results obtained were 1.78 g.100g⁻¹, these results did not meet the standards set out in SNI where the expected value was above five g.100g⁻¹. Composite breakfast flakes are also below the standard set by the USDA National Standard, which is 3.36 g.100g⁻¹. Fat levels that are below the standard in composite flour flakes products based on taro tubers, mung beans, and black mulberry leaves are due to the low-fat content of the raw materials used, thus affecting the fat content of the finished products. The solution to overcome the low-fat content in composite flour flakes products can be done by replacing skim milk using full cream milk, which is more abundant in fat content so that it is expected to meet established standards. These flakes products will have more value for consumers who are on a diet program.

Water content

Water is an essential component in food ingredients because water can affect the appearance, texture, and taste of food ingredients. Water content in food ingredients will determine the freshness and durability of food [15].

Based on the testing of moisture content in composite flour flakes, a value of 2.95 g.100g⁻¹ was obtained, the amount is still below the maximum limit specified by SNI, which is equal to a maximum of 3 g.100g⁻¹. The water content of composite breakfast flakes is above the USDA National Standard, which is 2.53 g.100g⁻¹, but it can be said that this result is not much different.

Crude Fiber Levels

Crude fiber is a part of carbohydrate which has been separated from extract without nitrogen (BETN) which consists of starch, using simple chemical analysis [16]. Crude fiber consists of cellulose, hemicellulose, and lignin. Van Soest's analysis can measure the crude fiber fraction based on its solubility in detergent solutions [16].

Based on the testing of crude fiber content in composite flour flakes, the results were 3.8 g.100g⁻¹. The standard determined by SNI for crude fiber content is a maximum of 5 g.100g⁻¹; the results of this product analysis are still below the specified maximum limit. The crude fiber content in low flakes is an advantage in itself because the crude fiber content in food products must be minimized.

Ash content

Ash content is a mixture of inorganic or minerals contained in a processed food ingredient. Food consists of 96% organic matter and water, while the rest are mineral elements; these elements are also known as organic matter or ash content. The value of ash can indicate how much minerals in a food ingredient. Organic materials in the combustion process will also burn, but the inorganic substance is not, therefore, it is called ash content. Determination of ash content can be used to determine whether the processing is done correctly or not, to determine the type of materials used, to determine the parameters of the nutritional value of a food ingredient. The ash content can be used to estimate the content and authenticity of the ingredients used [16].

The results of ash content testing on composite flour flakes showed a yield of 2.91 g.100g⁻¹. The standard ash content specified in SNI for flakes products is a maximum of 4 g.100g⁻¹. The result of the ash content analysis shows the flakes product has a lower value than the required amount; this concluded that the product meets the standards in terms of ash content.

4. CONCLUSIONS

The results showed that the Design-Expert version 11.0 program using the D-optimal method could be used in finding the optimal formula for breakfast flakes made from gluten-free composite flour. Optimized composite flour consists of taro flour, mung bean flour, and black mulberry leaves. The optimization process uses multiparameter. The Design-Expert version 11.0 program can design formulas according to consumer demand and adhere to existing product quality standards. The optimal formula produced has characteristics that are not much different from existing flakes products. The nutritional content of composite breakfast flakes has also met the nutritional standards set out in SNI and USDA.

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Table 1. ANOVA for Linear Model of Protein Content of Breakfast Flakes Free Gluten

Source	Sum of Squares	df	Mean Square	F-value	p-value	
Model	8.79	3	2.93	15.73	0.0004	Significant
A-Taro Flour	0.0616	1	0.0616	0.3306	0.5780	
B-Mung Bean Flour	0.0593	1	0.0593	0.3182	0.5851	
C-Black Mulberry Leaf Flour	0.0622	1	0.0622	0.3338	0.5762	
Residual	1.86	10				
Cor Total	10.65	13				

Table 2. ANOVA for Linear Model of Carbohydrate Content of Breakfast Flakes Free Gluten

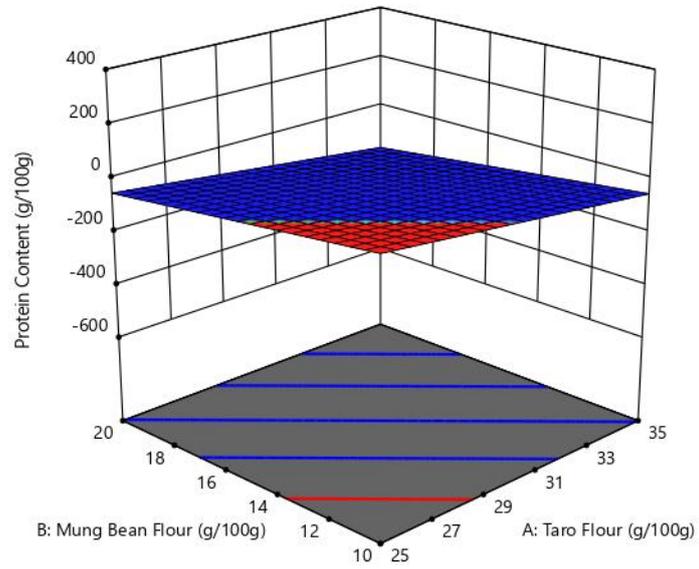
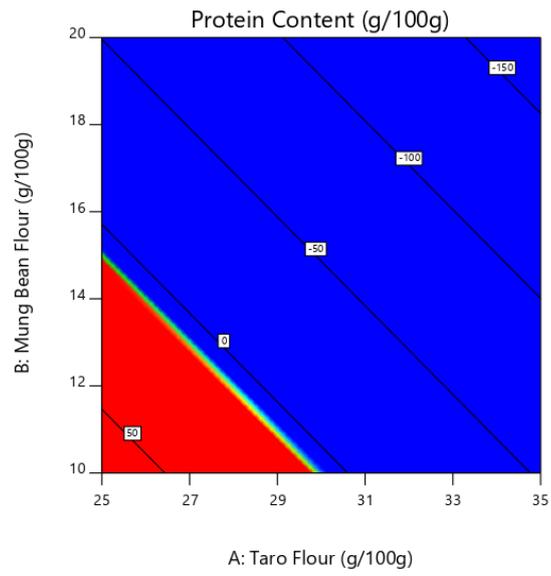
Source	Sum of Squares	df	Mean Squares	F-value	p-value	
Model	101.72	3	33.91	6.26	0.0116	Significant
A-Taro Flour	19.65	1	19.65	3.62	0.0861	
B-Mung Bean Flour	19.54	1	19.54	3.60	0.0868	
C-Black Mulberry Leaf Flour	19.49	1	19.49	3.60	0.0872	
Residual	54.20	10	5.420			
Cor Total	155.92	13				

Table 3. Optimization Breakfast Free Gluten

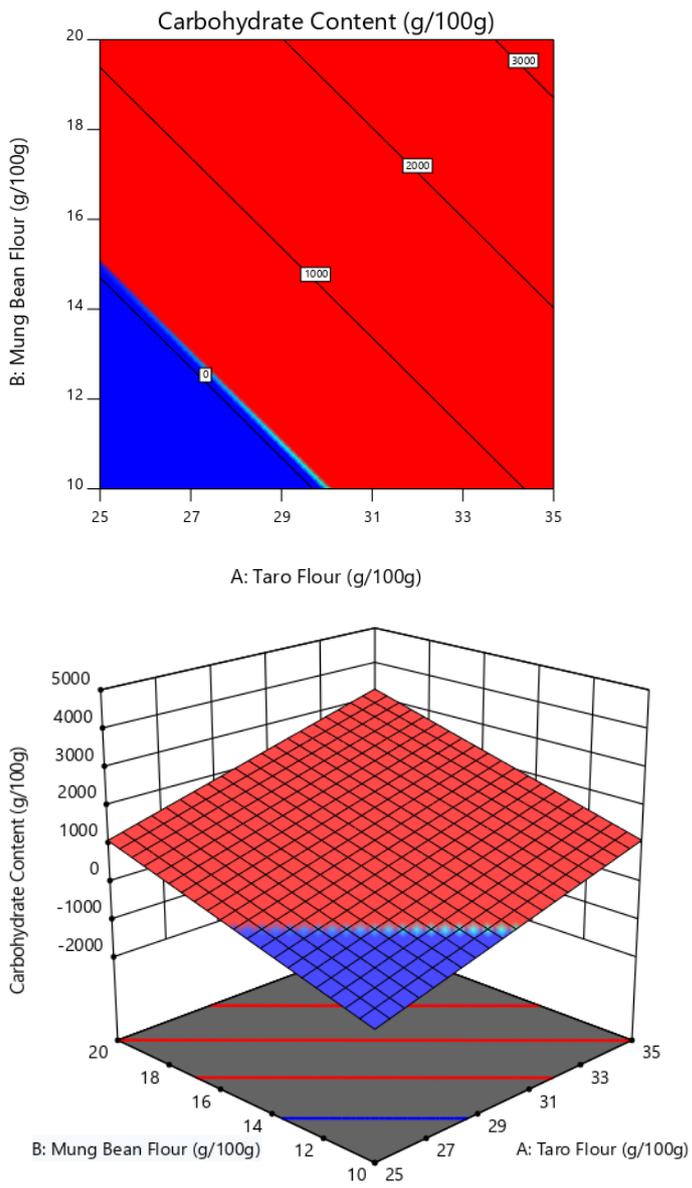
Name	Goal	Lower Limit	Upper Limit	Importance
A: Taro Flour	Is in range	25	35	3
B: Mung Bean Flour	Is in range	10	20	3
C: Black Mulberry Leaf Flour	Is in range	5	15	3
Carbohydrate Content	Is target = 69	63.21	74.79	3
Protein Content	Maximize	6.85	9.78	3
Taste	None	3.3	3.73	3
Aroma	None	2.97	3.73	3
Colour	None	2.9	3.67	3
Texture	None	3.17	3.73	3

Table 4. Optimization Flakes Free Gluten

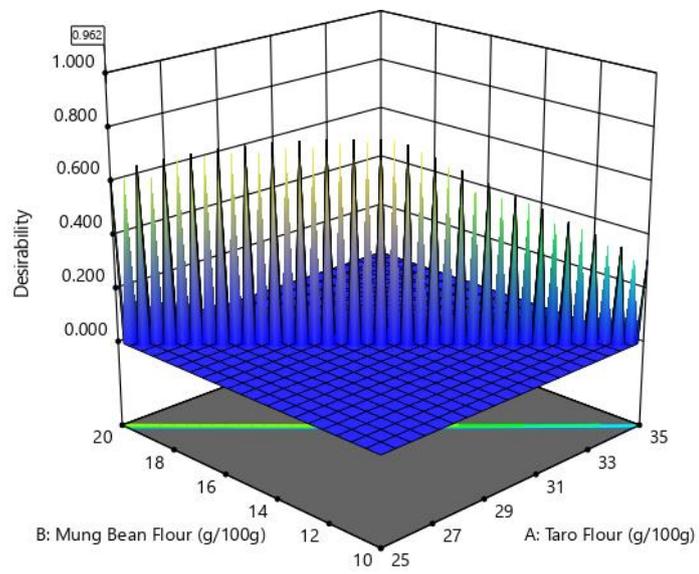
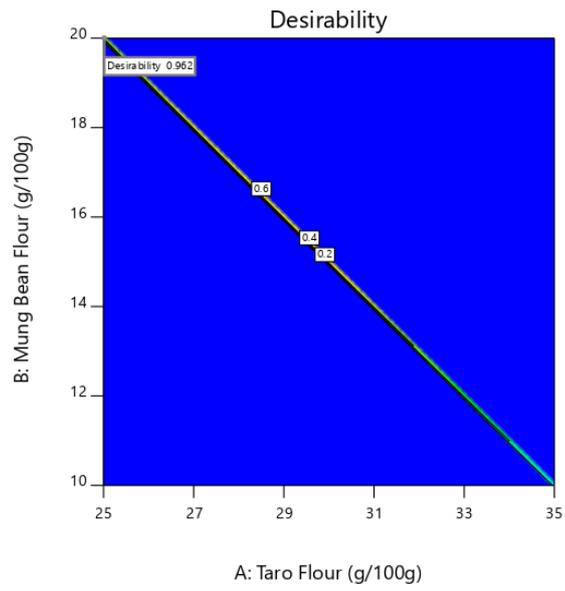
Taro Flour	Mung Bean Flour	Black Mulberry Leaf Flour	Carbohydrate Content	Protein Content	Desirability
25.016	20.000	5.004	69.000	9.563	0.962 Selected



Picture 1. Contout plot and Grafic 3-D Response Protein Flakes Free Gluten



Picture 2. Contout plot and Grafic 3-D Response Carbohidrate Flakes Free Gluten



Picture 3. Contour plot and 3-D Desirability Flakes Free Gluten

Legal Protection for The Minority Shareholders as The Implication of National Company Stock Acquisition by Foreign Company Within The Globalization Era

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Abstract

A company's acquisition, in addition to positively impacting the company's long-term sustainability, also creates unfavorable accesses for certain affected parties. Regarding this, legal protection to the affected parties is very important. This legal protection aims to provide a sense of justice for every party affected by the acquisition. The protection of merger and acquisition implementation includes legal protection for minority shareholders, legal protection for company employees, legal protection for creditors, and legal protection for the community. Legal protection for disadvantaged, minority shareholder in te acquisition og the national company by the foreign company can be done bt: the enactment of majority rule minority protection principle, The enactment of super majority principle in GMS. Granting the appraisal rights, Requesting for a company examination, and Granting the authority to file a derivative suit.

Keywords: Minority Shareholder, acquisition, foreign company, legal protection

I. INTRODUCTION

The shareholders legal protection in a limited liability company is very important, this is because their position is decisive in this type of company and they are also the part of stakeholders. There are two shareholder groups in a limited lianility company, namely the majority and the minority shareholders. Basically, the majority shareholder have a more secure legal protection compared to minority shareholders protection, especially through General Meeting of Shareholder (GMS) mechanism in which if there is no decision can be made through discussion, the decision will be made based on what is accepted by the majority.

A company's merger and acquisition, in addition to positively impacting the company's long-term sustainability, on the other hand, also creates unfavorable accesses to certain parties affected by such merger and acquisition. (1) this legal protection aims to provide a sense of justice for every affected party, this is because the minority shareholder are the party prone to exploitation by other parties. Prior to the enactment of the Law on limited liability companies (UUPT), the minority shareholders protection was very minimally carried out, due to among other. (2)

- a. The applicable principle that states the only person can represent the compaby is the director.
- b. The principle that states the only one considered as democratic is the ruler i.e. the majority party.
- c. The reluctance of the courts to interfere with the company's affairs.

The concept of legal protection for minority shareholders is a new concept in the Indonesian corporation legal system. However, it does not mean this concept of legal protection to protect the shareholders in a Limited Liability Company was nos known before. There was at least one well-known international legal case concernng the legal protection

of the Limited Liability Company shareholders, namely the case of *Barcelona Traction Light and Power Company Limited*, the position case as follows; (3)

“*Barcelona Traction Light and Power Company Limited*, the Canadian Legal Entity was established in 1911, based in Toronto Canada. The company was engaged in the development and production of electrical power and operated through its representatives in California Spain. Based on the Decision of the Spanish Court, dated February 12, 1948, the company was declared as bankrupt, therefore it was unable to pay off the bills of its creditors. This court decision resulted in a loss the company and caused Canada to intervene and since 1955, eventually, Canada resigned from representing the interest of the company. Seeing this fact, Belgium at the request of its citizens became the majority shareholder of 88%, and on the company’s behalf sued the Spanish Government at the International Court of Justice. However, the International Court of Justice in its Decision dated February 15, 1970, rejected the Belgian lawsuit and argued that Canada still had the capability to represent *Barcelona Traction Light and Power Company Limited*.”

Belgium as a country whose citizens were the majority shareholders of the company could not act on their own behalf based on the equity considerations. In the another consideration, the International Court of Justice stated that the capital recipient country (*host country*) had to provide legal protections for the investors and foreign nationals residing in its territory. But if this was ignored, according to the International Law, diplomatic protection could only be carried out by the country where the company was founded. According to the International Court’s consideration, Belgium could not prosecute and act on the shareholders behalf (its citizen) even though Canada as the company’s home country canceled its claim to the Spanish Government. The International Court could not accept the postulate which stated the country of the shareholders had a secondary protection right for the company.”

Based on the case of *Barcelona Traction Light and Power Company Limited*, a valuable lesson can be drawn, the Court should properly provide adequate legal protection to the shareholders of a Limited Liability Company, especially to the minority shareholders whose position is very weak. This weak position in the company, among other due to; (4)

- a. The minority shareholders are often helpless because they always lose in the GMS votes which hold the highest power.
- b. The minority shareholders do not have the authority to manage the company because they do not have enough votes to appoint the directors and commissioners of the company.
- c. The minority shareholders do not have the authority to regulate the company management.
- d. If the company does business poorly, the minority shareholders generally can not do anything other than allowing the company to constantly lose money.
- e. Especially in a closed company, the shares belonging to the minority party are generally not marketable and difficult to sell to outsiders.

II. METHODS

This research uses normative juridical approach method with descriptive analysis approach method with descriptive analysis approach to the problems that become the study in this research which is done by studying the laws and regulation, library materials, and

related data which then arranged systematically to be drawn conclusion in relation to the problem researched.

III. RESULT AND DISCUSSION

There are two shareholders groups in a limited liability company, i.e. the majority and the minority shareholders, therefore often consider the minority shareholders as a barrier for them. This can be clearly seen among others.

- a. When the majority shareholders intend to invest more capital into the company, they usually do not want to risk the money if there are other parties in the company other than themselves.
- b. While the majority shareholders through the designated company directors are trying hard to develop the company, the minority shareholders generally remain idle, however, they also enjoy company's profit obtained by the majority shareholders hard work.

The weak position of the minority shareholders in the company, due to among others; (5)

- a. The minority shareholders are often helpless because they always lose in the GMS votes which hold the highest power.
- b. The minority shareholders do not have the authority to manage the company because they do not have enough votes to appoint the directors and commissioners of the company.
- c. The minority shareholders do not have the authority to regulate the company management.
- d. If the company does business poorly, the minority shareholders generally can not do anything other than allowing the company to constantly lose money.
- e. Especially in a closed company, the share belonging to the minority party are generally not marketable and difficult to sell to outsiders.

After the enactment of Law Number 40 Year 2007, the government started to regulate protection for the minority shareholders due to the globalization influence in the area of law to protect all parties in the company including the minority shareholders, as well as the influence of an increasing number of foreign companies investing in Indonesia which to some extent brought the influence of foreign law to Indonesia, also due to the influence of the capital market development in Indonesia where one of the most important targets was protection for the investors who generally were the minority shareholders, and also due to the influence of the Indonesian company internationalization that led to a shift from a family company strictly controlled by the majority shareholders to a more professional management company.

Since mergers and acquisition are highly disadvantageous to the minority shareholders, therefore the UUPT reminds that it is important to take into account the interest of the minority shareholders during the process of mergers and acquisitions. For minority shareholders in a merged company, the minority shareholders acquirers are disadvantaged by not participating in deciding mergers in the GMS. Meanwhile, the minority shareholders of the targeted merger which later become the acquired company could become the punching bag for the new owners whom they have not had the chance to know.

Regarding legal protection for the minority shareholders, there are two terms in the company acquisition known as *Freeze-out* and *Squeeze-out* where both are disadvantageous for the minority shareholders. *Freeze-out* is conducted to expel the minority shareholders from the company and *Squeeze-out* aims to indirectly expel the minority shareholders by putting them in an uncomfortable and unfortunate position, thus they will automatically leave the company.

Freeze-out and *squeeze-out* can be done by various models, all of which adversely affect the minority shareholders, namely: (6) *Freeze-out* by selling the assets, *Freeze-out* by dissolving the company, Cash Merger, Merger in the form of Short Form which is done between the parent company and its subsidiary where it is done between the parent company and its subsidiary where the parent company owns 90% of the total share owned by the subsidiary or more and the minority shareholders are paid by cash, Stock Split, and also *Going Private* which is a process of changing a company's status from an open to a closed company. Through this *going private process*, the minority shares are bought by the majority shareholders, thus the shareholders' reduced number is not sufficient enough to fulfill the requirement to be an open company.

To anticipate and protect the minority shareholders from the loss due to mergers and acquisition, the UUPT recognizes several ways to protect them, among others: (7)

a. *The enactment of the Majority Rule Minority Protection principle*

In order to protect the shareholders' interest in a company and to avoid conflict between them, it is necessary to balance, where the majority shareholders can enjoy their rights and the minority shareholders can receive sufficient attention to their rights. In order to safeguard the interest of both parties, it is necessary to enforce the *majority rule minority protection* principle. Which essentially means the majority still have the power to manage the company without neglecting the minority's protection. Under this principle, any major action taken should not result in a loss to the minority shareholders. If the minority shareholders are being disadvantaged by the company's decision taken by the majority shareholders, the law allows them to request the court to intervene in the decision taken by the company.

The intervention of the Court into the internal affair in a limited liability company can be done through a lawsuit filed by shareholders including the minority shareholders, although the court may only be involved in the stipulation of certain matters. As reflected in the provisions of UUPT Article 80, namely the Chairman of the District Court where the company is located, at the request of the shareholders may grant a permission by issuing a final Stipulation that has a permanent legal power to call to the annual GMS or another GMS if the directors or commissioners fail to do it or if after a 15 days period from the request the directors or commissioners have not called the GMS yet. The stipulation includes the form, the program and the calling period of GMS, the attendance quorum, the decision-making requirements for GMS, the appointing of the meeting chairman without being bound to UUPT provisions or to articles of association, and also the instruction for the directors and or commissioners to attend.

b. *The enactment of Super Majority Principle in the GMS*

In order to avoid any action that could harm the interests of the minority shareholders, it is necessary to apply the super major principle in the GMS decision-making in a limited liability company. Based on this principle, any important decision that could harm the minority shareholders has to be agreed by not only 10% plus 1 attending or approving vote but by 2/3 or by 3 attending or approving votes. The enactment of GSM super majority principle to carry out mergers and acquisition can be found in UUPT Article 89 clause (1)

c. *Granting the Appraisal Rights to the Minority Shareholders*

One of the ways used by the UUPT to protect the interest of minority shareholders in a corporate merger and acquisition is through the appraisal rights. This appraisal rights are regulated in UUPT Article 62 clause (1) and Reaffirmed in UUPT Article 126 clause (2) which reads: "Every shareholders is entitled to request the company to buy their shares at a fair price if they do not approve the actions taken by the company that can cause harm to shareholders or company, those actions are the forms of the changes in the company's article of association, the transfer or assurance of more than 50% of the company's net wealth; or the decision to do fusion merger or acquisition or separation."

The explanation of UUPT Article 126 clause (2). The UUPT Article 126 clause (2) states:

"The shareholders who do not agree with the GMS decisions on Merger, Fusion, Acquisition or Separation as referred in clause (1) may use their rights as referred in Article 62."

The appraisal rights are the rights owned by the minority shareholders to defend their interests in valuing their shares at a fair price if they intend to sell them. These appraisal rights are used by the minority shareholders when requesting the company to value and buy their share at a fair price when they do not approve the company's action to do merger and acquisition. A fair price means a price corresponding to the market price or a price set by an assessor who is not bound by the company. This fair price needs to be emphasized because it is closely related to the frequent occurrence of share ownership transfer within the company and also because the majority shareholders play a more dominant role in the GMS decision-making that may harm the minority shareholders. The fair stock price assessment should refer to the assessment that has been done in the United States, that is, a fair stock price assessment is conducted based on the performance in the past (*past performance*), and to measure the company's past performance the attention should be given to the *market price, past earnings, book value, liquidation value and going concern value*. (8)

d. *The Company Investigation Request*

The UUPT specifically regulates on the possibility of conducting an examination to the company if the company and the member of the directors and commissioners commit unlawful acts that harm the

company, the minority shareholders, or the third party. The examination is intended as a control instrument to the company to prevent the possibility of unlawful acts that may harm either the company itself, the minority shareholders, or the third party. Through this examination, it is expected to obtain any data or information needed to support the evidence of unlawful acts allegation committed by the company or by the member of directors or commissioners. The provision to do an examination to the company is regulated in UUPT Article 138 clause (1). A shareholder or more that represents at least 1/10 (one-tenth) of the total shares with valid rights may file to do an examination to the company (UUPT Article 138 clause (3)). The application for an examination shall be written along with the reason and then addressed to the District Court where the company is located.

The application letter for examination explains the reason of why the examination is necessary and the District Court will determine whether the application is reasonable or not. If the request is not supported by a strong reason, the Chairman of the District Court has the right to reject it, whereas if the application is granted, the Chairman of the District Court will issue a Stipulation to do an examination and appoint three experts to carry out the examination.

e. *Granting the Authority to File a Derivative Suit*

The minority shareholders have the right to defend the company's interest including their own interest through the judiciary by filing a derivative suit. This derivative suit is intended to prove that there is an error or an omission committed by the directors or commissioners which result in a loss to the company. A derivative suit is a lawsuit based on a loss to the company. A derivative suit is a lawsuit based on the basic rights (*Primary Rights*) of the company that is carried out by the shareholders on the behalf of the company and not on their own behalf. The right to file a derivative suit is stipulated in UUPT Article 61 clause (1). If the company's GMS has decided to support or approve the implementation of merger and acquisitions, but the minority shareholders consider the implementation will harm their interest, they may file a lawsuit to the Court where the company is located and request the Court to cancel it with the reason that such implementation may harm the interest of the minority shareholders. The right to file a derivative suit against the directors is regulated in UUPT Article 97 clause (6).

The practice of derivative suit can be seen in the case of *Sax World Wide Press, Inc.*, (9) where Sax (Plaintiff) worked for World Wide Press, Inc. (Defendant) as the general manager of the plant that was going to be built in Great Falls, Montana. The cooperation was done by an oral agreement and Sax had the option to buy up to 75,000 shares of the company and *World Wide Press, Inc.* decline to sell more than that. Then, Sax resigned from the *World Wide Press, Inc.* and privately sued the company with the reason that *World Wide Press, Inc.* had committed a conspiracy of spending the company's assets and depreciating the share value. The local court dismissed the plaintiff's lawsuit and argued that the action was taken by World Wide Press, Inc. was not only disadvantageous to Sax but also to World Wide Press, Inc. as well. The facts showed that the World Wide Press,

Inc. committed a management error (*mismanagement*) or *self-deadling* which resulted in a stock value decline, causing the lawsuit had to be filed through a derivative suit (*derivative action*) because it was also harming the company”.

From this case, it can be concluded that Sax, as the disadvantaged company's shareholder had the right to use the company through a derivative suit, because the action taken by the company management had caused a direct loss for both the company and shareholders.

IV. CONCLUSION

Based on the results obtained from the study conducted by the author as well as the analysis of stock acquisition problem and its implication toward legal protection for minority shareholders, it is concluded that the legal protection for the disadvantaged minority shareholders caused by the acquisition of the national company by the foreign company can be done by the enactment of majority rule minority protection principle, the enactment of super majority principle in GMS, granting the appraisal rights, and permitting the request to do an examination to the company as well as granting the authority to file a lawsuit. The suggestion that can be implemented in the upcoming revision of UUPT is that it is necessary to clearly regulate the requirements of merger and acquisition implementation in a Limited Liability Company because this implementation is very vulnerable to monopoly and unfair business competition. It is also necessary to revise the provisions of UUPT especially in the Article that govern and related to the company merger, acquisition, and consolidation issues to avoid loss and at the same time to give a protection for the company and the minority shareholders.

As a suggestion, it is recommended to revise the provisions of UUPT and Law Number 5 Year 1999 on Prohibition of Monopolistic Practice and Unfair Business Competition, especially in the Article that govern and related to company merger, acquisition, and consolidation issues to avoid loss and at the same time to provide a protection for the company mergers, acquisition, and consolidation.

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PUBLIC POLICY AND INDONESIA'S DEMOGRAPHIC BONUS OPPORTUNITY

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Abstract

The concept of demographic bonus is a picture of the number of productive population as Indonesia's assets to become a developed country. Economically, according to population statistics calculations, the current population of Indonesia has reached 271.4 million people, that with this number it is very possible for Indonesia to achieve a demographic bonus based on statistical calculations where the composition of the Indonesian population is dominated by citizens aged 0-9 years at 45.93 million, while the age of 10-19 years is 43.53 million. Based on these figures, it is estimated that in 2020-2030, Indonesia will be filled with productive population ages which will enable them to receive a demographic bonus. The demographic bonus opportunities become an important pillar for increasing a country's productivity and economic growth to be rapid through the use of productive resources.

Keywords: demographic bonus, productivity, opportunity

1. INTRODUCTION

Demography is a bonus that needs to be appreciated by a country which shows a large proportion of productive population, in the age range of 15-64 years in population change in a country. Indonesia is one of the countries that are expected to receive a demographic bonus. However, in an effort to reduce the population, it is necessary to strengthen the Family Planning program aimed at reducing fertility, improving the quality of health, and supporting for the achievements of other development programs.

According to experts' estimates, Indonesia is predicted to receive a demographic bonus in 2020-2030, where the population of productive age is very large, while the young age is getting smaller and the old age is sparse. However, the productive age will be a burden for the country if it lacks quality, therefore the government seeks to continue to increase the 12-year compulsory education by conducting a regeneration coaching pattern using parenting methods and patterns of improving community nutrition so that children can grow and develop through, among others, Maternal and Child Health Services, and intensifying Early Childhood Education Programs, increasing family economic efforts, and increasing various segments of needs, so that Indonesian human resources are able to compete at the world class level.

The total age of the workers between 15-64 years in 2020-2030 is estimated to reach 70 percent, while the remaining 30 percent are unproductive populations, which are under the age of 15 years and above 65 years. The count is seen from the numbers, which the population of productive age reaches 180 million, while non-productive is only 60 million. With this condition, it is very possible that the productive age is greater than the unproductive age, thus allowing Indonesia the opportunity to get a demographic bonus quota.

This demographic bonus will certainly have socio-economic impacts, one of which makes the population dependency rate, namely the level of productive population will bear the non-productive population in the old age category and the number of children will be very low which is estimated at 44 percent per 100 population. This condition is very beneficial for a country to get a demographic bonus that will only occur once a century.

2. WRITING METHODS

This paper is an idea related to Indonesia's opportunities in the next ten years. The method used is phenomenological descriptive by examining and analyzing Indonesia's chances of getting a demographic bonus in the future.

3. DEMOGRAPHIC BONUS FOR INDONESIA

The terminology of population dynamics becomes a hot issue in Indonesia as a developing country, namely Demographic Bonus. The concept of demographic bonus is a picture of the number of productive population as Indonesia's assets to become economically developed countries in the calculation of population statistics. Since 2010, there have been hot discussions about the problem of Indonesia's productive workers, because, according to the estimation, there will be high opportunities for the succession of development in Indonesia in all fields in the coming 2020-2030, one of which is infrastructure development.

Various thoughts and analysis above are prediction about the population at productive age which has been considered large, where the young age is getting smaller and the old age is decreasing. This reasoning is supported by the data report obtained from the Statistical Research Agency (2010) which shows that the composition of Indonesia's population is dominated by children aged 0-9 years at 45.93 million, while children aged 10-19 years at 43.55 million. Based on these numbers, it can be estimated that in the period 2020-2030 Indonesia will be filled with productive age, thus this is what is called a demographic bonus.

Various speculations from economic and population observers have arisen over Indonesia's opportunities when it comes to receiving future demographic bonus, that it will experience extraordinary progress. This phenomenon arises specifically for Indonesia, as the population transition process has developed since the last few years, which has also been accelerated by the success in reducing fertility rates, improving health quality, the success of educational development programs, and changing community paradigms which state: 'many children are difficult, few children are effective'. Thus Indonesia is quite optimistic, because it is predicted to get a demographic bonus. This prediction will not be achieved if it is not accompanied by the improvement in the quality of **education, health services, and community nutrition**. This is the key to reaching the opportunity of demographic bonus for Indonesia in the next ten years.

Recently, Indonesia's population has reached 271.4 million people. This large number must be utilized to achieve the demographic bonus opportunity by not causing many problems in order to be able to maximize development evenly and prevent the increasing of unemployment. Demographic bonus opportunity is very attractive, that it is considered to be able to improve the economy of a developing country. This opportunity should not be wasted, because it can be in vain if the government is unable to solve various problems, especially those related to: (1) unevenly development, especially the development between Western and Eastern Indonesia, (2) the high level of unemployment at young age, (3) the flow of work industrialization that is not yet available because of cultural and political diversity problems, (4) people's laziness in working as indicated by the lack of motivation to work hard.

This demographic bonus opportunity is essentially an important pillar for increasing a country's productivity and a source of economic growth through the use of productive resources. When the productive and old ages are decreased, per capita income for the needs of the population at the age of children and elderly can be by itself diverted to the program on improving the quality of education and health. It is expected that Indonesia will be able to take advantage of this demographic bonus, because it is an opportunity that must be addressed wisely and decisively, so that the government must prepare concrete steps, so in the future Indonesia will not experience life abrasion and turbulence that can destroy and mislead the Indonesian people.

According to Endang Srihadi, a social affair researcher of The Indonesian Institute (2010), there are four preconditions that must be fulfilled in order to achieve benefits of demographic opportunity, namely: (1) The exploding young population must have productive work and be able to save, (2) Household savings can be invested to create productive employment, (3) There is investment to increase human capital in order to take advantage of the momentum of the upcoming opportunity window, (4) Creating an environment that allows women to enter the labor market. The other factors, he says: **'the handling of children at school age, the increasing of work ethic, entrepreneurship education with emphasis on soft skills competencies, the increasing of health level, the empowerment of women and the improvement in educational regulations.** This opportunity is automatically estimated to reduce the number of the elderly, if the government is able to use this opportunity optimally.

4. GOVERNMENT POLICY

If Indonesia is able to take advantage of various opportunities as stated by the analysts above, then the demographic bonus will be a blessing. The abundance of the working age population will benefit from the development side, so that it can spur economic growth to a higher level. The impact is the improvement of overall community welfare starting from upstream to downstream.

The government must be able to become the "agent of development" by improving the quality of human potential, starting from education, health, communication skills, to technological mastery. Another solution is the need of providing skills to the productive workers, so they no longer depend on the availability of employment itself. In addition, the government must also be able to maintain the availability of jobs and protect the country's assets so that they are not controlled by foreigners, which will harm the indigenous employment opportunities.

According to Lailatul Muniroh (2012), the government has now set a good concept that will integrate three main elements, namely (1) the development of economic potential, (2) the strengthening of national connectivity that is locally integrated and globally connected, (3) the strengthening of the ability of human resources and science with national communication technology to support the development of major programs in each economic corridor, (4) the arrangement of "full participation" strategy set by the government in order to increase the productivity of the productive age population.

Demographic bonus is like a double-edged sword; one side is a blessing if it is successful, but on the other side it will be a disaster if the quality of the human resources is not improved. Indonesia as a strong nation must have a plan, including building strong and quality human resources that will be a competitive edge for a nation. In fact, change cannot be done in an instant, and therefore the process of human quality improvement must continue and metamorphose gradually.

5. PUBLIC POLICY RECOMMENDATIONS

After various thoughts about demographic bonus have been considered by taking the views of experts, a number of recommendations for the achievement of demographic bonus in Indonesia are then put forward, namely:

- a. According to the Chairperson of National Population and Family Planning Board (BKKBN) and several multinational companies in Indonesia, Indonesian workers have a "skill gap" that still needs to be fixed. Such weaknesses are including the lack of English mastery and computer skills, and weak team work mental attitude and ethic that leads the workers to be unable to deal with high pressures at work. These weaknesses need to be fixed as soon as possible.
- b. Good governance must lead to policies that encourage economic improvement which can create many job opportunities. The management of the state budget (APBN) must also lead to the development of workspace and prevent unemployment so that it can sustain the fully increasing number of the productive age.
- c. There are four things in determining the demographic bonus policy that the government needs to pay attention to, including: (1) Improving the quality of education, (2) Improving the quality of health, (3) Provision of significant employment opportunities, (4) Continuous suppression of fertility rates.
- d. Economic issues must be synchronized with the concept of justice and prosperity. For this matter, Indonesia must take a lesson from several countries that fail to integrate the two problems into two sides of a coin, because at this time Indonesia's economic growth is still centered on Java Island, which is nonetheless experiencing "over capacity" to be inhabited by residents.
- e. To deal with the demographic bonus in 2020, the government should develop gradual programs and policies that contain an element of epidemic or reality emphasis that appears as physical evidence in the order of people's lives, such as improving education and health, providing employment, investment, and various things that can have implications for improving people's lives and welfare.

6. CLOSING REMARKS

Thus the idea of this article is conveyed, hopefully it will be useful and become an inspiration for Indonesia to achieve the demographic bonus opportunity, so that Indonesia in the future will get the blessing of progress in improving overall national welfare from west to east or from Sabang to Merauke. A prolific, just, prosperous Indonesia is in accordance with its beautiful natural potential, adorned with strands of high mountains, vast oceans, abundant natural resources: gold, natural stone, coal, oil, flora and fauna, and friendly and polite people, as well as very high ethics and cultures.

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MULTI ITEM INVENTORY POLICY ANALYSIS WITH WORKING CAPITAL CONSTRAINTS (Case Studies are carried out on “BIT Co. Ltd”)

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Abstract

The development of the industrial world was caused competition in various similar companies, so the companies need to increase its performance and inventory management to make the production process run optimally. Multi item companies must have the right inventory policy in order to obtain minimum production costs. The company's problem is not yet having priority product items and determining production lots to meet consumer needs, which can be solved by the Multi Item Economic Production Quantity (EPQ) method. The results of EPQ method obtained 15 items of priority products with 3 optimal production cycles per year and production cost savings of 36% or Rp. 1,321,582,801.00. One of the assumptions of the EPQ method is there are no constraints on working capital, but in real condition the budget can be a limitation. EPQ needs to be adjusted using Lagrange multiplier, to determine the production lot by pay attention to the working capital budget. The Lagrange Multiplier obtained is $\lambda = 0.0279$ per year. From this research, can be concluded that EPQ method help to optimize the company's production process for product availability to meet market needs.

Keywords: Inventory Management, EPQ Multi Item, Lagrange Multiplier

1. INTRODUCTION

The development of the automotive world is currently Indonesia is still one of the competitive sector. This occurs when the competition between the automotive manufacturer in such tight in creating products that meet the market needs as well as being able to influence the decision of consumers to making a purchase. Indonesia is one of the most potential automotive market in the world (Haryono, 2014). The national automotive industry growth, encourage the growth of industry components and automotive parts as a supporter of the industry. The sustainability of industry components and spare parts in Indonesia is automotive, got positive support from the Government of Indonesia is written in the regulation of the Minister of industry.

BIT Limited Company is one of the national private company that focuses its business to move in the field of industrial rubber, polyurethane and metal with a product category in the form of supporting parts and components for supply the automotive fabrication. Based on field studies that have been done, in the process of production of rubber and polyurethane in the beginning of the production process are job order, along with the increasing and consumer demand, then changing production systems into mass production. However, the transition of the production system is not balanced with the addition of capacity of existing production machinery. Polyurethane and rubber products have variations of this type of product item that must be produced. In this case, the company was supposed to have the planning in setting product that has a top priority and contributions will be controlled.

Determination of the optimal product number of units of each item as well as the turnover of production cycle on each machine is still based on the intuition of the workers in the production section. Of problems that often appear on the production floor, the future of the company is hoping it can do besides the optimal production processes to meet the

target of production, can also minimize production costs with pay attention to the limitations that exist. Besides the need for control of production, on the real conditions in the field need to be informed about the budget support rate of the production process. Optimum production quantities of each product, must be adjusted with working capital based on the company's budget. Therefore, from a large number of types of items that are controlled products, companies must have the strategy and planning the production of a mature, in order to meet customer demand by taking into account the production lead time, number of machines, as well as the company's funds in the budget offset the rate of the production process. It is aimed so that the company can better maximize profits earned in a bid strengthen the market share of PT. BIT from the tight competition between other similar companies.

2. RESEARCH METHOD

A study expected to analyze the right solution for the company. In this case the problems raised to be discussed regarding the preparation of policy analysis in the production of BIT Company Limited to determine the product item priorities and policy inventories against the production process to run optimally, so it brings the total cost of the production to a minimum.

Based on these problems use a method that is used in the preparation of policies for determining the number of lot production as well as optimal production cycles using methods of Economic Production Quantity (EPQ) Multi items. But in this study, in order to obtain results in accordance with what has already been formulated and concluded with a structured, then the research done with the steps as in the problem solving flowchart shapes as the following (figure 1):

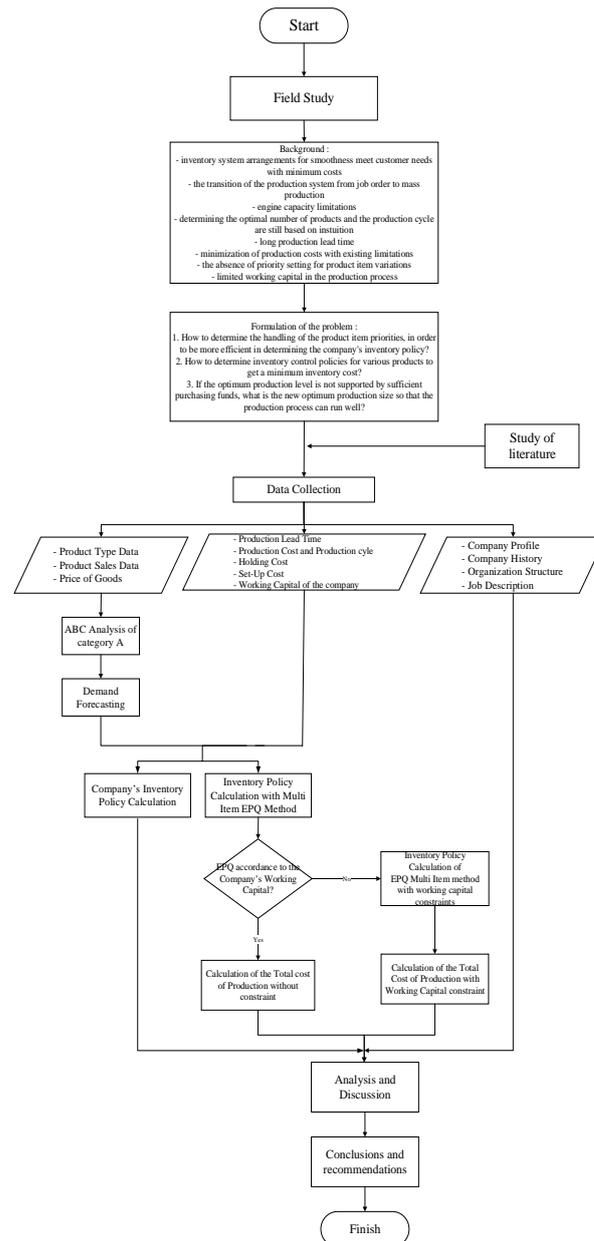


Figure 1 Problem Solving Flowchart

The steps contain in the problem solving flowchart, included:

1. Field Study

In conducting research, in order to find out the problems that are present in a firm first step that must be done is to do the fieldwork is aimed so that researchers understand the conditions the company by doing the collection data directly to the company.

2. Problem Background

In process field studies have been carried out, then the problem is the process of identifying the next steps that have to do to find out the background of the problem

3. Formulation of the problem

Based on the background which has been described, then it can be known to the formulation of the problem in accordance with the conditions of the company

4. Study of literature

Study of literature is the process of looking for references and information from books, journals, and other scholarly works related to the method or theory in the inventory management method about the EPQ Multi items.

5. Data Collection

Data collection process is done with the study of the field directly along a field supervisor with regard to research topics, including primary Data and Secondary Data.

6. Data Processing

data processing covers the process of determining the priority product items, forecasting the needs of priority products item, calculation of total cost of the current conditions in the company then the calculation of the total cost of production based on Multi EPQ method Items, as well as the calculation of the total cost of production based on Multi Item EPQ method with the constraints of working capital (Working Capital).

7. Analysis and Discussion

After the processing of data, the next step is to do the analysis and discussion of the results obtained from the results of the data processing.

8. Conclusion and recommendation

of the last step is to draw conclusions from the results of the calculation of the overall data are made, as well as giving advice or input-related things that need to be given the author against the company in connection with the subject matter nurturing in order to be applied by the company.

3. RESULT AND DISCUSSION

The results of the ABC Classification determine the product item priorities of 68 types of items produced by the company. As the results of the ABC Classification was obtained 15 product items of priority as in the following table:

Table 1: The A Category based on ABC Classification

No	Part Name	Item Type Percentage (I) x 100%	Item Type Cumulative Percentage (I) x 100%	Fund Absorption Percentage (P)	Fund Absorption Percentage (P) x 100%	Fund Absorption Cumulative Percentage (P) x 100%	Category
1	MASKING UPPER HEAD PIPE H70	1.47	1.47	0.3748	37.48	37.48	
2	MASKING RA BOLT M6	1.47	2.94	0.0841	8.41	45.89	
3	MASKING UPPER HEAD PIPE	1.47	4.41	0.0729	7.29	53.18	
4	MASKING SHAFT REAR ARM	1.47	5.88	0.0365	3.65	56.83	
5	MASKING REAR CUSHION MODEL 2DP	1.47	7.35	0.0347	3.47	60.29	
6	SEAL LEAK TEST BC MODEL 54P	1.47	8.82	0.0305	3.05	63.35	
7	MASKING LOWER HEAD PIPE H70	1.47	10.29	0.0281	2.81	66.16	
8	MASKING REAR CUSHION H70	1.47	11.76	0.0190	1.90	68.06	A
9	SEAL LEAK TEST C/C2 MODEL 54 P	1.47	13.24	0.0182	1.82	69.88	
10	MASKING LOWER HEAD PIPE	1.47	14.71	0.0178	1.78	71.66	
11	MAKING UPPER TUBE DRAIN	1.47	16.18	0.0177	1.77	73.42	
12	SEAL LEAK TEST FILLER H70	1.47	17.65	0.0173	1.73	75.16	
13	SEAL LEAK TEST 13-FY370	1.47	19.12	0.0171	1.71	76.87	
14	MASKING TUBE CONE	1.47	20.59	0.0137	1.37	78.24	
15	SEAL LEAK TEST 13-FZ100	1.47	22.06	0.0119	1.19	79.43	

(Source: Processed from BIT, Co.Ltd data)

From the results of the processing of data in table 1, it can be seen that the product with the category A has a percentage of the volume of product item amount to 1.47% 22.06% in stock, as well as have a percentage of absorption of funds amount to 37.48%-79.43% of corporate capital allocated for supplies. So then the 15 items of products by category A has a higher interest rate even though the amount (volume) of goods a bit, but will have the value of the money or the absorption of funds.

If the obtained product item priority next conducted forecasting (forecasting) so that it brings the total number of requests in the period January-December 2018, where the forecast is calculated using three methods of forecasting Single Exponential Smoothing (SES), the Moving Average (MA) and Linear Regression (LR). forecasting methods and taken with the smallest error value. Next calculate the total cost of the inventory is as follows:

Table 2 Calculation Data of Total Cost Current Condition

No	Product	Pi x Ri	m	$\frac{1}{2}m$	Set-Up Cost (Ci)	m x Ci	(pi-ri)	Hi x Ri	Production Rate/day (pi)	$\frac{H_i R_i (p_i - r_i)}{p_i}$	Total Cost (TC)
1	MASKING UPPER HEAD PIPE H70	Rp 1.190.319.600,00	12	6	Rp 1.182.996,00	Rp 14.195.952,00	117	Rp 121.410.000,00	193	Rp 73.600.881,00	Rp 1.646.120.838,00
2	MASKING RA BOLT M6	Rp 270.954.330,00	12	6	Rp 1.182.996,00	Rp 14.195.952,00	175	Rp 27.247.500,00	193	Rp 24.706.283,00	Rp 433.387.980,00
3	MASKING UPPER HEAD PIPE	Rp 234.931.500,00	12	6	Rp 1.182.996,00	Rp 14.195.952,00	178	Rp 23.625.000,00	193	Rp 21.788.861,00	Rp 379.860.618,00
4	MASKING SHAFT REAR ARM	Rp 78.310.500,00	12	6	Rp 1.182.996,00	Rp 14.195.952,00	188	Rp 11.812.500,00	193	Rp 11.506.477,00	Rp 161.545.314,00
5	MASKING REAR CUSHION MODEL	Rp 68.913.240,00	12	6	Rp 1.182.996,00	Rp 14.195.952,00	188	Rp 11.226.600,00	193	Rp 10.935.756,00	Rp 148.723.728,00
6	SEAL LEAK TEST BC MODEL 54P	Rp 49.178.994,00	12	6	Rp 1.231.500,00	Rp 14.778.000,00	54	Rp 9.891.000,00	58	Rp 9.208.863,00	Rp 119.210.172,00
7	MASKING LOWER HEAD PIPE H70	Rp 62.648.400,00	12	6	Rp 1.182.996,00	Rp 14.195.952,00	189	Rp 6.066.000,00	193	Rp 5.940.280,00	Rp 112.486.032,00
8	MASKING REAR CUSHION H70	Rp 37.589.040,00	12	6	Rp 1.182.996,00	Rp 14.195.952,00	190	Rp 6.156.000,00	193	Rp 6.060.311,00	Rp 88.146.858,00
9	SEAL LEAK TEST C/C2 MODEL 54 P	Rp 25.059.360,00	12	6	Rp 1.231.500,00	Rp 14.778.000,00	56	Rp 5.904.000,00	58	Rp 5.700.414,00	Rp 74.039.844,00
10	MASKING LOWER HEAD PIPE	Rp 93.972.600,00	12	6	Rp 1.182.996,00	Rp 14.195.952,00	187	Rp 8.640.000,00	193	Rp 8.371.399,00	Rp 158.396.946,00
11	MAKING UPPER TUBE DRAIN	Rp 37.589.040,00	12	6	Rp 1.182.996,00	Rp 14.195.952,00	190	Rp 5.724.000,00	193	Rp 5.635.026,00	Rp 85.595.148,00
12	SEAL LEAK TEST FILLER H70	Rp 33.412.480,00	12	6	Rp 1.231.500,00	Rp 14.778.000,00	55	Rp 5.616.000,00	58	Rp 5.325.518,00	Rp 80.143.588,00
13	SEAL LEAK TEST 13-FY370	Rp 26.625.570,00	12	6	Rp 1.231.500,00	Rp 14.778.000,00	56	Rp 5.546.250,00	58	Rp 5.355.000,00	Rp 73.533.570,00
14	MASKING TUBE CONE	Rp 27.147.640,00	12	6	Rp 1.182.996,00	Rp 14.195.952,00	191	Rp 4.446.000,00	193	Rp 4.399.928,00	Rp 67.743.160,00
15	SEAL LEAK TEST 13-FZ100	Rp 18.533.485,00	12	6	Rp 1.231.500,00	Rp 14.778.000,00	56	Rp 3.865.950,00	58	Rp 3.732.642,00	Rp 55.707.337,00
Total		Rp 2.255.185.779,00			Rp 17.987.460,00	Rp 215.849.520,00		Rp257.176.800,00		Rp 202.267.639,00	Rp 3.684.641.133,00

(Source: Processed from BIT Co.Ltd data)

Table 3 Calculation Data of Total Cost EPQ Multi Items Methode

No	Product	Demand (Ri) in a year	Production Cost (Pi)/pcs	2m*	Set-up Cost (Ci)	2m x Ci	Pi x Ri	Total Cost (TC) $\sum_{i=1}^n P_i R_i + 2m * \sum_{i=1}^n C_i$
1	MASKING UPPER HEAD PIPE H70	22401	Rp 52.207,00	6	Rp1.182.996,00	Rp 7.097.976,00	Rp 1.169.489.007,00	Rp 1.176.586.983,00
2	MASKING RA BOLT M6	5231	Rp 52.207,00	6	Rp1.182.996,00	Rp 7.097.976,00	Rp 273.094.817,00	Rp 280.192.793,00
3	MASKING UPPER HEAD PIPE	4800	Rp 52.207,00	6	Rp1.182.996,00	Rp 7.097.976,00	Rp 250.593.600,00	Rp 257.691.576,00
4	MASKING SHAFT REAR ARM	1460	Rp 52.207,00	6	Rp1.182.996,00	Rp 7.097.976,00	Rp 76.222.220,00	Rp 83.320.196,00
5	MASKING REAR CUSHION MODEL 2DP	1320	Rp 52.207,00	6	Rp1.182.996,00	Rp 7.097.976,00	Rp 68.913.240,00	Rp 76.011.216,00
6	SEAL LEAK TEST BC MODEL 54P	942	Rp 52.207,00	6	Rp1.231.500,00	Rp 7.389.000,00	Rp 49.178.994,00	Rp 56.567.994,00
7	MASKING LOWER HEAD PIPE H70	1200	Rp 52.207,00	6	Rp1.182.996,00	Rp 7.097.976,00	Rp 62.648.400,00	Rp 69.746.376,00
8	MASKING REAR CUSHION H70	721	Rp 52.207,00	6	Rp1.182.996,00	Rp 7.097.976,00	Rp 37.641.247,00	Rp 44.739.223,00
9	SEAL LEAK TEST C/C2 MODEL 54 P	491	Rp 52.207,00	6	Rp1.231.500,00	Rp 7.389.000,00	Rp 25.633.637,00	Rp 33.022.637,00
10	MASKING LOWER HEAD PIPE	1800	Rp 52.207,00	6	Rp1.182.996,00	Rp 7.097.976,00	Rp 93.972.600,00	Rp 101.070.576,00
11	MAKING UPPER TUBE DRAIN	811	Rp 52.207,00	6	Rp1.182.996,00	Rp 7.097.976,00	Rp 42.339.877,00	Rp 49.437.853,00
12	SEAL LEAK TEST FILLER H70	630	Rp 52.207,00	6	Rp1.231.500,00	Rp 7.389.000,00	Rp 32.890.410,00	Rp 40.279.410,00
13	SEAL LEAK TEST 13-FY370	509	Rp 52.207,00	6	Rp1.231.500,00	Rp 7.389.000,00	Rp 26.573.363,00	Rp 33.962.363,00
14	MASKING TUBE CONE	520	Rp 52.207,00	6	Rp1.182.996,00	Rp 7.097.976,00	Rp 27.147.640,00	Rp 34.245.616,00
15	SEAL LEAK TEST FZ-100	360	Rp 52.207,00	6	Rp1.231.500,00	Rp 7.389.000,00	Rp 18.794.520,00	Rp 26.183.520,00
Total					Rp 107.924.760,00	Rp2.255.133.572,00	Rp2.255.133.572,00	Rp2.363.058.332,00

(Source: Processed from BIT Co. Ltd data)

Based on the result from table 2 and table 3 above, so the comparison can be seen on table 4 as follows:

Table 4 Comparison of Current Total Cost and EPQ Method

Condition	Total Cost	Difference	Percentage
Current Situation	Rp 3.684.641.133,00		
EPQ Multi Items Method	Rp 2.363.058.332,00	Rp 1.321.582.801,00	36%

Table 4 visible inventory policies that by doing the EPQ Multi Item there is a difference of Rp. 1,321,582,801.00 or 36% more efficient. These values are considered very useful by the company to undertake policy development production. With a production cycle that changes from cycle 12 into 2 production cycle in one year, it needs to be calculated in accordance with the new EPQ working capital of the company, as in table 5 below:

Table 5 New EPQ calculations with constraints

No	Product	EPQ(Q) /pcs	EPQ(Q*) /pcs
1	MASKING UPPER HEAD PIPE H70	7467	275
2	MASKING RA BOLT M6	1744	161
3	MASKING UPPER HEAD PIPE	1600	155
4	MASKING SHAFT REAR ARM	487	108
5	MASKING REAR CUSHION MODEL 2I	440	107
6	SEAL LEAK TEST BC MODEL 54P	314	98
7	MASKING LOWER HEAD PIPE H70	400	79
8	MASKING REAR CUSHION H70	241	79
9	SEAL LEAK TEST C/C2 MODEL 54 P	164	78
10	MASKING LOWER HEAD PIPE	600	93
11	MAKING UPPER TUBE DRAIN	271	81
12	SEAL LEAK TEST FILLER H70	210	74
13	SEAL LEAK TEST 13-FY370	170	75
14	MASKING TUBE CONE	174	68
15	SEAL LEAK TEST FZ-100	120	63
Working Capital Needs		Rp 751.885.214,00	Rp 83.217.958,00
Total Cost		Rp 2.363.058.332,00	Rp 2.914.296.668,00

In table 5 the obtained optimum production quantity (Q *) adapted to the working capital of the company amounting to Rp. 83,277,976.00. As for the value of Q * obtained with $\lambda = 0.279$ where λ in the calculation of working capital constraints theory presented the increase in percentage of cost save (holding cost).

4. CONCLUSION

Based on the results of the data processing and analysis that has been done then it can be summed up as follows:

1. The Pareto principle or the ABC Classification can help in handling the product item priority. In this research, obtained 15 product items in priority product categories A, which has a number of types of goods only 22.06% of the number of types of goods which are managed, and absorb funds amounting to 79.43% thus goods with category A is the priority that should be addressed and controlled strictly.
2. Based on the results of the comparison of variable data and costs as well as the calculation of the total cost between the current conditions in the company with the result of the calculation by using the method of EPQ Multi items, obtained cost savings inventory amounting to Rp. 1,321,582,801.00 or efficiency of 36% of current conditions.
3. The result of the calculation by the method of EPQ Multi items, need to be adjusted back to the capacity of the budget or the company's working capital, which results from optimal production cycles obtained optimal production results by doing a 3 in one production cycle of the year. But it is not supported by the working capital of the company. So by doing a calculation method of EPQ Multi Item with the constraints of working capital, obtained the new optimum production size (Q_i^*)

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EFFECTS OF TRANSFORMATIONAL LEADERSHIP, ORGANIZATIONAL CULTURE AND MANAGERIAL COMPETENCE ON EMPLOYEE'S JOB SATISFACTION AND AFFECTIVE COMMITMENTS AND THEIR IMPLICATIONS ON EMPLOYEE'S PERFORMANCE OF REGIONAL ENTERPRISES IN NORTH SUMATRA PROVINCE

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Abstract

The development of regional enterprises known as *Badan Usaha Milik Daerah (BUMD)* in North Sumatra has not been running yet as it should, this was because the performance of BUMD employees was still in low level. Weak employee's performance was caused both by low employee's job satisfaction and affective commitment, and also ineffective transformational leadership, an organizational culture which was still weak as well as limited managerial competence. The method used quantitative approach and the sampling technique employed proportional cluster stratified random sampling with 318 respondents. The data analytical tool used path analysis. Results showed that there were a very significant influence of transformational leadership, organizational culture, and managerial competence on job satisfaction and affective commitment. then there were a very significant influence of job satisfaction and commitment to employee's performance.

Keywords: Transformational Leadership, Organizational Culture, Job Satisfaction, Affective Commitments and Performance

1. INTRODUCTION

Corporate institutions in the business world also need attention and restructuring since those compete in the perspective of globalization are economic actors through the organizations of business entities. In Indonesia there are six groups of economic behavior, namely the Foreign Enterprises (*Badan Usaha Milik Asing/BUMA*), the Private Enterprises (*Badan Usaha Milik Swasta/BUMS*), the State Enterprises (*Badan Usaha Milik Negara/BUMN*), the Regional Enterprises (*Badan Usaha Milik Daerah/BUMD*), the Village Enterprises (*Badan Usaha Milik Desa/BUMDes*), and the Community Enterprises (*Badan Usaha Milik Rakyat/BUMR*). Therefore, the locus in this study was the regional owned enterprises (BUMD) in North Sumatra Province. The legal basis for BUMD in a hierarchical or sequential order of laws and regulations in Indonesia refers to Law Number 5 of 1962 concerning Regional Enterprises, Law Number 5 of 1974 concerning Principles of Regional Government, Law Number 22 of Year 1999 concerning Regional Government, and Law Number 40 of 2007 concerning Limited Liability Companies, Law Number 32 of 2004 as amended by Law Number 23 of 2014 concerning Regional Government.

BUMD performance improvement must be achieved by BUMD to optimize company goals with considering Human Resource Management (HRM) in every activity which synergized with the implementation of business decision taken. HRM was basically the integration of decisions that formed relationships between employees in North Sumatra

Province was a very fast developing province compared to other Provinces on the island of Sumatra, so that the development of BUMD was demanded to develop rapidly and has a high performance. North Sumatra Province have 7 (seven) BUMDs, consisting of 1) PT. *Pembangunan Sarana dan Prasarana Sumatera Utara* (Development of Facilities and Infrastructure of North Sumatra), 2). PT. *Dhirga Surya Sumatera Utara* (PT. Dhirga Surya North Sumatra), 3). *PD. Aneka Industri dan Jasa* (Various Industries and Services), 4). *PDAM Tirtanadi (Perusahaan Daerah Air Minum (PDAM)/Water Supply)*, 5). PT. Bank of North Sumatra, 6). *Kawasan Industri Medan* (PT. Medan Industrial Estate), 7). PT. *Asuransi Bangun Askrida* (PT. Askrida Build Insurance). The BUMD income statement in North Sumatra Province above showed that the company's profit has fluctuated, thus it reflected that the BUMD's financial performance from 2015 to 2017 in general was still declining, means that BUMD's performance was still not optimal yet. This was determined by the performance of employees who were not optimal. Many problems faced by the North Sumatra Province BUMD, including employee's performance, employee's job satisfaction and effective commitment which were not optimal yet, formed by transformational leadership, organizational culture, and managerial competence.

Performance appraisal is an important factor for the success of performance management (Mondy, 2008). Although performance appraisal is only one element of performance management, the system is important because it reflects directly the organization's strategic plan. Although evaluating team performance is important as teams exist in an organization, the focus of performance appraisal on most companies remains on individual employees. The most important management expertise is technical expertise, interpersonal, conceptual, diagnostic, cultural, decision making, and time management. In addition to fulfilling a number of roles that managers also need a number of special skills if they want to succeed (Griffin in Rivai, 2013). To obtain an overview of factual conditions about employee's performance; job satisfaction and employee's commitment, transformational leadership, organizational culture and competence at the BUMD of North Sumatra Province, the researchers conducted a pre survey on 30 permanent employees working at the BUMD of North Sumatra Province in 2018, the findings stated that the conditions of transformational leadership, organizational culture, employee's competence, job satisfaction, employee's commitment, and employee's performance was in low level.

1.1 Problems Identification

- 1) Ineffective transformational leadership, weak organizational culture and low of employee's competence.
- 2) Both employee's satisfaction and loyalty were limited.
- 3) Employee's performance were in low level.
- 4) Corporate environmental factors including facilities and infrastructure, employee's collaboration, employee's loyalty, salary received, evaluation of the performance of tasks and sanctions were in an inadequate level.
- 5) Carrying capacity of the company's external factors, including local government policies and carrying capacity of funding were in low level.

1.2 Problems Formulation

- 1) How were transformational leadership, organizational culture, managerial competence, employee's job satisfaction, affective commitment and employee's performance of the BUMD in North Sumatra Province.

- 2) How much partial and simultaneous influence of organizational culture transformational leadership and managerial competence on employee's job satisfaction of the BUMD in North Sumatra Province.
- 3) How much partial and simultaneous influence of organizational culture transformational leadership and managerial competence on affective commitment of the BUMD in North Sumatra Province.
- 4) How much partial and simultaneous influence of job satisfaction and employee's affective commitment on employee's performance of the BUMD in North Sumatra Province.

1.3. Literature Review

Human Resources Management (HRM) is basically the integration of decisions that shape relationships between employees. In accordance with the definition of Mondy (2008). Human resources management is the field of study and practice that focuses on these organizations. HRM focuses on workers in the organization which are the most important component of the organization, so HRM makes workers more productive (Stewart and Brown, 2011). Transformational leadership is leadership to create and affirm a vision that is realistic, trustworthy, and interesting about the future for an organization that grows from the present and improves the present (Robbins, 2016). Leaders' competency levels can be grouped into three levels namely 1). Behavioral tools: 2). Image attribute: 3). Personal characteristic (Wibowo, 2013). There are 4 dimensions of transformational leadership, as follows 1) Determination of Direction, 2) Change Agent, 3) Spokesperson, and 4) Coach (Burt Nanus in Rivai, 2013). Understanding of organizational culture at this level are inherent in a small part of human beings, and others can be learned from society, organizations or other groups (Danim, 2003).

There are 4 dimensions of organizational culture which consist of 1) persistence (dilligency); 2) sincerity; 3) patience (patience); and 4) entrepreneurship (Gibson, 2012). A leader competency is an underlying characteristic of an individual that is causally related to criterion referenced effective and or superior performance in a job situation (Spencer and Spencer in Rivai, 2010). Job satisfaction is an affective or emotional response to various aspects of one's work. This definition implies that job satisfaction is not a concept of unity, but a person can feel quite satisfied with one aspect of his work and feel less satisfied with one or several other aspects (Kreitner and Kinicky, 2014). There are five dimensions of job satisfaction as 1) The work itself, 2) Pay 3) Promotion opportunities, 4) Supervision, 5) Coworkers (Luthans, 2011).

Commitment is an agreement to do something for yourself another person, group or organization. whereas affective commitment reflects the degree to which a person recognizes an organization and is bound to its goals. The dimensions of affective commitment consist of: 1) Emotional, 2) Identification, 3) Employee Involvement in Organizations (Kreitner and Kinicki, 2014). Performance as behavior or action is relevant to the attainment of an organization's goals that can be scaled (Campbell in Boxall et. al, 2007). Performance is a behavior or activity that is relevant to the results achieved at a measurable organizational goal, in the form of behavior or activities that are in accordance with organizational demands. Performance is based on existing standards in the organization, if the standard is reached or even exceeds the person's maximum performance, and vice versa. Dimensions that can be used as benchmarks in assessing performance, namely: 1). Quality, namely the level of error, damage, accuracy, 2). Quantity, i.e. the amount of work produced, 3). The use of time in work, namely: the level of absence, tardiness, effective working time / lost work hours, 4).

Collaboration with others in the work, 5). Acting Efficiency, 6). Acting effectively (John Miner in Mathis and Jackson, 2011).

1.4. Theoretical Framework

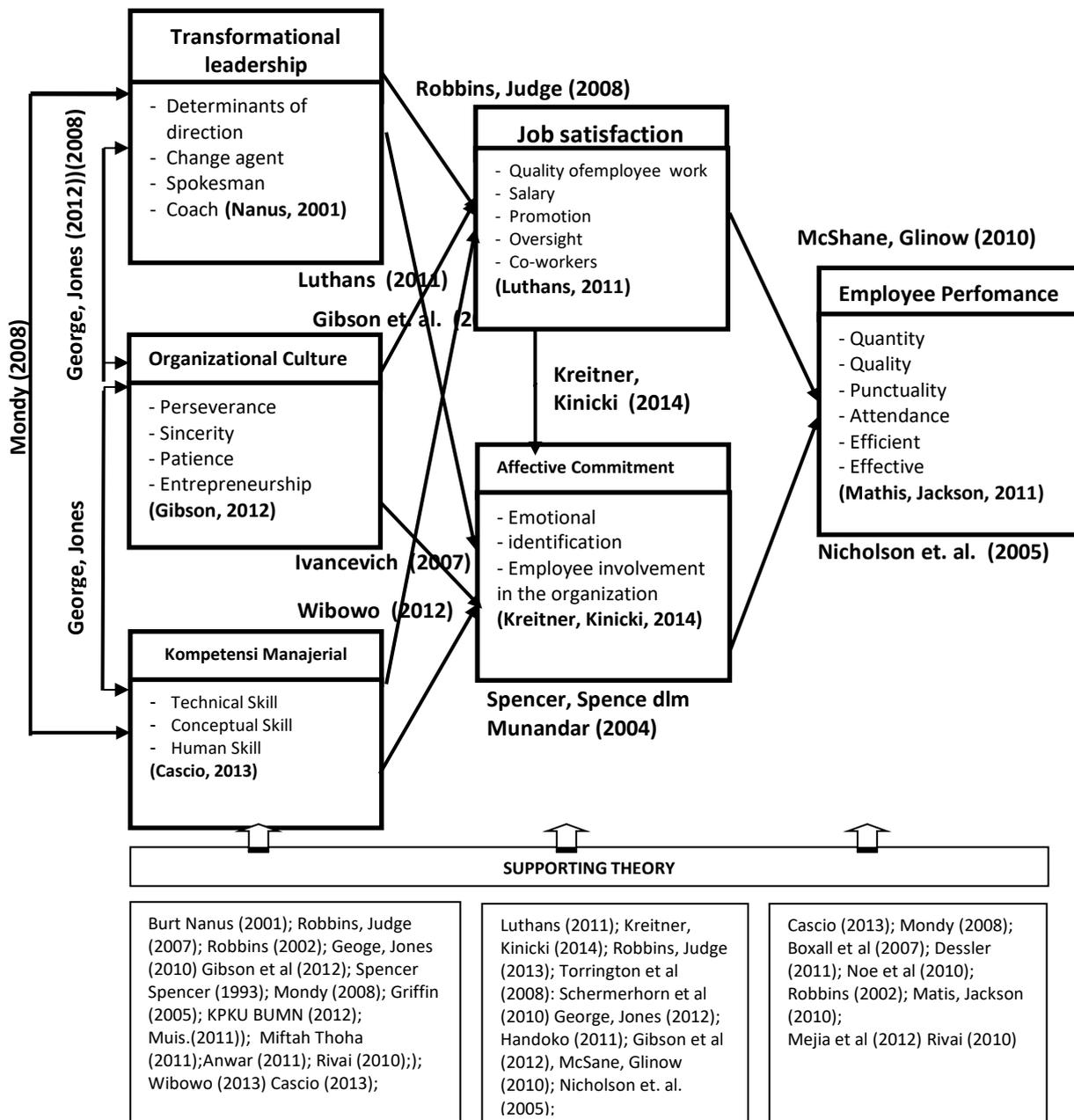


Figure 1. Research Paradigm

1.5. Research Hypothesis

1. There were a partial and simultaneous influence of transformational leadership, organizational culture and managerial competence on employee's job satisfaction of the BUMD in North Sumatra Province.
2. There were a partial and simultaneous influence of transformational leadership, organizational culture, and managerial competence on employee's affective commitments of the BUMD in North Sumatra Province.

- There were a partial and simultaneous influence of employee's job satisfaction and employee's affective commitment of the BUMD in North Sumatra Province.

2. RESEARCH METHOD

- Research Sites; BUMD at North Sumatra Province
- The method used in this study was a survey method with a quantitative approach.
- Research samples were 346 employees at BUMD in North Sumatra Province
- Data analysis tools used path analysis techniques

3. RESULT AND DISCUSSION

3.1. Descriptive Analysis Result

- Transformational leadership was in category of quite effective to effective;
- Organizational culture was in category fair to good;
- Managerial competence was in category fair to good;
- Job Satisfaction Employees was in category satisfied enough to satisfied;
- Affective Commitment was in category low to high;
- Employee Performance was in category fair to good.

3.2. Verification Analysis Result

The result of data analytic showed in figure 2 and explained of the coefficient based on path analyses as followed:

- The path equation X_1, X_2, X_3 with respect to Y_1 : $Y_1 = 0.471 X_1 + 0.322 X_2 + 0.292 X_3 + \epsilon_1$
- The path equation X_1, X_2, X_3 with respect to Y_2 : $Y_2 = 0.403 X_1 + 0.356 X_2 + 0.286 X_3 + \epsilon_2$
- The path equation Y_1 and Y_2 with respect to Z : $Z = 0.580 Y_1 + 0.380 Y_2 + \epsilon_3$

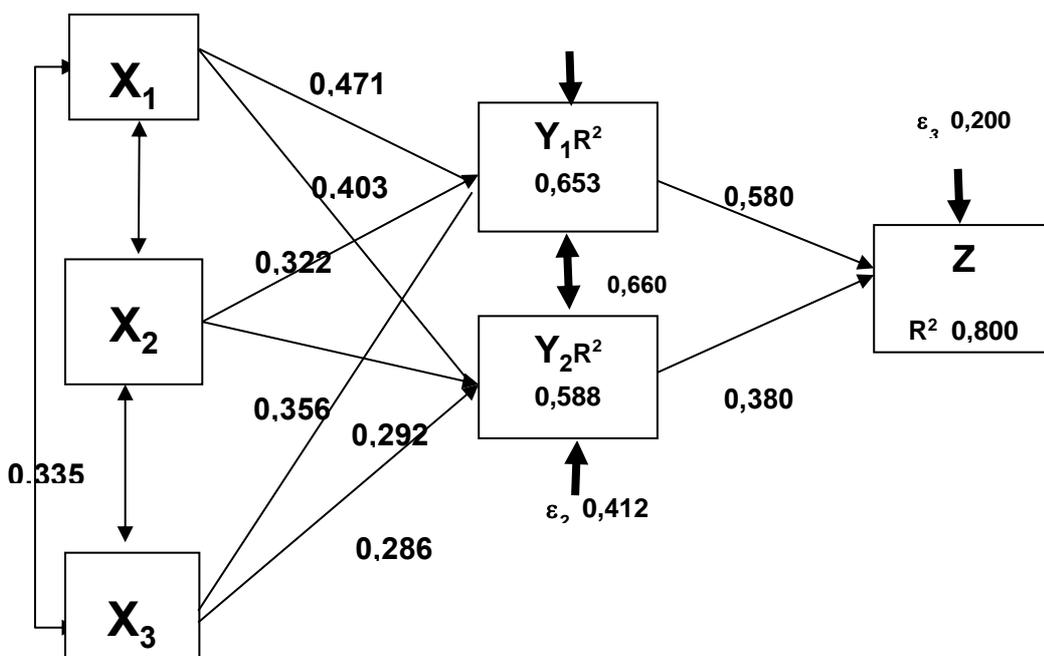


Figure 2. Path Analysis Results Diagram

1. The contribution of the direct and indirect effects of transformational leadership, organizational culture and managerial competence on job satisfaction was 65.30%;
2. The contribution of the direct and indirect effects of transformational leadership, organizational culture and managerial competence on affective commitment, amounting to 58.80%;
3. The contribution of the direct and indirect effects of job satisfaction and affective commitment to employee's performance of 80.00%.

4. CONCLUSIONS

1. Transformational leadership conditions, organizational culture, managerial Competence, job satisfaction, affective commitment and employee's performance were in the category fair to good;
2. There were a significant effect both simultaneously and partially of transformational leadership, organizational culture and managerial competence on job satisfaction;
3. There were a significant effect both simultaneously and partially of transformational leadership, organizational culture and managerial competence on affective commitment;
4. There were a significant effect both simultaneously and partially of job satisfaction and affective commitment to employee's performance.

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FARMER SATISFACTION ON PARTNERSHIP PATTERNS WITH FOOD BUMR

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This research aims to (1) describe the pattern of partnerships between lowland rice farmers and BUMR Pangan. (2) analyze the level of performance of food BUMR and analyze the level of satisfaction of farmers with the performance of food BUMR. The study was conducted in Sukabumi Regency, West Java Province. The method used is a survey of farmers who are partnering with BUMR Pangan with a total sample of 41 farmers. To find out the performance of BUMR Pangan used Importance Performance Analysis (IPA), while to analyze farmers' satisfaction with the performance of BUMR Pangan used Consumer Satisfaction Index (CSI). The results showed the partnership pattern between rice farmers and BUMR Pangan followed the Agribusiness Operational Cooperation (KOA) pattern. Based on the results of the IPA analysis the attributes assessed for performance are not yet satisfactory and must be improved are business governance, use of e-food technology, and dividend distribution.
Keywords: partnership patterns, institutional performance, Importance Performance Analysis (IPA), Consumer Satisfaction Index (CSI).

Preliminary

BUMR Pangan one of the many institutions that received funding from the PKBL (Community Development Partnership Program) from PT. Pertamina. These funds will continue to be rolled out provided that the funds are channeled back to farmers through non-collateral soft loans. In order to sustain the PKBL funding from Pertamina, BUMR Pangan cooperates with rice farmers in Sukabumi Regency.

The partnership pattern between BUMR of Food with rice farmers in Sukabumi

Regency, is based on mutually beneficial interests. Through the partnership pattern, it is expected that problems that are often faced by farmers such as the low price of grain received by farmers, weak capital, low access to capital sources and weak access to technology, can be overcome. Meanwhile, through a partnership with farmers, the BUMR Pangan will also be able to maintain the sustainability of grain supply from farmers as the main raw material for its rice milling industry. This is in accordance with the concept of partnership that has been put forward by several experts who say that partnership is a business strategy carried out by two or more parties in a certain period of time to achieve mutual benefit or mutual benefit. However, in some cases this pattern of partnership is often unsustainable because there are parties who are dissatisfied with the performance of other parties so that the principle of mutual benefit is not fulfilled. BUMR Pangan as an institution that gets funding from the Community Development Partnership Program (PKBL) from Pertamina certainly needs to maintain the sustainability of its business through partnerships with farmers. For this reason, it is necessary to research how the partnership pattern established between BUMR Pangan and rice farmers in Sukabumi Regency? And how is the performance of BUMR Pangan assessed by farmers? And what is the level of satisfaction of rice farmers to the performance of BUMR Pangan?

Research Purposes

1. Describe partnership pattern between rice farmers and BUMR Pangan.
2. Analyze BUMR Pangan performance level.
3. Analyze farmers satisfaction level to BUMR Pangan performance.

Literature Review

1. Service Quality

Crosby (1979) who defines quality as "conformity to prerequisites". While service quality is a measure of how well the level of service delivered is in accordance with customer expectations (Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988), Zeithaml and Bitner (1996), and Tjiptono (2007).

Parasuraman (2001) states that the concept of service quality is a complex understanding of quality, about satisfying or unsatisfactory. The concept of service quality is said to be quality if the expected service is smaller than the perceived service (quality). Based on the above understanding, there are three concepts of service quality, that is:

- a) Quality Surprises, if the reality of the service received exceeds the service expected by the customer.
- b) Satisfactory Quality, if the reality of the service received is the same as the service expected by the customer.
- c) Unacceptable Quality, if it turns out the reality of the service received is lower than what the customer expected.

The above description is used as the basis for determining various types of service quality measurement models. There are several approaches to measuring service quality, including the following:

- a) Gronross Perceived Service Quality Model made by Gronross.
The approach taken is to measure the expectation of service quality (expected quality) with experience of service quality received (experienced quality) and between technical quality (technical quality) with quality of function (functional quality).
- b) Heskett's Service Provit Chain Model.

In this model a value chain is made explaining that the quality of internal services (internal quality service) is born of satisfied employees (employee satisfaction).

c) Normann's Service Management System.

In this model a value chain is made explaining that the quality of internal services (internal quality service) is born of satisfied employees (employee satisfaction).

d) European Foundation for Quality Management Model (EFQM Model).

This model states that service quality is largely determined by the ability to manage human resources (leadership), as well as the ability to formulate strategies and policies in organizations.

e) Service Quality Model (SERVQUAL Model).

This model was developed by Parasuraman, Zeithaml and Berry (1988). Measurement in this model uses a multidimensional comparison scale between expectation and perception of performance.

f) Importance Performance Analysis (IPA).

Analysis of Importance Performance Analysis (IPA) was first introduced by Martilla and James (1977). Importance-Performance Analysis (IPA), is a tool used to compare the extent to which the performance / service that can be felt by service users compared to the desired level of satisfaction.

In this research, which is used to measure service quality or company performance (in this case BUMR Pangan) is a model of conformity analysis or Importance Performance Analysis (IPA). This model was chosen because it has several advantages compared to other models. These advantages include the results are relatively easy to interpret, can show product / service attributes that need to be improved or reduced to maintain customer satisfaction, and the scale is relatively easy to understand, and does not require large costs (Ruhimat, 2008).

2. Customers Satisfaction

Tse and Wilton (1988) define customer satisfaction or dissatisfaction as customer response to perceived discrepancies between previous expectations and actual service performance. While Oliver in J. Supranto (2011), defines satisfaction as the level of one's feelings after comparing the performance / results felt with expectations. So, the level of customer satisfaction is a function of the difference between the level of importance with the expected performance or results. Y. Shemwell; Yavas and Bilgin (1998) explicitly distinguish between service quality and customer satisfaction, where service quality is part of the cognitive process, while consumer satisfaction is part of the affective process.

The Customer Satisfaction Index (CSI) method is one method that can be used to measure the level of customer or consumer satisfaction. This method has several advantages including being more efficient, because it does not only know the satisfaction index but also obtains information related to attributes / dimensions that need to be corrected, is simple and easy to use and uses a scale that has a high sensitivity and reliability.

Research Method

The research method used was a survey method. According to Moh. Nasir, (1985) survey method is a method of investigation that is intended to obtain data from existing symptoms and seek information from a group. The population in this study were all rice farmers in Sukabumi Regency who formed a partnership with BUMR Pangan. The number of farmers taken for research samples is determined by the Slovin formula in Sugiyono (2011),

that is:

$$n = \frac{N}{1 + Ne^2}$$

Information:

n = Number of Samples

N = Number of Samples Population

e = error tolerance limit

$$n = \frac{520}{1 + 520(0,15)^2}$$

$$n = 40,944 = 41$$

Definition and Variable Operationalization

Definition and Operationalization each variable that is used in dthis research is:

1. Partnership Pattern is a collaboration between small and medium-sized businesses or with large businesses accompanied by coaching and development by medium-sized businesses or large businesses with the principle of mutual need, mutual reinforcement and mutual benefit (Law no. 9 of 1995).
2. Performance level is the implementation of the BUMR Pangan program in relation to the pattern of partnerships with lowland rice farmers in Sukabumi Regency. Each attribute was assessed for its level of performance and respondents' responses to the statements in the questionnaire were scored as follows:
 - a. A score of 5 for the answer is very good
 - b. Score 4 for good answers
 - c. A score of 3 for the answer is quite good
 - d. Score 2 for the answer is not good
 - e. A score of 1 for an answer is not good
3. Level of importance is the expectation of lowland rice farmers for the services provided by BUMR Pangan. Each attribute was rated for importance and the responses of respondents from the statements in the questionnaire were scored as follows:
 - a. A score of 5 for the answer is very important
 - b. Score 4 for important answers
 - c. A score of 3 for the answer is quite important
 - d. A score of 2 for the answers is less important
 - e. A score of 1 for the answer is not important
1. Service attributes of BUMR Pangan related to the partnership program with lowland rice farmers in Sukabumi Regency can be seen in Table 1.

Table 1. Attributes of BUMR Pangan Services related to partnership programs with lowland rice farmers in Sukabumi Regency

No	Attribute	Measure Scale
1	Farmers Consolidation	Ordinal
2	Farm input provider	Ordinal
3	Farming assistance in the form of outreach / counseling / demonstration plots	Ordinal
4	Farm governance	Ordinal
5	Use of e-food technology	Ordinal
6	Provision of non-collateral farm credit	Ordinal
7	Agricultural Insurance	Ordinal
8	Direct payment method	Ordinal
9	Grain transport service providers	Ordinal
10	Post-harvest service providers	Ordinal
11	Increased value added through packaging	Ordinal
12	Increasing added value through the trademark "Caping Gunung"	Ordinal
13	Expansion of the "Caping Gunung" rice market through e-commerce	Ordinal
14	Devidend	Ordinal

Validity and Reliability Test

Validity Testing in this study uses the Pearson Product Moment correlation formula, with the following criteria:

1. Statement items examined are valid if $r_{\text{count}} > r_{\text{table}}$
 2. Statement items examined are declared invalid if $r_{\text{arithmetic}} \leq r_{\text{table}}$
- For the reliability test the writer used the Cronbach Alpha coefficient (formula) method. By criteria, the questionnaire was declared reliable if the Cronbach Alpha value > 0.7 (Sekaran, 2006).

Data analysis technique

1. Qualitative Descriptive Analysis

Qualitative descriptive analysis was used to determine the partnership pattern between BUMR Pangan and rice farmers in Sukabumi Regency. Miles and Huberman (1984) in Sugiyono (2017) suggest that the activities in qualitative data analysis are carried out interactively and take place continuously until they are finished, so that the data is already saturated. Activities in data analysis, namely: a) data reduction means to summarize, choose the main things, focus on important things, look for themes and patterns. Thus the reduced data will provide a clearer picture, and make it easier for researchers to do further data collection. b) data display or presentation of data with narrative text, graphics, matrices, work networks, and c) conclusion drawing / verification or drawing conclusions and verification.

2. Importance Performance Analysis (IPA)

To find out the performance of BUMR Pangan in a partnership with paddy farmers using the IPA analysis or Importance and Performance Analysis which consists of two components, namely quadrant analysis and gap analysis by way of (J. Supranto, 2011):

- a. Determine the level of correspondence between the level of importance and the level of performance quality of the attributes studied through comparison of performance scores with importance scores. The suitability formula used is:

$$Tki = \frac{x_i}{y_i} \times 100\%$$

Information:

- x_i = Performance Level Score
- y_i = Importance Level Score

b. Calculate an average rating of importance and performance for each attribute:

$$\bar{X}_i = \frac{\sum_{i=1}^k x_i}{n}$$

$$\bar{Y}_i = \frac{\sum_{i=1}^k y_i}{n}$$

Information:

- \bar{X}_i = the average weighting of the i attribute level
- \bar{Y}_i = the weighting of the average level of importance rating of the i attribute
- n = number of respondents

c. Calculate the average level of importance and performance for all attributes

$$\bar{\bar{X}}_i = \frac{\sum_{i=1}^k \bar{X}_i}{n}$$

$$\bar{\bar{Y}}_i = \frac{\sum_{i=1}^k \bar{Y}_i}{n}$$

Information:

- $\bar{\bar{X}}_i$ = the average value of the attribute performance
- $\bar{\bar{Y}}_i$ = the average value of the importance of the attribute
- n = number of attributes

d. The weights of performance and interests as well as the average value of performance and interests are plotted in the Cartesian diagram in Figure 2.

e. Identify the role attributes that are included in each quadrant with their respective interpretations as follows:

Quadrant I: Main priority. Show attributes that are considered to affect the satisfaction of farmers, including service elements that are considered very important, but the institution has not implemented it according to the wishes of farmers. So, disappointing / not satisfied.

Quadrant II: Maintain Achievement. Showing the basic service elements that have been successfully carried out by the institution, it must be maintained. Considered very important and very satisfying.

Quadrant III: Low Priority. Shows some factors that are less important influence for farmers, their implementation by mediocre institutions. Considered less important and less satisfying.

Quadrant IV: Exaggerated. Indicating factors that influence farmers are less important, but their implementation is excessive. Considered less important but very satisfying.

Importance Level

Quadrant I Main Priority	Quadrant II Maintain Achievement
Quadrant III Priority	Quadrant IV Exaggerated

\bar{Y} \bar{X} Performance Level

3. Customer Satisfaction Index (CSI)

To find out the level of satisfaction of lowland rice farmers to the performance of BUMR Pangan related to the partnership program in Sukabumi Regency, it was carried out by analyzing the Consumer Satisfaction Index (CSI) by means of (Aritonang, 2005):

a. Define Mean Importance Score

$$MIS = \frac{\sum_{i=1}^n Y_i}{n}$$

Information:

n = Number of Respondent

Y_i = The importance value of the attribute Y-i

b. Define Mean Satisfaction Score

$$MSS = \frac{\sum_{i=1}^n X_i}{n}$$

Information:

n = Number of Respondent

X_i = The importance value of the attribute X-i

c. Make Weight Factors (WF)

$$WF = \frac{MIS_i}{\sum_{i=1}^i MIS_i} \times 100\%$$

d. Make Weight Score (WS)

$$WS = WFi \times MSS$$

e. Define Customer Satisfaction

$$CSI = \frac{\sum_{i=1}^n WSi}{HS} \times 100\%$$

Information:

- i = Attribute – i
- HS = Highest scale

f. CSI Criteria can be seen at Table 2.

Table 2. (CSI)

No.	Nilai CSI	Kriteria
1	0,81 – 1,00	Sangat Puas
2	0,66 – 0,80	Puas
3	0,51 – 0,65	Cukup Puas
4	0,35 – 0,50	Kurang Puas
5	0,00 – 0,34	Tidak Puas

Results and Discussion

1. Partnership Pattern of BUMR Pangan and Rice Farmers in Sukabumi Regency

Paddy rice farmers who partner with BUMR Pangan, must be a member of the cooperative first. After becoming a member of the cooperative, farmers will be given a non-collateral farming loan with a maximum amount of Rp. 13,430,000.00 per hectare which will be disbursed in stages, namely at the time of land preparation, fertilizing and before harvest. In addition to providing loans, farmers are also required to participate in agricultural insurance to protect farmers from the risk of crop failure. Loan payments are made using the harvest at a price agreed upon in advance. In addition to providing farm loans, BUMR Pangan also provided assistance in the form of socialization of the use of premium rice-producing rice seeds, namely the Impago 2 Unsoed variety and a pilot demonstration plot. More details about the BUMR Pangan business model can be seen in the following figure.

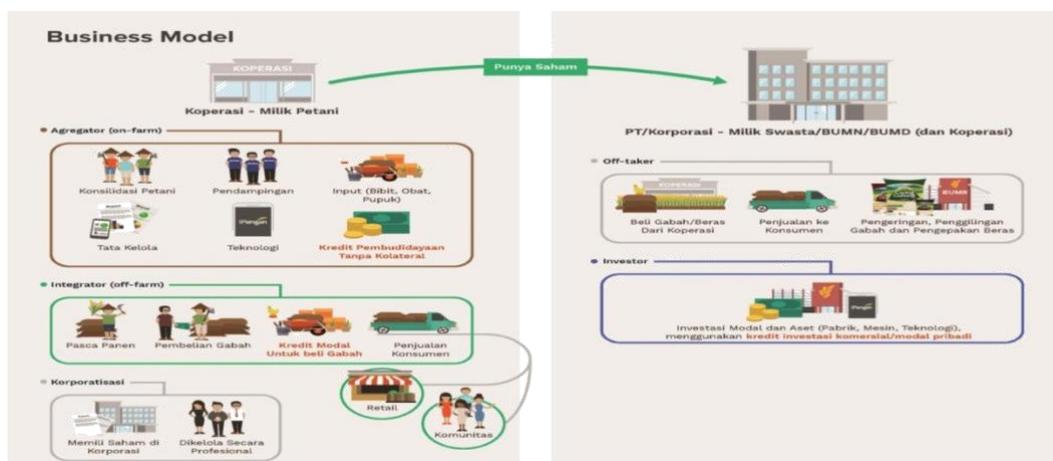


Figure2. Business Model BUMR Pangan

BUMR Pangan also conducts farm governance in the form of setting planting schedules, with the aim that the Food BUMR can regulate grain supply for its rice milling mills. Planting schedules are also adjusted to environmental conditions such as humidity and nutrient availability and solar intensity with the help of smart farming technology which is named "e-Food".



Figure 3. Technology Smart Farming *BUMR Pangan*

2. Analysis of Conformity Level.

To analyze the level of compatibility between performance and expectations, Importance Performance Analysis (IPA) is used. This section discusses the mapping of performance values (x) and expectations (y). From these results, a matrix consisting of four quadrants will be formed, each quadrant describing the scale of priorities in making policies either in the form of improving performance or maintaining company performance. The following is the distribution of performance data and customer expectations:

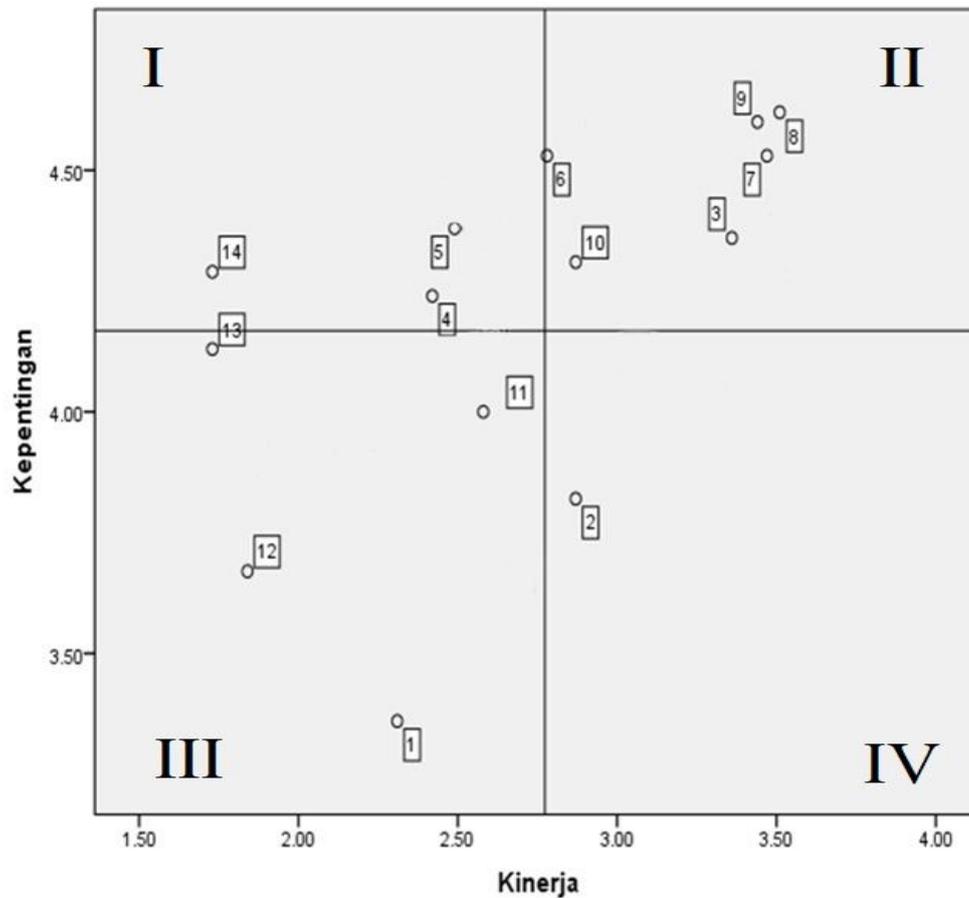


Figure 4. Cartesian Diagram

1. Quadrant I

Quadrant I, shows the attributes or factors that are considered important by the customer but are not implemented well by the company. The attributes included in this quadrant are:

- (4) Farm governance
- (5) Use of I-Food technology
- (14) Dividends

Farming governance is considered important by farmers, but this program has not been implemented well, considering it is difficult to change farmers' planting time habits. Likewise with the use of I-Food technology, farmers are still unfamiliar with the way this application works. The BUMR Pangan Company promises dividends that will be enjoyed by farmers, but because this partnership has only been running for about three years, the company's profits (BUMR Pangan) cannot be enjoyed by farmers.

2. Quadrant II

Quadrant II shows the factors or attributes that are considered important and satisfying customers that have been implemented well by the company. The attributes included in this quadrant are:

- (3) Farming assistance in the form of outreach, outreach and demonstration plots
- (6) Provision of non-collateral credit
- (7) Agricultural Insurance
- (8) How to pay directly
- (10) Grain transport service providers

3. Quadrant III

Quadrant III is a quadrant with low priority because it contains factors or attributes that are considered less important by the customer and in fact the performance is not too special. The attributes included in this quadrant are:

- (1) Farmers Consolidation
- (11) Increase in added value through packaging
- (12) Increasing added value through the trademark "Caping Gunung"
- (13) Expansion of the "Caping Gunung" premium rice market through e-commerce

These four attributes are considered insignificant by farmers, because efforts to increase added value have not been enjoyed directly by farmers as they have not had an impact on increasing the selling price of grain at the farm level. But the company in this case BUMR Pangan still must pay attention to the improvement of these attributes because it has a direct impact on company profits and in the long run will also have an impact on farmers.

4. Quadrant IV

Quadrant IV The attributes in quadrant IV have a low level of importance, but have a high level of performance implementation. The attributes included in this quadrant are:

- (2) Providers of farming inputs.

This attribute has a high level of performance because the provision of inputs is provided by the BUMR Pangan together with the disbursement of phase two loans. When farmers get non-collateral loans from BUMR Pangan, disbursement of funds is done in three stages. The first stage is the farmers get cash funds which are intended for the preparation of arable land. Disbursement of the second tranche of funds is carried out when the fertilization schedule arrives, and is disbursed in the form of natura (fertilizers and medicines).

3. Analysis of Farmer Satisfaction Level

Farmer satisfaction levels were analyzed using the Customer Satisfaction Index (CSI) by calculating the average value for the level of importance and level of performance

of each attribute. Based on calculations, the results show that the CSI value for attributes of the level of satisfaction of rice farmers to the performance of BUMR Pangan is 0.696. This means that the total satisfaction level is in the range of 0.66 to 0.80, which means farmers are satisfied with the performance of BUMR Pangan. This means that the performance of BUMR Pangan as a whole is good although there are several attributes that need to be improved. A brief CSI calculation process can be seen in Table 4.

Table 4. Customer Satisfaction Analysis (CSI)

No	Atribut	MSS	MIS	WF	WS
1	Farmers Consolidation	2,31	3,36	0,05	0,12
2	Farm input provider	2,87	3,82	0,07	0,20
3	Farming assistance in the form of outreach / counseling / demonstration plots	3,36	4,36	0,08	0,30
4	Farm governance	2,42	4,24	0,06	0,27
5	Use of e-food technology	2,49	4,38	0,06	0,15
6	Provision of non-collateral farm credit	4,50	4,53	0,11	0,50
7	Agricultural Insurance	4,47	4,53	0,11	0,50
8	Direct payment method	4,51	4,62	0,11	0,50
9	Grain transport service providers	3,44	4,60	0,08	0,35
10	Post-harvest service providers	3,87	4,31	0,09	0,23
11	Increased value added through packaging	2,58	4,00	0,06	0,15
12	Increasing added value through the trademark "Caping Gunung"	1,84	3,67	0,04	0,07
13	Expansion of the "Caping Gunung" rice market through e-commerce	1,73	4,13	0,04	0,07
14	Devidend	1,73	4,29	0,04	0,07
Total		42,12	58,84	1,00	3,48
CSI		0,696			

Conclusion

1. The pattern of partnership between BUMR Pangan and rice farmers follows the Agribusiness Oprational cooperation pattern.
2. Food BUMR performance in general can be said to be quite good, although there are still some service attributes that still need to be improved, such as the attributes of farm management, the use of I-Food technology and dividend distribution.
3. Satisfaction of lowland rice farmers on the performance of BUMR Pangan is in the satisfied category.

Suggestion

To be more satisfying to the paddy rice farmers who collaborate with Food BUMR, the Food BUMR needs to improve its performance especially in terms of farm governance, and the use of I-Food technology, by increasing socialization to farmers and providing training training on the use of I-technology applications Food.

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WORK PERFORMANCE EVALUATION AND POSITION TRANSFER ON EMPLOYEE PERFORMANCE AT EDUCATION DEPARTMENT IN BANTEN PROVINCE

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Abstract

Every organization or agency is emphasized to be empowered to achieve its goals. Some of the factors to achieve the organization's goals are work performance evaluation and position transfer. The purpose of this study is to identify the effect of work performance evaluation and position transfer on employee performance at Education Department in Banten Province.

This study applied quantitative descriptive method that aims to describe the characteristics of a particular phenomenon and the verification / causal method to analyze the correlation among the variables using statistics. The data were collected through a questionnaire distributed to 45 respondents with a Likert scale measurement using SPSS tool.

The conclusions are work performance evaluation partially has 86.2 % effect on employee performance. Position transfer partially has 78.3 % effect on employee performance by 78.3%. Last but not least, work performance evaluation and position transfer simultaneously have 87.7 % effect on employee performance by 87.7%, while the remaining of 12.3% influenced by other factors which were not explained in this study.

Keywords: Work Performance Evaluation, Position Transfer and Employee Performance

1. INTRODUCTION

The government has recently given great attention to some efforts to improve the ability of the civil servants to perform their duties to provide the best service to the people, in accordance with their role as state servants and public servants. These efforts are implemented through education and training, both structural and functional. Education and training are not enough as it is necessary to provide guidance and motivation to improve the performance.

The improvement in employee performance is important related to the change in direction of government policy as desired by the reformation spirit to provide greater space and participation for the community in government and development activities, in which the government and its personnel play a greater role as facilitators. This change in policy direction has implications for the ability of employee professionalism in responding to the challenges of the globalization era. Starting from this thought, the improvement of civil servants performance is the main thing to do.

One of the forms of duties and responsibilities distributions is position transfer that can be done by the organization while for employees this can be used to improve their existence through the opportunity to utilize knowledge, expertise, skills and experience in an occupational field to perform a good work. The position transfer program in an organization is basically to trigger employee motivation to have good work performance.

To determine the position transfer, each leader needs to conduct work performance assessments and evaluation fairly which will later describe the work performance in a certain period. From the results of the work performance assessment, it can be seen the weaknesses and strengths of each employee in performing their work. The weaknesses can be overcome, while the strength of employees will open up opportunities for them to achieve higher career. Employee performance evaluation is basically an effort to get selected people who have the achievements and potential as expected by the organization. The results of this evaluation enable the placement of employees properly and beneficially.

The objectives of this study are as follows:

1. To partially identify the effect of work performance evaluation on employees performance at Education Department in Banten Province.
2. To partially identify the effect of position transfer on employees performance at Education Department in Banten Province.

3. To simultaneously identify the effect of work performance evaluation and position transfer on employees performance at Education Department in Banten Province.

The meaning of performance actually comes from the term job performance; also known as actual performance that has been achieved by an employee. There are so many definitions or meanings of performance explained by the experts, but all of them have a common in meaning.

Work performance evaluation is a formal process to periodically review and evaluate one's work. The process is intended to understand one's work performance through some activity processes, including identification, observation, measurement, and development of employee work results in an organization. Here is an explanation about the notion of performance evaluation from various experts including:

"Work performance evaluation is the manager's activity to evaluate employee work performance behavior and establish further policies."

"Performance evaluation is a process aims to find out or understand the level of an employee performance compared to other employees".

In labor affairs, the activity of moving an employee from one department to another is not a taboo activity. This activity is carried out by the management to develop their employees.

This kind of position transfer in the organization can provide a job description of the nature of the work, work environment, and tools suitable for the employee. Therefore, the employees can work efficiently and effectively in their positions.

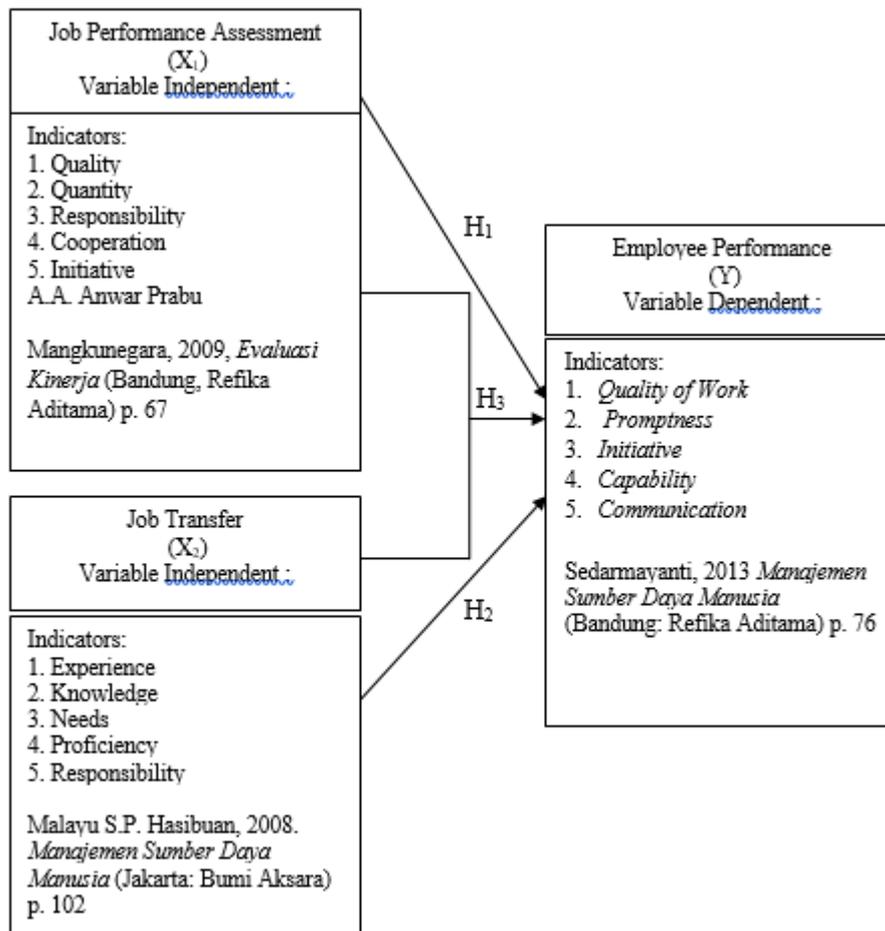
"Transfer is a change in position, place, or work both horizontally and vertically within an organization."

Performance evaluation is one of the factors in developing an organization or a company effectively and efficiently. Through evaluation of work performance, an organization or company has made good use of the human resources in the organization. Relevant and reliable information about work performance will facilitate further policy formulation. Accurate information on employee work performance will enable them to carry out career planning. Individual performance evaluation will be very beneficial for the progress of the organization or company.

Position transfer is one of the factors in developing an organization effectively and efficiently. Through a position transfer, an organization or institution has made good use of the existing human resources in the organization.

It is also important to observe the employee performance in conducting position transfer. Evaluation is necessary to improve the performance of an organization. Performance evaluation is carried out to find out weaknesses and to improve employee performance subsequently.

The theoretical framework regarding performance evaluation and position transfer on employee performance can be seen in the following figure:



Theoretical Framework

2. RESEARCH METHOD

This study applied quantitative method. In terms of perspective, quantitative research applies an ethical approach. The researcher collects the data by firstly establishing the concept as related variables from the existing theories chosen by the researcher. The variables are then identified and the indicators are determined. The questionnaire is made based on the given indicators with answer choices and scores.

Quantitative research formulates hypotheses from the beginning, derived from relevant selected theories. In terms of the technique to obtain the number (size) and respondents (sample), sampling in quantitative approach representative and are obtained using formulas, percentages or population-samples table and have been determined before the data were collected.

The primary data were collected from Education Department in Banten Province and supported by secondary data. The data were tested for validity, reliability, and descriptive testing. Valid and reliable data were tested using classic assumptions, correlation test, simple and multiple regressions. The hypothesis testing (the t test) were done using Windows SPSS version 20. In accordance with the title of this study, work performance evaluation and position transfer simultaneously on employee performance at Education Department in Banten Province, the researcher determined two variables.

Independent variable is known as stimulus variable, predictor, or antecedent. Independent variable is the variable that influences or it is the cause of the change of the dependent variable. The independent variables in this study are work performance evaluation (X₁) and position transfer (X₂) variables. Meanwhile, the dependent variable is a variable that is affected by the independent variables. The dependent variable in this study is employee's performance (Y).

Population is the total of all possible values, both counting and measuring, qualitatively and quantitatively of certain characteristics regarding a set of complete and clear objects. Population is also the whole subject of research in the form of quantitative data from the results of measuring and counting. The population in this study is 45 employees of Education Department in Banten Province.

Sample is part of the number and characteristics of a population. If the population is large, and researchers may not include all population, for example due to the limitation of funds and times, the researchers can use samples taken from the population. This study applied saturated sampling technique in which all members of the population are used as samples because the population is relatively in small numbers. Another term for saturated samples is census, where all members of the population are sampled. The samples in this study are 45 respondents.

The types of data obtained from the results of the study are primary and secondary data.

The researcher used two approaches in obtaining types of data, namely:

1. Primary data is obtained from the first source such as the results of interviews or questionnaire in this study, the researcher distributed questionnaires to employees at Education Department in Banten Province. This questionnaire requested employees to respond about work performance evaluation and position transfer on employee performance.
2. Secondary data is primary data that has been obtained by other parties in the form of tables and diagrams. The researcher used secondary data for further processing. The data obtained is about a brief history of the Education Department in Banten Province, the organizational structure and others.

The data collecting techniques used are as follows:

1. Library Research

Library research is a kind of research conducted by studying and reading literature related to the research topic.

2. Field Research

Field research is a kind of research conducted directly to the research object.

The techniques applied in field research are:

1) Observation

It means conducting research and direct recording of all activities in accordance with the results of the information obtained.

2) Questionnaire

The researcher gives a series of written questions arranged in detail to the respondents related to the object of study.

3. RESULTS AND DISCUSSION

Hypothesis Test

1. The t-Test

This significant t test was conducted to find out whether the independent variable in the regression model partially had a significant effect on the dependent variable.

The t-test variable form is as follows:

Ho: Partially there is no effect of the independent variables on the dependent variable.

Ha: Partially there is an effect of the independent variables on the dependent variable.

a. The Effect of Work Performance Evaluation (X_1) on Employee Performance (Y)

Testing criteria:

- 1). If $t_{count} > t_{table}$, H_o is rejected and H_a is accepted. It means that there is a significant effect.
- 2). If $t_{count} < t_{table}$, H_o is accepted and H_a is rejected. It means that there is no significant effect.

Table 4.22
Partial Hypothesis Test X_1 on Y

Coefficients_a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5.510	3.725		1.479	.146
1 Work Performance Evaluation	1.094	.067	.929	16.415	.000

a. Dependent Variable: Employee Performance

The result of t_{count} is 16.415. It is then compared to t_{table} by determining t_{table} margin of error 5% and $df = n - k - 1 = 45 - 2 - 1 = 42$. Therefore t_{table} is 1.682 in which H_0 hypothesis is rejected due to $t_{count} = 16.415 > t_{table} = 1.682$. It means that X_1 (Work Performance Evaluation) have significant effect on Y (Employee Performance).

b. The Effect of Position Transfer (X_2) on Employee Performance (Y)

Testing criteria:

- 1). If $t_{count} > t_{table}$, H_0 is rejected and H_a is accepted. It means that there is a significant effect.
- 2). If $t_{count} < t_{table}$, H_0 is accepted and H_a is rejected. It means that there is no significant effect.

**Table 4.23
Partial Hypothesis Test X_2 on Y**

Coefficients_a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	9.086	4.620		1.967	.056
Position Transfer	1.025	.082	.885	12.453	.000

a. Dependent Variable: Employee Performance

The result of t_{count} is 12.453. It is then compared to t_{table} by determining t_{table} margin of error 5% and $df = n - k - 1 = 45 - 2 - 1 = 42$. Therefore t_{table} is 1.682 in which H_0 hypothesis is rejected due to $t_{count} = 12.453 > t_{table} = 1.682$. It means that X_2 (Position Transfer) have significant effect on Y (Employee Performance).

2. Simultaneous Hypothesis Testing with F- Test

To answer the hypotheses of the influence of Work Performance Evaluation and Position Transfer on Employee Performance, the simultaneous hypothesis test is done using the F test, where the results of F_{count} are compared to the results of the F_{table} .

Testing criteria:

- a. If $F_{count} > F_{table}$, H_0 is rejected.
- b. If $F_{count} < F_{table}$, H_0 is accepted.

**Tabel 4.24
Simultaneous Hypothesis Test Using the F-Test**

ANOVA_a

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	4855.627	2	2427.813	149.043	.000 ^b
1 Residual	684.151	42	16.289		
Total	5539.778	44			

a. Dependent Variable: Employee Performance

b. Predictors: (Constant), Position Transfer, Work Performance Evaluation

The result of F_{count} is 149.043. It is then compared to F_{table} with significant level (α) of 5% (0,05) and df : $n-k-1 = 45-2-1 = 42$. The F_{table} is 3.220. As the F_{count} (149.043) > F_{table} (3,220), H_0 is rejected. As the result, Work Performance Evaluation and Position Transfer simultaneously have significant effect on Employee Performance.

Discussion

This research has been conducted using scientific method procedures. The research discussions are as follows:

1. The effect contribution of each independent variable on dependent variable:
 - a. The effect of work performance evaluation on employee performance is 86.2%.
 - b. The effect of position transfer on employee performance is 78.3%.
 - c. The effect of work performance evaluation and position transfer on employee performance is 87.7%.
2. The result of t_{count} is 16.415. It is then compared to t_{table} by determining t_{table} margin of error 5% and $df = n-k-1 = 45-2-1 = 42$. Therefore t_{table} is 1.682 in which H_0 hypothesis is rejected due to $t_{count} = 16.415 > t_{table} = 1.682$. It means that X_1 (Work Performance Evaluation) have significant effect on Y (Employee Performance).
3. The result of t_{count} is 12.453. It is then compared to t_{table} by determining t_{table} margin of error 5% and $df = n-k-1 = 45-2-1 = 42$. Therefore t_{table} is 1.682 in which H_0 hypothesis is rejected due to $t_{count} = 12.453 > t_{table} = 1.682$. It means that X_2 (Position Transfer) have significant effect on Y (Employee Performance).
4. The result of F_{count} is 149.043. It is then compared to F_{table} with significant level (α) of 5% (0,05) and $df : n-k-1 = 45-2-1 = 42$. The F_{table} is 3.220. As the F_{count} (149.043) > F_{table} (3,220), H_0 is rejected. As the result, Work Performance Evaluation and Position Transfer simultaneously have significant effect on Employee Performance.

4. CONCLUSIONS

Based on the results of the analysis and discussion, the researcher would like to withdraw some conclusions as follows:

1. The result of partial determination coefficient test showed that the effect of work performance evaluation on employee performance is 86.2%, while the remaining 13.8% influenced by other factors which were not explained in this study such as education and training, incentives, position allowances and others.
2. The result of partial determination coefficient test showed that the effect of position transfer on employee performance is 78.3%, while the remaining 21.7% influenced by other factors which were not explained in this study such as education and training, incentives, position allowances and others.
3. The result of simultaneous determination coefficient test showed that the effect of work performance evaluation and position transfer on employee performance is 87.7%, while the remaining 12.3% influenced by other factors which were not explained in this study such as education and training, incentives, position allowances and others.

Suggestions

Based on the results of this study, the researcher would like to give some suggestions that may contribute to the Education Department in Banten Province:

- a. Provide training for the assessors to broaden their knowledge about the importance of assessment and to minimize errors and mistakes that can make the assessment not objective. The training should lead to train the sensitivity of an assessor to the potential errors and mistakes in assessment.
- b. The employees are expected to carry out their duties and responsibilities based on their abilities and expertise, and also have a sense of belonging.
- c. It is important for the department to explore and innovate that the employees will be qualified to face the challenges in the near future which may come along from critical society.

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HIGHER EDUCATION MANAGEMENT SERVICES IN THE FOURTH INDUSTRY REVOLUTION ERA

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Abstract

In the fourth industry revolution era, human resources get involved directly to the prospective students and their orientation for highest interests in enrolling universities has decreased. The decreasing interest especially in universities, among others, is due to the lack ability of universities to give excellent services. The universities need to adopt service management strategies that are used in non-education industries. The university managers must start their operations with quality-oriented, so that they can survive or win the competition. The research is aimed to investigate the contribution of education service, management service through dimension of product/service of university, human resources in university, process of service management service to students' satisfaction and loyalty.

Explanatory survey enclosing path analysis and cross sectional were employed in the recent study. In addition, the technique for collecting the data was questionnaire. The students from the faculty of teacher training and education from University of West Java were the population which contributed during research.

The results were pointed out that the contribution received by students' satisfaction from product/service university, Human Resource University, university service management process is 91.75% and the rest equal to 8.25% contribution from variable not examined. Where is the contribution of product / service of university equal to 37.71%, contribution of human resources equal to 28.13%, and contribution service process management service of university equal to 25.91% and the rest equal to 8.25% contribution from variable not studied, so that all contributions were accepted of students satisfaction is 100%. Meanwhile, the contribution of students satisfaction to students loyalty is equal to 71.25% and the remaining 28.75% of other variables are not studied.

INTRODUCTION

Nowadays, information and technology give massive impacts towards activities in universities. New information and technology spread easily and are accessible to those in need. Education is challenged by a highly great disruption.

The Industrial Revolution Era of 4.0 is a big challenge for a university. Quoting Jack Ma in the annual meeting of World Economic Forum 2018, education is a great challenge in the century. If we do not change the way we organize the university, we will be in a big trouble in the next twenty years. The education organization that is not the students need oriented will result in the students' inability to compete in the revolution era of 4.0. University is one of the alternative academic spots of improving the quality of human resources for globalizing and succeeding the the mechanism of market openness, consequently, competitions have occurred among universities themselves. The facts found that the number of enrolled students universities indicated that the university competes with other university. These conditions can be seen in the following table:

Table 1

The Development of National University throughout Indonesia in 2017/2018

Year	2003/2004	2005/2006	2017/2018
State University	80	82	122
Private university	1.876	1.946	3136

Source: Statistics of Department of National Education (2018)

Recently, the phenomenon faced by the University is the decline of prospective students which also affect the graduates, as well as the lecture. This is because most people still have the orientation to study in abroad universities.

The decreasing interest in university, among others, is due to the low ability of universities to satisfy their customers. If the university is not oriented to customer satisfaction then it will not compete with other Universities. At this time the condition of university competition can be categorized in hyper competition. This causes the university needs to adopt service management strategies used in non-education industries. The university managers must start their operations with

quality-oriented, so that they can survive or win the competition. Moreover, they must create customer satisfaction, by providing services that match or exceed the expectations of its customers.

The Directorate General of Higher Education asserts that the new paradigm of structuring the system of higher education includes: Autonomy, Accountability, Accreditation, Self-Evaluation, and continuous quality improvement. The performance of the university will be good if the entire academic community actively participates in all higher education activities, especially by applying the five new paradigms. To improve the involvement of all academicians of university, quality and competitiveness, thus every university needs to reorganize the organization of university effective and efficient so that they can compete, the program to obtain and the use of funds effectively and efficiently, the program of guarantee and improvement of education quality through the learning process more effective and efficient, and satisfactory service.

The recognition of a university in the community because of its ability to continuously show achievement, quality, and provide excellent service to students, it can shape its image. The image is the main attraction for prospective students and graduate users.

The aim of the study is to know the contribution of education service management service through dimension of product/service of Private university, human resources at private university, service management process to satisfaction and loyalty of student in private university management by implementing integrated service management strategy which result can be adopted to manage private

university as societies' expectation, so that the private university becomes the university that is expected by society.

LITERATURE REVIEWS

Products are everything that can be offered to the market to meet the wants or needs (Kotler, 2004: 48). More specifically explained Keegan (1997: 73) that the product is: "Collection of physical, service, and symbolic properties, resulting in satisfaction, or benefit, for a user or buyer".

Human resources according to Zeithaml & Bitner (2004: 24), regarding people: "All human actors who play a part in service delivery and thus influence the buyer's perception; Ie, the firm's personnel, the customer, and other customers in the service environment".

Zeithaml & Bitner (2004: 25) defines the process, as: the actual procedures, mechanisms, and flow of activities by which the service is delivered-the service delivery and operating system. The process of delivery of university services can be seen from two main aspects, namely the dimension of the quality of administrative services (ie reliability, responsiveness, assurance, and empathy) and the quality dimension of lecture services (ie process / mechanism & service quality / lectures).

Customer satisfaction is a condition in which the customer feels what he receives equally or exceeds his expectations. This is in line with Stackpole's (2004: 2) stating that: satisfaction is fulfillment of a need, or the degree to which an expectation is met.

Customer loyalty is defined as follows (Stackpole, 2004; 1): "the frequency of use or the proportion of re-use of the service. Loyalty can also be observed when service customers or consumers recommend or even urge others to use that service".

Total quality management, is a philosophy as well as a culture of continuous improvement so that organizational goals can be achieved by involving all components within the organization. (Besterfield, 1999: 8).

Universities are educational units that provide higher education based on PP. No. 232 Year 2000. This is a college organization that is managed on an ongoing basis with regard to quality. The quality of university is the integrated quality of the university it manages, so in the next context is the application of TQM university.

THEORETICAL FRAMEWORK

The definition of service disclosed by Flora and Leong (1996), namely: "Service is a process of special service consists of a number of activities of the previous stage (back stage) and the stage that will come (front stage) where consumers interact with service organizations"

Kotler (2004: 469) defines services as follows: "Services are any actions or activities which may be offered by one party to another, which is essentially intangible and does not result in any ownership. Production may be attributed or not associated with physical products".

Customer satisfaction will measure the quality of student interaction and it is related to past events they have experienced. This is appropriate as stated by

Bloor (2003): Customer satisfaction measures the quality of a customer interaction and is all about the past-events that have happened ".

Oliver (1997: 392) states that customer loyalty is: "Customer loyalty is a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, despite situational influences and marketing efforts to the potential to cause switching behavior"

RESEARCH HYPOTHESIS

In detail, the hypothesis can be described below:

1. Products / services university has a significant contribution to student satisfaction.
2. Human Resources in university has a significant contribution to the satisfaction of university students.
3. The process of service management through university has a significant contribution to the satisfaction of university students.
4. Products / services university, human resources in the university, and the process of service management services university has a significant contribution to the satisfaction of university students.
5. Student satisfaction has a significant contribution to the loyalty of university students.

RESEARCH METHODOLOGY

The research was conducted at the universities in Indonesia. The research object of the independent variables in this research is service management through dimension of university products, HR university, and university service management process, while the dependent variable is student's satisfaction and loyalty.

The research design employed in the study was explanatory survey method with path analysis approach and cross sectional. Data collection techniques were conducted through questionnaires. The population of this study were students of Teacher Training and Education Faculty of universities in academic year 2014/2015 which amounted to 2046. To determine the sample used random sampling, so the minimum sample required in this study are as follows:

$$n = \frac{2046}{2046(0.10)^2 + 1} = \frac{2046}{2046 \times 0.01 + 1} = \frac{2046}{20.46 + 1} = \frac{2046}{21.46} = 95$$

DATA ANALYSIS TECHNIQUE

Testing the causal relationship between independent variables and the magnitude of relationships between independent variables with the dependent variable used Product Moment correlation coefficient from Pearson.

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

Information :

r = Product moment correlation coefficient

X = Independent variable

Y = Dependent variable

N = Number of respondents

The closeness of the relationship between variables used Guilford / Guilford Empirical Rule (JalaludinRahmat 1999: 41) criteria, namely:

1. > 0.00 s / d < 0.20 : The relationship is very small
2. > 0.20 s / d < 0.40 : Small relationship
3. > 0.40 s / d < 0.60 : Moderate relationship
4. > 0.60 s / d < 0.80 : Close relationship
5. > 0.80 s / d < 1.00 : The relationship is very close

Next is made a correlation matrix that forms sub-structures:

$$\begin{array}{c} X_1 \quad X_2 \quad X_3 \\ \begin{array}{l} X_1 \\ X_2 \\ X_3 \end{array} \left(\begin{array}{ccc} 1 & r_{X_1X_2} & r_{X_1X_3} \\ r_{X_2X_1} & 1 & r_{X_2X_3} \\ r_{X_3X_1} & r_{X_3X_2} & 1 \end{array} \right)$$

Then look for the correlation inverse matrix that forms the sub structure, with the formula:

$$R^{-1} = \begin{pmatrix} C_{11} & C_{12} & C_{13} \\ C_{21} & C_{22} & C_{23} \\ C_{31} & C_{32} & C_{33} \end{pmatrix}^{-1}$$

After known inverse correlation matrix then calculated path coefficient of each variable:

$$\begin{pmatrix} Pyx_1 \\ Pyx_2 \\ Pyx_3 \end{pmatrix} = \begin{pmatrix} C_{11} & C_{12} & C_{13} \\ C_{21} & C_{22} & C_{23} \\ C_{31} & C_{32} & C_{33} \end{pmatrix} \begin{pmatrix} ryx_1 \\ ryx_2 \\ ryx_3 \end{pmatrix}$$

Followed by finding the coefficient of the path simultaneously:

$$R^2 y(x_1 x_2 x_3) = (Pyx_1 \cdot Pyx_2 \cdot Pyx_3) \begin{pmatrix} ryx_1 \\ ryx_2 \\ ryx_3 \end{pmatrix}$$

Next searched path coefficient of implied variable exogenous / variable not examined (ε), with step:

$$Py\varepsilon = \sqrt{1 - R^2 y(x_1 x_2 x_3)}$$

Searched for direct contribution and indirect independent variable contribution to dependent variable and relation of exogenous implicit variable (other variable not examined / measured).

HYPOTHESIS TESTING

Before the hypothesis is tested partially, the hypothesis is tested together simultaneously with the formula:

$$H_0 = Pyx_1 = Pyx_2 = 0$$

$$H_1 = \text{at least there is a } Pyx_1$$

$$F = \frac{(n-k-1) \sum Pyx_1^F yx_1}{k(1 - \sum yx_1^F yx_1)}$$

1. If $F > F(1-); (N-k-1)$, then H_0 is rejected and the test can proceed.
2. If $F < F(1-); (N-k-1)$, then H_0 is accepted and test is stopped.

The contribution structure between variables is tested partially using t-test, the operational hypothesis is:

$$H_0 = \rho_{YX_i} \leq 0 \text{ for } i = 1, 2, \text{ dan } 3$$

$$H_1 = \rho_{YX_i} > 0$$

$$t_l = \frac{\rho_{YX_1}}{\frac{(1 - R^2_{YX_1, \dots, X_k})}{(n - k - 1)(1 - R^2_{YX_1, \dots, X_k})}}$$

Testing criteria:

A. H_0 is rejected if $t_l > t(1-); (N-1-k)$

B. H_0 is accepted when $t_l < t(1-); (N-1-k.)$

RESEARCH RESULTS AND DISCUSSION

The analysis used to measure the contribution between variables using path analysis. The indicators of this research variables are as follows:

1. Educational services (X) with dimensions:
 - a. Products / services university(X)
 - b. HR University (X)
 - c. The service management process of University (X)
2. Student satisfaction (Y)
3. Student loyalty (Z)

The first step is looking for the relationship of university (X) service to the dimension of product / service of university (X), HR university (X), and service management service of university (X₃) with student satisfaction (Y) and student loyalty (Z) Product Moment correlation coefficient.

Table2
Correlation Testing Variable Products / services university, HR university,
University Service Management Services Process with Student Satisfaction
Variables

		Product	HUMAN	Proses	Kepuasan
Product	Pearson Correlation	1	.844**	.764**	.906**
	Sig. (2-tailed)		.000	.000	.000
	N	95	95	95	95
Human Resource	Pearson Correlation	.844**	1	.784**	.893**
	Sig. (2-tailed)	.000		.000	.000
	N	95	95	95	95
Process	Pearson Correlation	.764**	.784**	1	.856**
	Sig. (2-tailed)	.000	.000		.000
	N	95	95	95	95
Satisfaction	Pearson Correlation	.906**	.893**	.856**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	95	95	95	95

** . Correlation is significant at the 0.01 level (2-tailed).

Result of correlation test between product / service variable of university (X₁) with student satisfaction variable (Y) obtained by value product 0,906, correlation test result between variable of HR university (X₂) with student satisfaction variable (Y) obtained value equal to 0,893, Correlation between variable of service management service process of university (X₃) with student satisfaction variable (Y) obtained value equal to 0,856 Then the correlation value is interpreted by consultation on price critique r Product Moment (r) with n = 95 at 95% 0.05) is 0.202. Thus the result of correlation test of product / service variable of university (X₁), HR variable of university (X₂), and variable of service management service of university (X₃) with student satisfaction variable (Y) is known bigger than r value, at 95% (0.906, 0.893, and 0.856 > 0.202) with p-value 0,000. This means that the variable of product / service of university (X), HR variable university (X₂), and variable of service management service process of university (X₃) with student satisfaction variable (Y) have significant relationship.

The correlation values of 0.906, 0.893, and 0.856 on the Guilford Empirical Rule are within the range of 0.80 to 1.00 and the interval range of 0.60 to 0.80 indicates that the product / service university has a very strong relationship With student satisfaction, while HR variable of university (X₂), and variable of service management service process of university (X₃) have strong relation with student's satisfaction.

The result of correlation test between variable of product / service of university (X₁) with variable of HR university (X₂) obtained value equal to 0,844, result of correlation test between product / service variable university (X₁) with service management service process university (X₃) obtained value equal to 0,764, And the result of correlation test between HR variable university (X₂) with service management service of university (X₃) obtained value equal to 0,784, then correlation value is interpreted by consultation on price critique r Product Moment (r) with n = 95 at confidence interval 95% (0.05) is 0.202. Thus the result of correlation test of product / service variable of university (X₁) with HR variable university (X₂), correlation test of product / service variable university (X₁) with variable of service management service process of university (X₃), and correlation test between HR variable university (X₂) with the service management process of university (X₃) greater than the value of r at 95% confidence interval (0.844, 0.764, and 0.784,> 0.202) with p-value 0.000. This means that the variable of product / service of university (X₁) with HR variable university (X₂), variable of product / service of university (X₁) with variable of service management service process of university (X₃), and correlation test between HR variable university (X₂) university (X₃) services have significant causal (cause-effect) relationship. The correlation

value of 0.844 on Guilford (Guilford Empirical Rule) criteria falls within the range of 0.80 to 1.00 intervals and the interval range is 0.60 to 0.80, indicating that the product/ service university has a very strong relationship with the HR of university, Products / services university has a strong relationship with the process of service management services university, and HR university has a strong relationship with the process of service management services university.

Then, made the following correlation matrix:

Table3

Matrix Correlation Inter-Variables Products / Services university, HR university, Process Management Service Services, and Student Satisfaction Shaping Structure

	Product	Human Resource	Process	Satisfaction
Correlation Product	1,000	0,84362321	0,76441876	0,90613065
Human Resource	0,84362321	3	0	6
Management	3	1,000	0,78383417	0,89250628
Satisfaction	0,76441876	0,78383417	1	6
	0	1	1,000	0,85586218
	0,90613065	0,89250628	0,85586218	7
	6	6	7	1,000

Next is made a correlation matrix that forms sub-structure.

Table4

Matrix Correlation Between Variable Products / Services university, HR university, And Process Management Service Services that Form Sub-Structure

	Product	Human Resource	Process
Correlation Product	1,000	0,843623213	0,764418760
Human Resource	0,843623213	1,000	0,783834171
Manajemen	0,764418760	0,783834171	1,000

Based on the correlation matrix above, then calculated the inverse matrix.

Table5

Inverse Matrix Correlation Variable Products / Services university,

HR university, and Process Management Service

	Product	Human Resource	Management
Correlation Product	3,835787056	-2,431617787	-1,026162173
Human Resource	-2,431617787	4,134807901	-1,382229469
Management	-1,026162173	-1,382229469	2,867856536

Based on correlation inverse matrix then searched path coefficient from product / service variable university (P_{yx_1}), human resource university (P_{yx_2}), service management process of university (P_{yx_3}) and path coefficient from exogenous implicit variable / variable not studied to student satisfaction Y) partially (individually).

$$\begin{bmatrix} P_{yx_1} \\ P_{yx_2} \\ P_{yx_3} \end{bmatrix} = \begin{bmatrix} 3,835787056 & -2,431617787 & -1,026162173 \\ -2,431617787 & 4,134807901 & -1,382229469 \\ -1,026162173 & -1,382229469 & 2,867856536 \end{bmatrix} \begin{bmatrix} 0,906130656 \\ 0,892506286 \\ 0,855862187 \end{bmatrix}$$

$$P_{yx_1} = 0,427236422 = 0,427$$

$$P_{yx_2} = 0,303980687 = 0,304$$

$$P_{yx_3} = 0,291004201 = 0,291$$

Therefore, obtained path coefficient from product / service variable of university (X) = 0,427, Human Resource University (X) = 0,304, and from service management service of university (X) = 0,291, to student satisfaction variable (Y).

The coefficients of the simultaneous (simultaneous) product / service (university), university (X), and university (X) service management to student satisfaction (Y) variable are as follows:

$$\begin{bmatrix} 0,906130656 \end{bmatrix}$$

$$= (0,427236422. 0,303980687 0,291004201) \quad 0,892506286$$

$$0,855862187$$

$$= 0,907496185 = 0,907$$

The coefficient of the line simultaneously product / service university, HR university, and service management process university service to student satisfaction of 0.907.

Next searched path coefficients of the exogenous impicist variable:

$$= \sqrt{1 - 0,907496185}$$

$$= 0,304144398$$

$$= 0,304$$

Direct contribution and indirect contribution of product / service university (X), HR university (X), and service management process of university (X) to student satisfaction (Y), are searched with following steps:

1. The contribution of Products / Services university (X) to Student Satisfaction (Y)

a. The Direct contribution of product / service variable university(X₁): P_{2 yx₁}

$$(0,427236422)_2 = 0,182530960$$

b. Through the Human Resource of university (X₂) : P_{yx₁} . r_{x₁x₂} . P_{yx₂}

$$(0,427236422)(0,843623213)(0,303980687) = 0,109562714$$

c. Through the Service management process of university (X₃) : P_{yx₁} . r_{x₁x₃} .

P_{yx₃}

$$(0,427236422)(0,764418760)(0,291004201) = 0,095038345$$

All Contribution of product / service variable university (X₁) = 0,387132019

2. Human resource contribution of university (X_2) toward Students' Satisfaction (Y).

a. The direct contribution of Human resources variable university (X_2) : $P^2_{yx_2}$
 $(0,303980687)_2 = 0,092404258$

b. Through product/service university (X_1) : $P_{yx_2} \cdot r_{x_2 x_1} \cdot P_{yx_1}$
 $(0,303980687)(0,843623213)(0,427236422) = 0,109562714$

c. Through the service management process of university (X_3) : $P_{yx_2} \cdot r_{x_2 x_3} \cdot P_{yx_3}$
 $(0,303980687)(0,78383417)(0,291004201) = 0,069337702$

All contribution of Human resource variable university (X_2) = 0,271304674

3. The contribution of Service Management Process of university (X_3) toward Students' Satisfaction (Y)

a. The direct Service management process of university (X_3) : $P^2_{yx_3}$
 $(0,291004201)_2 = 0,084683445$

b. Through product/service university (X_1) : $P_{yx_3} \cdot r_{x_3 x_1} \cdot P_{yx_1}$
 $(0,291004201)(0,764418760)(0,427236422) = 0,095038345$

c. Through Human Resource university (X_2) : $P_{yx_3} \cdot r_{x_3 x_2} \cdot P_{yx_2}$
 $(0,291004201)(0,78383417)(0,303980687) = 0,069337702$

All the contribution of service management of university (X_3) = 0,249059492

4. The contribution of *Implicit Exogenous* (ϵ) toward Students' satisfaction (Y)

Contributions received by student satisfaction from exogenous implicit: $P^2_{y\epsilon}$
 $(0,304144398)_2 = 0,092503815$

Total contribution received by student satisfaction (Y) from variable:

1. Product/service university (X_1)	= 0,387132019 = 38,71 %
2. Human resource of university (X_2)	= 0,271304674 = 27,13 %
3. Service management process of university (X_3)	= 0,249059492 = 24,91 %
The simultaneous contribution of X_1, X_2, dan X_3 to $Y = 0,907496185 = 90,75$ %	
4. <i>Implisit Exogenous</i> (ϵ)	= 0,092503815 = 9,25 %
Total contribution received Variable Y	1 100 %

The contribution received by the student satisfaction variable from all the variables studied is the product / service of university, hr university, and the service management process of university, and from the exogenous implicit variable is 1, meaning the whole contribution is 100%. where the contribution of variable of product / service of university equal to 38,71%, contribution from human resource university equal to 27,13%, contribution from process service management of university equal to 24,91% so that contribution from three variable is equal to 90,75% The contribution of the exogenous implicit amounted to 9.25%.

Contribution of Satisfaction (Y) to Student Loyalty (Z)

The causal relationship between student satisfaction (Y) and student loyalty (Z) is shown in the next page.

Table6
Results of Correlation Testing between Student Satisfaction
With Student Loyalty

Correlations

		Kepuasan	Loyalitas
Kepuasan	Pearson Correlation	1	.850**
	Sig. (2-tailed)		.000
	N	95	95
Loyalitas	Pearson Correlation	.850**	1
	Sig. (2-tailed)	.000	
	N	95	95

** . Correlation is significant at the 0.01 level (2-tailed).

Result of correlation test between student satisfaction variable (Y) with student loyalty variable (Z) obtained value equal to 0,850. Then the value is interpreted in consultation on price criticism r Product Moment (r) with n = 95 at 95% confidence interval (0,05) is equal to 0,202. Thus the result of correlation test of student satisfaction variable with student loyalty variable is known bigger than r value at 95% confidence interval (0,850 > 0,202) with p-value 0,000. This means that student satisfaction with student loyalty has a significant relationship. The correlation value of 0.850 on the Guilford criterion is in the range of 0.80 to 1.00 intervals, it shows that student satisfaction has a very strong relationship with student loyalty.

The amount of contribution generated from student satisfaction on student loyalty is as follows:

$$\begin{aligned}
 KD &= r^2 \times 100 \% \\
 &= 0,850^2 \times 100 \% \\
 &= 72,25 \%
 \end{aligned}$$

Thus 72.25% percentage of realized relationships are given by student satisfaction variables, and the rest of 27.75% is given by other variables that are not researched.

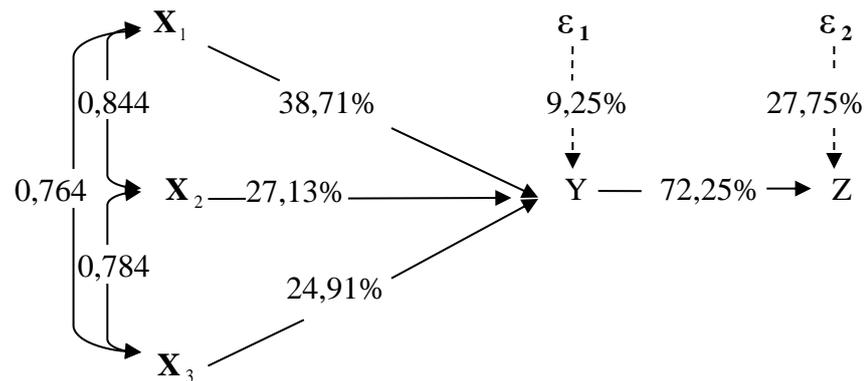


Figure: Percentage of Contribution between Variables

In the diagram above shows that the contribution of products / services university (X_1) of 38.71%, HR university (X_2) of 27.13%, service management services university (X_3) of 24.9%, and the contribution of variables that are not Researched (1) equal to 9,25% to student satisfaction (Y). The contribution of student satisfaction (Y) to student loyalty (Z) is 72,25% and contribution of variable not examined (2) is equal to 27,25%. Based on the result of research known contribution realized from variable of product / service of university, Human Resource University, and process of service management service of university with student satisfaction together equal to 90,75%.

SIMULTANEOUS HYPOTHESIS TESTING

The test hypothesis is used to test the difference of path coefficients in a similar structure simultaneously.

Table7
Simultaneous Hypothesis Testing

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3899.807	3	1299.936	297.581	.000 ^a
	Residual	397.519	91	4.368		
	Total	4297.326	94			

a. Predictors: (Constant), Manajemen, Produk, SDM

b. Dependent Variable: Kepuasan

The simultaneous test results obtained by the value of F_{count} of 297,581, then the value is interpreted with the value percentile distribution F-snedecor (F_{tabel}) at the interval F is equal to 2.72, thus the value of F is greater than the value of F, at the level of significance F (297,581 > 2,72) with p-value 0,000. Hence the hypothesis H_0 is rejected and hypothesis H_1 accepted because tested its truth, meaning that together product / service university, Human Resource University, and process management service of university service and student satisfaction have contribution which significant to student satisfaction.

PARTIAL HYPOTHESIS TESTING

The structure of contribution of product / service variable of university (X), HR university(X), university service management service process (X) to student satisfaction variable (Y) is tested using partial path analysis (individual).

Table8
Partial Hypothesis Testing

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.135	1.802		2.295	.024
	Produk	.988	.144	.427	6.842	.000
	SDM	.535	.114	.304	4.689	.000
	Manajemen	.454	.084	.291	5.390	.000

a. Dependent Variable: Kepuasan

The value of hypothesis testing of variable contribution of product / service of university (X_1) to student satisfaction (Y) is 6,842, t_{count} of hypothesis test of variable contribution of university (X_1) to student satisfaction (Y) is 4,689, and t_{count} of hypothesis test of contribution Variable of service management process of university (X_1) to student satisfaction (Y) is 5,390. The values of hypothesis testing are then interpreted in consultation with the value of the t distribution percentile (t) with the sample size of $n = 95$ with $df: nk-1 (95 - 3 - 1) = 91$ at 95% confidence interval (0.05) Is 2,000. Hence the result of hypothesis testing of contribution of product / service variable of university (X_1), variable of HR university (X_1), and variable of service management service process of university (X_1) to student satisfaction (Y) bigger than critical price distribution t at 95% (6,842, 4,689, and $5,390 > 2,000$) with p-value 0,000. Hence, H_0 hypothesis is rejected and H_1 accepted because tested its truth, meaning that there is significant contribution of product / service university, Human Resource University, and process of service management of university to student's satisfaction.

The structure of student satisfaction variable contribution (I) to student loyalty is tested partially (individually).

Table9
Hypothesis Testing Student Satisfaction of Student Loyalty

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.817	2.245		3.928	.000
	Kepuasan	.732	.047	.850	15.565	.000

a. Dependent Variable: Loyalitas

T-tes value of hypothesis testing of students' satisfaction (Y) contribution to student loyalty (Z) is 15,565. The value is then interpreted in consultation with

the value of the t distribution percentile (t) with the sample size of $n = 95$ with df: $n-k-1 (95 - 1 - 1) = 93$ at the 95% confidence interval (0,05) is 2,000. Thus the result of hypothesis testing is greater than the critical value of t distribution at 95% confidence interval ($15,565 > 2,000$) with p-value 0.000. Hence the hypothesis H_0 rejected and H_1 accepted because tested the truth, meaning that there is a significant contribution of student satisfaction on student loyalty.

The result of statistic test is known that the contribution received by student satisfaction from product / service of university, Human Resource University, university service management process is 90,75% and the rest equal to 9,25% contribution from variable not examined or not used as model in research . Where the contribution of products / services of university amounted to 38.71%, HR contribution of 27.13%, and contribution of service management service process university of 24.91%. And the rest that is equal to 9,25% contribution from other variable not used as model in research, so all contribution received by student satisfaction is 100%. The contribution of student satisfaction to student loyalty is equal to 72,25% and the rest equal to 27,75% from other variable not examined. The result of hypothesis testing shows both partially and simultaneously that product / service university, Human Resource University, university service management process, have contribution to student satisfaction, and student satisfaction to student loyalty, and each have significant contribution.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. Integrated service of university on product / service dimension give direct and indirect contribution equal to 38,71% to student satisfaction.
2. Human resources provide direct and indirect contribution of 27.13% towards student satisfaction.
3. Service service process dimension gives direct and indirect contribution of 24,91% to student's satisfaction. The service process of university has a significant relationship with student satisfaction.
4. Integrated service services of university through dimension of product / service, human resources, and process / service management management together give big contribution and significant to student satisfaction 90,75%, and the rest contrausi from other variable not examined.
5. The results also showed that student satisfaction has a significant contribution to student loyalty of 72.25%, and the rest contribution from other variables that are not researched.

Recommendations

1. Review policies to improve the competence of administrators, lecturers, and employees in accordance with their respective fields, communication skills, positive attitude, and quality education services to all parties.
2. Improving the professionalism of human resources of university (administrators, lecturers, and employees) by evaluating their performance and providing training in accordance with their respective fields.
3. Service management in all sectors enhanced, supported by human resources who work in synergy both vertical and horizontal.

4. Increased student satisfaction is done by increasing the three elements of integrated services of university (ie products / services university, HR university, and service process university) and always provide high quality services and responsive to the needs of students.
6. In order to create loyalty university must strive to provide 100% service without defects and always foster good relationships with students.

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BUSINESS MODELS BASED ON COLLABORATIVE CONSUMPTION

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Collaborative consumption (CC) is taking momentum. It is receiving more and more notoriety and it shapes new ways for transactions to occur. It presents an alternative to the traditional business model and it is succeeding in terms of revenues. More companies are founding their business on a digital platform that enables a match between two peers, where one peer provides a service and the another buys it. The platform makes a profit from matching supply and demand. The collaborative consumption is thus grounded in an established online community.

We will take the concept of CC drawn from recent authors. Accordingly, three actors interact in a CC model transaction with different roles: (a) a platform provider enables exchange, (b) a peer service provider grants a service, and (c) a customer seeks access to assets and consumes. In other words, the final customer needs to interact in order to get the service with two agents: the platform and the peer server or supplier. The contact with the first agent is online, whereas the contact with the second is offline.

Hence, the perceived quality of these services depends simultaneously on the platform (providing information of potential suppliers) and on the particular supplier who delivers the service, who really interacts with the customer and eventually serves him/her in the “real” world. This service provider is no longer a professional, but an amateur.

This new scenario in which the service is a mix supplied by two providers and in different channels (the platform through its website, and the peer service provider supplying the real service) is a challenging aim still not fully covered by extant literature. There are some precedents such as the hybrid services, which are composed by a part provided as a traditional service and another part provided online.

Several models concerning service management have been proposed. One of the pioneers was Parasuraman (1985) and his team, publishing a model that measures service quality through the gaps between expectation and performance. According to this model, consumers' perceived quality of a given service depends on how well the service delivery meets their expectations of that delivery. Based in this framework, a new model is proposed adapted to the CC setting. In the new proposal, the whole way from expectations to perceptions is analyzed through a sequence of consecutives gaps that leads from expectations to perceptions, which allows to take decisions in order to close the overall gap. The set of gaps are: GAP 1 knowledge gap; GAP 2 design gap; GAP 3 performance gap; GAP 4 internal communication gap and GAP 5 external communication gap. In the proposed model, all these five gaps explain the perceptions-expectations mismatch.

The customer finds these consecutive gaps when interacting with the platform and also when interacting with the peer provider. Consequently, there is a double “cycle” from expectations to perceptions. Additionally, the cycle shape allows to introduce the Deming-cycle for quality and the continuous improvement best practices.

Parasuraman, A., Zeithaml, V., & Berry, L. (1985). Conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49, 41–50.

Global Health Initiatives in addressing epidemiologic transition in developing countries -- Are they there yet?

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Abstract:

Developing countries are remain struggling to tackle unresolved communicable diseases and starting to be challenged by the rise of non-communicable diseases. Also, the widening gap of sociodemographic status has remarkably exacerbating health inequities within a population of low and middle-income countries. This put the developing countries under the condition of double burden of diseases. Global Health Initiatives (GHIs) has been enormously influential in developing global health innovation to address the shared goals, particularly in low and middle-income countries. However, criticism on the effectiveness of GHIs continues as the epidemiologic trend in developing countries has shifted towards the challenging double-burden diseases.

This paper attempts to evaluate the GHIs intervention in developing countries and, subsequently, how their effective coordination and broader role in country-level strategic agenda setting will help to fulfil the evolving health needs in the context of epidemiologic transition.

The fact that deadline for the Millennium Development Goals has passed and the threat of double-burden condition in developing countries continue to rise, forcing GHIs and partner countries to shift their focus on sustainable and effective approaches to achieve Sustainable Development Goals' health-related goals. Overall, GHIs has fostered developing countries in making progress, but should step up to the next level.

1. Global Health Initiatives in addressing epidemiologic transition in developing countries -- Are they there yet?

To date, the developing countries are remain struggling to tackle unresolved communicable diseases and starting to be challenged by the rise of non-communicable diseases. Prevalence of type 2 diabetes and CVD in Sub-Saharan Africa have been increased 10-fold in the last 20 years.¹ However, lower respiratory infection, HIV/AIDS, and diarrheal disease are still the three leading causes of death in low-income countries.² Also, the widening gap of sociodemographic status has remarkably exacerbating health inequities within a population of low and middle-income countries.³ This put the developing countries under the condition of double

burden of diseases which has negatively affected on the already weak health system.

Global Health Initiatives (GHIs) has been enormously influential in developing global health innovation to address the shared goals, particularly in low and middle-income countries. A high number of studies revealed that GHIs has particularly successful in scaling up targeted health services in resource-poor countries.^{4,5} However, criticism on the effectiveness of GHIs continues as the epidemiologic trend in developing countries has shifted towards the challenging double-burden diseases. This paper attempts to evaluate the GHIs intervention in developing countries and, subsequently, how their effective coordination and broader role in country-level strategic agenda setting will help to fulfil the evolving health needs in the context of epidemiologic transition.

2. GHIs' Performance: progress and weakness

GHIs as an institutional form of global health partnership emerged to address a significant health issue and have the ability to generate substantial funding.⁶ This endeavor illustrates the global realization of linkages between health and economic development and health and security, including the commitment to achieve health targets in Millennium Development Goals (MDGs). Over the last 20 years, GHIs has been increasingly growing in number, models, and an unprecedented amount of money gained through partnership.⁷ To exemplify, in June 2001, the Gates Foundation pledged US\$100 million to Global AIDS and Health Fund. Eight years later, by the end of 2009, total pledges to Global Fund has multiplied to over US\$21 billion which mainly from donor governments.⁸

Apart from the mounting amount of money invested, WHO identified that GHIs have catalyzed non-state sector engagement in health sector planning, delivery, and accountability.⁹ Health services have also highly utilized by general population due to rapid expansion in targeted services, free at the point of service, and promotion of universal standard of care.⁹ The encouragement of effective partnership also has been initiated by the involvement of donor partners and developing countries in The International Health Partnership (IHP+) since 2007 which aim at delivering better health outcomes in low- and middle-income countries through effective collaboration to build sustainable health systems.¹⁰

Despite all of those concerted efforts, some health goals in MDGs were failed to achieve, and GHIs are still unable to address current health challenges in developing countries.¹¹ WHO has identified that demands of GHI planning processes overwhelmed national capacities, workforce moved away from non-targeted and public services, and inadequacy of information systems are largely ignored.¹⁰ Other gaps observed are the mixed motives of donor, recipient countries and GHIs executives have added burdensome to weak institutional and governance environments in recipient countries which ultimately created a poor alignment of national strategic plans with the projects.¹²

Regarding securing the sustainability of the initiatives, partner countries might fail to adopt the strategies if GHIs remain to focus on specific diseases within specific time frame whereas the actual sources of the problem embedded in double-burden countries are poverty, weak health system, and the resilient and adaptable nature of the diseases.⁸ Forman et al. ¹³ argued that ad hoc institutions and private sector tend to focus on particularistic issues and lack of permanent authority, ongoing financial commitments, and hence the continuity needed to address major global problems over the long term (p.208). In this situation, the disease-specific focus approach, therefore, may take away focus on health system infrastructure development and cross-sectoral initiatives which address long-term challenges that underpin the social and political determinants of health.⁸

3. Sustainable and Effective Solutions

Inevitably, the release of ambitious health targets in Sustainable Development Goals (SDGs) enforced GHIs and recipient countries to employ more comprehensive efforts to address double burden conditions in developing countries. Thus, this paper proposes that both parties should agree on two primary goals: sustainable and effective intervention.

Firstly, GHIs must fulfil a broader role related to country-level strategic agenda setting, policy making, and finance to improve the response to diseases and the provision of health services by a functioning health system. Reich et al. ¹⁴ A more balanced approach between specific-disease focus and system-based solution [is desirable]; like weaving a piece of cloth, we need both the vertical and the horizontal (p. 865). Despite the fact that some GHIs have been investing in health system strengthening (HSS) program, for example, the GAVI Alliance and Global Fund, it is suggested that GHIs optimize stable funding within health system building block concerning governance, financing, and information system intervention which are the most neglected areas.⁷ In this way, more equitable and sustained improvement in health services and health outcomes can be achieved.

Secondly, GHIs need to encourage country ownership and priority setting by maintaining coordination with global partners and recipient countries through single country-led national health strategy. This attempt has been initiated since 2007 by the IHP+ guided by the principles of the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action.⁸ By this coordinated effort, partner countries might be able to participate in accountability processes and the programs enacted are increasingly aligned with countries' health development agenda. Nevertheless, it can further create support for civil society engagement, accountability, transparency, and legitimacy in health policy and planning.¹⁰ With the recent IHP+ transformation towards the achievement of universal health coverage (UHC), this partnership might potentially facilitate effectiveness for progress towards HSS and UHC that contributes to the achievement of health-related SDGs.¹⁵

4. Conclusion

The fact that deadline for the MDGs has passed and the threat of double-burden condition in developing countries continue to rise, forcing GHIs and partner countries to shift their focus on sustainable and effective approaches to achieve

SDGs health-related goals. It is desirable that GHIs, global partners, and recipient countries strengthen their cooperation by investing in HSS. As this epidemiologic transition is a dynamic process, consistent commitment to establish further innovation among global partnerships is highly required. All in all, GHIs has fostered developing countries in making progress, but should set its feet to the next level.

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Breaking Down Types of Crowdsourcing Tasks: A Conceptual Study

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Crowdsourcing, tasks and their complexity have become interesting topic to be discussed in the digital era. This paper will discuss the types tasks which are outsourced to the crowd and the actors involved in it. The included chapters will disclose the importance of modularization and how the process coordination of a client company (internal) and a platform (intermediary) looks like. Therefore, we will try to answer: what kind of different tasks are solved with crowdsourcing? what are the mechanisms of modularization/coordination that are used in crowdsourcing? What kinds of tools are available to ensure quality throughout the process?

Keywords: crowdsourcing, modularization, coordination, fuzzy tasks

1. Introduction

1.1 Background

Howe (2006) in his article 'The Rise of Crowdsourcing' who coined the term Crowdsourcing for the very first time. „Crowdsourcing' is the act of taking a task traditionally performed by a designated agent (such as an employee or a contractor) and outsourcing it by making an open call to an undefined but large group of people.” (Howe 2008). There are simple tasks like data collection and translation of simple texts, complex tasks like problem solving in innovation projects or creative tasks like photography, artistic design and software applications (Schenk and Guittard 2011). Bratvold himself broke crowdsourcing into four main subcategories which focus more on „relationship of the worker with the work instead of the output”: Microtask, Macrotask, Crowdfunding and Crowd Contests (Bratvold 2011).

Companies are nowadays profiting from the intelligence of the people around the world, connected through the internet and a platform which is providing the right process for solving the assigned task. Companies who are requesting work to be done by the crowd are called client, mostly go via a Crowdsourcing Service Providers (CSP) which have access to thousands of crowdworkers and can offer a certain amount of task demand (Bratvold 2011). Interesting here is the reason why they do this. According to Bratvold (2011) crowdsourcing is utilized because it is faster, easier, cheaper and also due to quality reasons. That a company can profit from the crowd in different ways, they break down the task into modules. This leads to a wide range of smaller tasks which can be solved by thousands of people at the same time. „Modularity, as we use the concept today, has emerged in an industrial

context and is inextricably bound up with the wish for utilizing resources in the most efficient way when a number of related tasks are to be solved, or a range of related products are to be produced.” (Miller and Elgard 1998, p. 6).

Here in this paper I would like to focus on the task type ‘Distributed Human Intelligence Tasking’ or also known under the business model ‘marketplaces’. There has been a trend in the last few years for the use of microtask platform like Mechanical Turk from Amazon. Interesting fact here is that, how the quality can be assured by the amount of crowdworkers, the amount of tasks to be solved, the processes who should be ensured by the CSP and how the task has to be modularized by the client. Quality is an important factor to keep transaction costs on a low level and to profit of the crowds’ wisdom.

2. Problem Description

Companies are not able to follow its aim to reduce costs in a fast, easy and cheap way by choosing the wrong platform provider. The question is more about how the client should provide its tasks to the Crowdsourcing Service Provider that the crowdworker can understand and solve it easily and how will the quality of this process be ensured by the intermediaries like Amazon’s Mechanical Turk. If the work does not fulfill the requirements of the company, the crowdworker will not get any money. This is the worst case for all involved parties. But how must be the requirements the intermediaries have to come up to avoid their vanishing from the marketplace. After the rise of this new technology there will be a consolidation in the next few years.

2.1 Aim of the Paper

This work shall define important categories of tasks in which different crowdsourcing platforms specialized themselves. This tasks need to base upon certain modularization/coordination mechanism that the task is not too complex to be solved and can be carried out by the fitting technology. The steady growth of demand on the marketplace must be a sign of success and the growing number of workers shows how popular and used this new way of work is. The microtask crowdsourcing platform Mechanical Turk (MTurk), for example, provides more than 294’000 human intelligence tasks (HIT) to be solved by now (Mturk.com 2012) and his competitor Crowd Flower has more than 3 million contributors (CrowdFlower.com 2012). This paper therefore attempts to answer the following research questions:

- 1. What kind of different tasks are solved with crowdsourcing?*
- 2. What are the mechanisms of modularization/coordination that are used in crowdsourcing?*
- 3. What kinds of tools are available to ensure quality throughout the process?*

3. Structure of the Paper, Methodological Approach

I am going to cluster the articles that I have and needed on the basis of certain categories which are the same like in the content. The first chapter will be about crowdsourcing, tasks and their complexity, the type of tasks which are outsourced to

the crowd and the actors involved in it. The next chapter will disclose the importance of modularization and how the process coordination of a client company (internal) and a platform (intermediary) looks like. There it will be as well the discussion about quality procedures the intermediary has to provide to ensure the success of the microtasks' completion, the platform itself before a fit model combines everything together and the results are discussed in the final chapter completed with concluding remarks. I was searching with keywords like 'modularization', 'crowdsourcing', 'microtask', 'task complexity', 'types of tasks', 'coordination' and 'process' through the online library of Uni Bern and E-Journals like JSTOR or ACM. I used as well the ETH-library to access a wider range of databanks for searching with keywords and the literature reference of the articles I already obtained. Recognized internet blogs, magazines and websites were as well an important source to see, what the editors who are nearest to the source are writing about the future of crowdsourcing.

3.1 Definition of Crowdsourcing

The phenomenon of Crowdsourcing aroused about 6 years ago through journalist Jeff Howe in his Wired magazine-blog. He defined the definition of this word in his book 'Why the Power of the Crowd is Driving the Future of Business' as follows: „'Crowdsourcing' is the act of taking a task traditionally performed by a designated agent (such as an employee or a contractor) and outsourcing it by making an open call to an undefined but large group of people.” (Howe 2008, p. 1). For Kittur (1996) crowdsourcing became increasingly important in driving production and innovation in a networked world while Brabham (2008) sees it as an online, distributed problem-solving and production model that has emerged in recent years. Crowdsourcing can be seen also as a business model and be divided into the following: Non-profit, Content and product markets, Crowd processes, Platforms, Marketplaces, Media and data, Crowd ventures and Crowd services (Dawson and Bynghall 2012).

3.2 Types of Tasks

The types of tasks that are being discussed here are tasks which are seen in context of organizational decision making groups. Though there are different types of tasks which exist since 1950's, there are mostly four important conceptualizations of task. They are

- Task as behavior description
- Task as ability requirements
- Task *qua* task
- Task as behavior requirements

According to Hackman (1969) the first and the second points wouldn't support the advanced research of group tasks, because on the one hand task as a behavior description is not a helpful tactic. It is defined by whatever actions of the group members. And on the other hand task as ability requirements is not successful in defining a task when it comes to its own properties. (Zigur and Buckland p. 3 - 4) Hackman (1969) found out, that the task *qua* task approach focuses on aspects of the actual task materials that are presented to the group. Zigur and Buckland (1998) assess the last task as a fruitful found for group research, because required

behaviors vary from task to task and „behavior requirements can legitimately be viewed as characteristics of tasks (rather than characteristics of the performer).“ (Hackman 1969, p. 111). This fact is very important for crowdsourcing projects and platform/ intermediaries who are specialized on carrying out certain tasks like MTurk, a microtask platform. The characteristic of a microtask (e.g. tagging pictures) is different than in contest tasks (e.g. creating a logo) and it does not matter who the individual is, it matters more the skills he has to bring along with.

3.3 Complexity as characteristic

Tasks themselves can be valued in crowdsourcing from its level of complexity. Schenk and Guittard (2011) classify them into three categories like simple tasks (data collection, translation) can be carried out cheaply and with a low involvement of the individual. „In a context of new product development and innovation projects, problem solving can be regarded as a complex process.“ (Simon 1960 in Schenk and Guittard 2011, p. 99). According to the authors, the crowdsourcing of this complexity level just makes sense when there is expertise and skills among the individuals in the crowd. The third level of creative tasks requires the creativity of individuals and where „creativity and uniqueness have a value *per se*.“ (Schenk and Guittard 2011, p. 99). Here, the client is profiting from the creativity of the crowd instead of a problem to be solved. In Microtask, the complexity is simple. Here, the interaction between task and person characteristic is not important but the sense of capabilities is what which counts. This can be ensured by preselection, control, several answers from different individuals etc.

3.4 Complexity as a level

According to Campbell (1988), an increase in information load, information diversity or the rate of information change can influence the complexity of a task. He divided the complexity level of a task into four dimensions: 1. multiple potential ways (increase of information load/diversity); 2. Multiple desired outcomes (increase of information load); 3. Conflicting Interdependencies (increase of information load/diversity); 4. Uncertain outcome (increase of information load/change). Corresponding to this, Campbell combined this dimensions of complexity with task environments and defined the following: Simple Tasks, Problem Tasks, Decision Tasks, Judgement Tasks and Fuzzy Tasks. In Crowdsourcing, simple tasks can be microtasks (no dimension involved), problem tasks can be macrotasks/crowdfunding (different problem solutions due to intelligence/expertise possible), decision tasks can be crowd contests (best alternative from many possibilities). Judgment tasks are a part of problem and decision tasks due to its conflicting interdependences and fuzzy tasks in problem tasks due to its solution scheme multiplicity and in decision tasks because of its outcome multiplicity.

3.5 Complexity as a process

Bonner (1994) classified elements of task complexity into the components of general information processing models: Input, Processing, Output. Within this, task characteristics which are elements of task complexity are classified to these components in relation to the amount or clarity of information due to its relation of task structure and difficulty. In General, the less the information (e.g. memory) and

the clearer (e.g. unspecified, mismatches) all information, the easier it is to go through the process. According to Bonner (1994) it is important to reduce the steps or procedures and their independency in a process, to minimize the complexity and to support the clarity. This could be done by breaking down the task into separate procedures and at the same time the information to process in each step (see 2.3). In Microtask crowdsourcing, it is important that the tasks are independent from each other that they can be solved in a short period of time by several individuals parallel, for less money and without specific expertise.

4. Types of Crowdsourcing

In the crowdsourcing process, tasks are provided either directly from a company or through an intermediary to the crowd and its single worker. There are different platforms who specialized themselves for a type of crowdsourcing which can be classified due to different reasons.

4.1 Type of worker to work

Bratvold (2011) focus on the relationship between worker and work and classifies crowdsourcing as follows:

- Microtask (e.g. MTurk)
- Macrotask (e.g. Innocentive)
- Crowdfunding (e.g. Kickstarter)
- Crowd Contests (e.g. crowdSPRING)

Microtask sites like MTurk provide a (micro-) task to the crowd and not like Macrotasks where a view on the entire project or a bit more is given. Crowdfunding platforms employ the crowd to provide work in the form of monetary benefits and in Crowd Contests the crowd is asked for work and only the chosen entries are provided compensation (Bratvold 2011).

4.2 Type of approach

Brabham (2011) however defined four crowdsourcing types from their approach and his results just differ with Bratvold in Crowdfunding (collection of money) where Brabham decided for the creation of collective resources:

- **Knowledge Discovery and Management** - Here individuals find and collect information for e.g. the creation of collective resources (e.g. Peer-to-Patent).
- **Broadcast Search** – with this, scientific problems can be solved by empirically provable solutions (e.g. innocentive.com).
- **Peer-Vetted Creative Production** – here, design or aesthetic problems will be solved by creating and selecting creative ideas (e.g. threadless.com).
- **Distributed Human Intelligence Tasking** – human intelligence is here more efficient or effective than computer analysis for a huge amount of data (e.g. Amazon Mechanical Turk).

As the microtask outsourcing focuses on a huge amount of task it is important, that the individuals or crowdworkers do not see everything to keep the task simple and

fast. So for this, the approach of Distributed Intelligence Tasking is appropriate because it needs the efficiency and effectiveness of a human to solve it. The tasks are too simple to be a broadcast search, it does not need a collection of different people because the tasks are independent and there are no creative ideas like in contests to be selected.

4.3 Type of business model

Crowdsourcing can be as well seen as a business model and divided into the following: Non-profit (Tapping crowds to create non-financial value), Content and product markets (Sale of content or product that are created or selected by crowds), Crowd processes (Services that provide value-added process or aggregation to existing crowds or marketplaces), Platforms (Software and processes to run crowd works and crowd projects, for use with internal and external crowds), Marketplaces (Matching buyers and sellers of services and financing through mechanisms including bidding and competitions), Media and data (Creation of media, content, and data by crowds), Crowd ventures (Ventures that are predominantly driven by crowds, including idea selection, development, and commercialization) and Crowd services (Services that are delivered fully or partially by crowds) (Dawson and Byng Hall 2012). Microtask crowdsourcing platforms like Mechanical Turk belong to the business model 'Marketplaces' where sellers like the (client) company puts HIT's (Human Intelligence Tasks) into the market for a specific amount of money which should be solved by the buyer (crowdworker).

4.4 Actors in Crowdsourcing

Who are the parties involved in crowdsourcing? According to Schenk and Guittard (2011) there are three categories of actors:

- The individuals forming the crowd who are the providers.
- The companies directly benefitting from the crowd input otherwise called the client companies.
- An intermediation platform building a link between the crowd and the client companies. This serves as a Crowdsourcing enabler.

4.4.1 Individual (Crowdworker)

Brabham (2011) found out, that individuals in crowds are taking part into crowdsourcing due to several intrinsic and extrinsic motivators. But there are motivations which emerge across more than one case. For sure it is because of earning money, to develop one's own skills, to network with professionals, to build a portfolio for future employment, to challenge oneself by solving a problem, to socialize with people, pass time while being bored, to contribute in a large project of common interest, to share with others and to have fun. Due to the author, people participate as well because they believe their contribution matters and they feel a social interaction.

4.4.2 Company (Client company)

Why should crowdsourcing be something valuable? During his research, Bratvold (2011) identified four reasons, why companies utilize crowdsourcing:

Faster – A project broken into microtasks & assigned to a crowd of workers can be completed faster than if one person worked to complete it.

Easier – Automated management systems can make the process seamless, removing the need for time commitments involved with human moderation.

Cheaper – Costs can be lowered through the automated process of breaking up tasks & delivering to unskilled workers, often in areas with lower costs of living.

Quality – Higher quality can be obtained through the redundancy of having multiple workers complete each task, and not paying for unqualified results.

The aspects for a company to outsource tasks to a crowd are obvious and can be measured like the speed, low complexity and payment but the quality factor is a factor which is difficult to examine. Platforms try to decrease this with a defined preselection or as mentioned with tasks, which are solved by several people and the answer which pops out most will be selected. Same time, this redundancy consumes worker's time while they could do another task. If the company does not pay the unqualified result it can still keep their costs low but it had to be controlled and the task has to be done again.

4.4.3 Intermediary (Crowdsourcing platform)

Companies may initiate crowdsourcing projects themselves or through an intermediary like Mechanical Turk who is a specialist in microtask crowdsourcing. „Business models define how resources are brought together to create monetizable value. In crowd business models, the resources are primarily based on crowds.” (Dawson and Byngall, 2012, p. 185). The authors classified different approaches how to make money:

Fees and licenses:

Crowdsourcing platforms (CSP) can make money with fees by transaction-based payments, membership-fees for clients (company) or/and service providers (crowdworker), test fees like testing providers on their capabilities for software or language skills. Software of crowdsourcing platforms can be licensed for companies and a regular payment demanded for hosting cloud-software or for access to high-value content. A fee has as well to be paid when advertisements on the media.

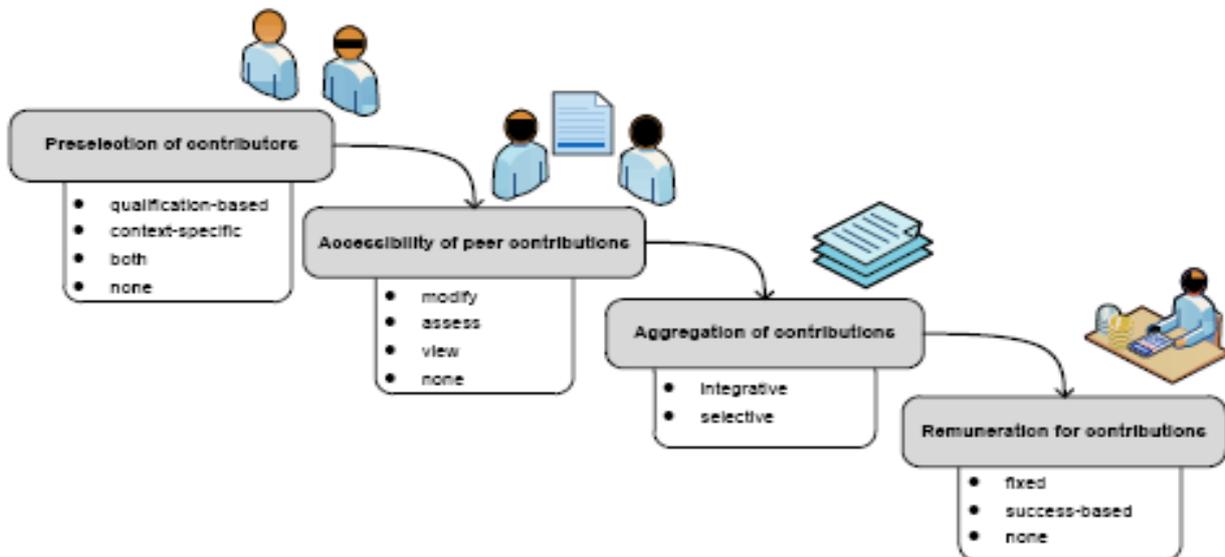
Sales and Services

Money can be as well generated by pay per task, with product sales like clothing which is designed by crowds, by content sales like books and reports, with packaged services which is delivered for a fixed price by crowds and with custom services like bespoke services delivered by crowds.

4.5 Crowdsourcing and quality process

If the tasks are split up in different modules either to reduce time, costs or coordination effort, there must be as well a process to work on this efficiently. Geiger et al. (2011) found out, how the process of crowdsourcing can be characterized.

Figure 2: Characteristics of crowdsourcing processes¹.



How can the quality be ensured before, while and after the process? As in Figure 2, the quality starts already with the preselection of contributors. Geiger et al. (2011) defined qualification-based preselection to ensure a minimum of quality level by demonstrating certain skills before regularly contributing (e.g. iStockphoto). Bratvold (2011) calls this Gold and defines it like this: „In a large pool of microtasks, some tasks are manually solved with the known correct answer & are then considered gold. These gold tasks are then given to new crowdworkers as a test to see how many tasks they get right. If enough percentage of gold tasks are answered incorrectly, that crowdworkers other tasks are rejected due to an assumed low quality.“ (Bratvold, 2011, p. 3). In context-specific reasons, companies/intermediaries restrict the contribution to their employees and customers (e.g. InnoCentive@Work). There can be as well both preselections used (e.g. LiveOps) or none. The access of the contributors can be build up into four levels from none (e.g. Camklickr) to view (e.g. 99designs), asses (e.g. Atizo) and modify (e.g. Wikis). The aggregation can be divided into integrative and selective. The first one is according to Geiger et al. used to tap into the creative power (e.g. YouTube) or the collective opinion (e.g. Delicious) of the crowd and the latter follows more a competitive approach (e.g. contests). By fixed paid remunerations, the outcome does not matter (e.g. e-Rewards) while success-based remuneration will be paid according to the value towards the crowdsourcing goal (e.g. 99designs) and last but

¹ Source: Geiger et al. (2011), p. 6.

not least are there can be as well nothing paid when the work does not meet the expectations of the client.

4.6. Modularization

Baldwin and Clark (2000) define modularity as proven concept in different fields for handling complex systems. Modules are units in this complex system, which are structurally independent of another but work to together, that's why they are interdependent. „The time to begin the process of breaking apart the system is when the complexity of the whole threatens to overwhelm progress toward the goal.” (Baldwin and Clark, p. 64). This modularization happens as well when a microtask platform like MTurk offers currently 312'877 human intelligence tasks to be done by their crowdworkers. This varies from translations (in the end it is a translated book or poem) till correcting spellings. These tasks are independent, just done by a crowdworker without any dependency. But if the output of A is the input of B, then the tasks are dependent of each other like in crowdfunding. The more fundraisers find donors to spend money, the faster the aim will be reached of a certain fixed amount in the beginning. Interdependencies may occur, when crowdworkers are typing in a code which does not make sense but in the end it is the conversion from a book into an ebook and the single codes are in the end a sentence, a paragraph or even the book itself.

Design and Task structure

Every platform in crowdsourcing underlays a certain design process. According to Baldwin and Clark (2000), the Design Structure Matrix (DSM) works like a map of the design structure and shows the relationship (dependences and interdependencies) among design parameters. Here it is important, that the design task complexity allows connections, communication, and decisions within the process. The Task Structure Matrix (TSM) indeed characterizes the process and contains: a list of tasks, corresponding to the design parameters to be selected; a list of precedence relationships between tasks and an assignment of each task to one or more “doers” of the task (in crowdsourcing to the crowdworkers as Human Intelligent Tasks).

Technology support

According to Baldwin and Clark (2000), modularity itself follows certain design rules: architecture (modules and their role in the system), interfaces (Interaction of modules and fit) and integration/test (how well the system works). „The greater the degree of adherence to an ideal profile, the better the performance of the group. Ideal profiles can be operationalized as viable alignments of task and technology.” (Zigurs and Buckland, p. 323). As well in crowdsourcing it is important, which tasks (Micro- and Macrotasks, Crowdfunding and Crowd Contests) are supported by which technology. Zigurs and Buckland (2000) suggest according to Campbell's dimension (2.1.2) following support: 1. Multiple Potential Ways need Information Processing and Process Structuring Support (Decision Tasks); 2. Multiple Desired Outcomes need Information Processing Support (Problem Tasks); 3. Conflicting Interdependencies needs Communication Support (Simple Tasks). As in 2.2.1

defined, judgment tasks and fuzzy tasks are a part of decision and problem tasks and in agreement with this; they need as well communication support.

4.6 Task /Technology fit

4.6.1 Fit Model

Though all the crowdworkers may bring in their knowledge and contribution in different assigned tasks, there must be a congruent fit to task, process and technology. Following fit model diagram, shall simplify the whole, which is discussed in Chapter 2. The aspects which are taken in the diagram are as follows: Most crowdsourcing platform can be allocated to Micro- and Macrotasks, Crowdfunding and Crowd Contests as superior crowdsourcing tasks (2.2.1). The tasks are assigned to the crowdworkers (2.3.1) but the complexity (2.1.1-2.1.3) needs to be reduced by modularization (2.4.1) to increase the overview and get a better handling (2.4.2). That the outcome is like expected, the whole process needs to fit and be supported by a technology and its tools/elements (2.4.3). The whole fit model has to be understood as a process but each arrow and its specified color leads from the same colored square to what is and activating in the next process step.

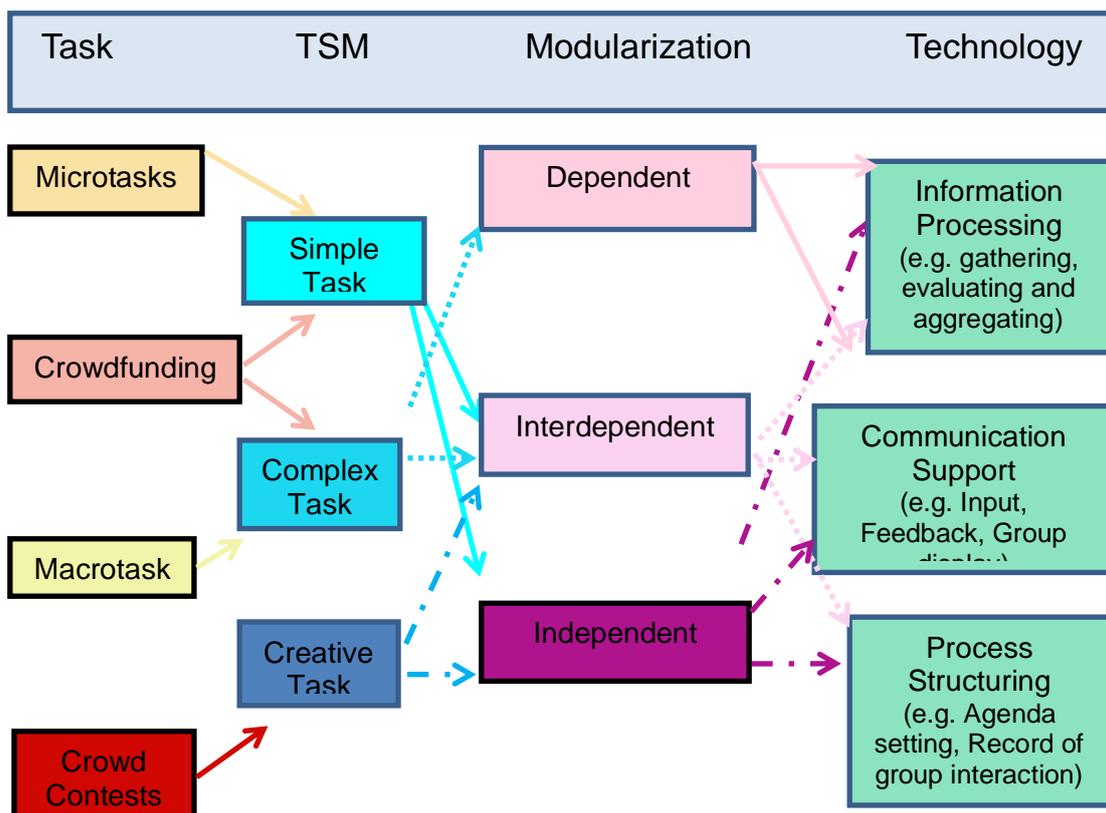


Figure 3: Fit Model Diagram

Hypothesis Microtasks: The level of complexity in simple tasks increases the independency within a unit.

There can be simple tasks in microtasks which are interdependent within a module (e.g. Codes) and several crowdworkers are working for or as well on the same (e.g. E-book) but they are not aware of this because the tasks themselves are independent.

Hypothesis Macrotasks: The level of complexity in complex tasks increases the dependency within and across a unit.

When complex tasks are dependent like in research development (Output A is Input B), the accessibility to the entire project is given due to its complexity to empowered worker which have been preselected or tested before. Complex tasks are inter- and dependent due to the problem solving situation.

Hypothesis Crowdfunding: The level of complexity in crowdfunding is influencing its dependency or independency across a unit.

There can be context-specific contributors like in crowdfunding, where people decide to establish their own project or to join an existing, which can be simple or complex task according to the amount and for the topic they fundraise. The crowdfunder may work alone, so the task is independent but when they get engaged in a group or for an event the tasks are inter-/dependent.

Hypothesis Crowd Contests: The level of complexity in creative tasks is increasing the independency across but the interdependency within a unit.

Crowd contests are creative task where ideas for business names or logos designs are provided by the crowd and are due to this independent, but when it is evaluated by the client company or the crowd itself than the task is interdependent. People are influencing each other with their ideas and voting.

Overall, the tasks in a TSM need to be supported by different technologies and its tools for a successful accomplishment. On the basis of Zigurs and Buckland (1998) there are three technology dimensions: Communication Support (e.g. simultaneous input, physical configuration of communication channels), Process Structuring (e.g. facilitation, agenda enforcement) and Information Processing (e.g. structure information). Dependent tasks need information processing and communication support most due to their complexity, interdependent tasks due to their connectivity all of them and independent tasks due to their simplicity the process structuring (macrotasks), the information processing and the communication support are in the first instance for the client company to interact with the crowd (creative tasks).

5. Conclusion

5.1 Findings and Implications

There are different ways, how tasks can be outsourced to the crowd and will be getting solved through a crowdsourcing fit model. Most important is that the complexity of the tasks is clear that they can be modularized into chunks which are manageable throughout the process. There are four main categories of tasks: microtask, macrotask, crowdfunding and crowd contests. They may be simple, complex or creative in their character and for sure human intelligence taskings, because human are more effective or efficient than through a computer analysis to process them. A clear DSM and TSM are inevitable in order to choose the right technology and its tools. This helps on the one hand to the intermediary to control and maybe adapt his process like Crowdfunder with "Gold-Answers" to keep up the quality of their crowdworkers or Macrotasking sites like Innocentive with preselections to ensure the specific knowledge needed. On the other hand it would be interesting for research to find out, how the tasks can be automatically assigned to a crowdworker who fulfills the quality standards, skills and good reputation to solve the task. Like this, quality checks may be unnecessary and can save time and money.

5.2 Limitations and Suggestions for Further Research

This platforms and the technology for it are changing rapidly. Sure is, that the quality has to be leveraged to survive in the market and to keep up the good renown which crowdsourcing has till now. Therefore, my research has some limitation due to its wide theme and the amount of platforms. It would be interesting to research every task category and its pioneer or best established platform for itself, its mechanism and process quality tools. Will there be more or less business models in future and can every company profit from the wisdom of the crowd or will the price for enormous knowledge to free admission beyond price?

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MAXIMIZING THE USE OF SOCIAL MEDIAS FOR BUSINESS IN THE 21ST CENTURY

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1. Most powerful Social Media: the Twitter Effect

Twitter can be a scary place if you're in a business where breaking news could make or break your bottom line. Regardless of whether or not you believe that Twitter sunk Bruno, Hollywood has already accepted the reality of the "Twitter Effect." Instead of cowering in a corner as Twitter ruins their box office, they've decided to give Twitter the full red carpet treatment and embrace it.

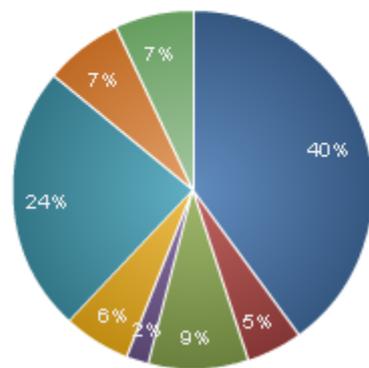
Stephen Bruno of the Weinstein Co. recently told the Baltimore Sun that, "I think Twitter can't be stopped." So he's going to do something about it by taking a proactive stance. "Now you have to see it as an addition to the campaign of any movie ... People want real-time news and suddenly a studio can give it to them in a first-person way."

For example, below is the people's reaction on Twitter toward the movie Inglorious Basterds in 2009:

Twitter Reaction to Inglorious Basterds

Result Summary from Aug 21, 2009 to Aug 23, 2009

Choose a category for details:



Loved It!	40%
Pitt was Great!	5%
Vintage Tarantino	9%
Not Tarantino's Best	2%
Unimpressed	6%
Have to see it!!	24%
Should I see it?	7%
What did you think?	7%

As self-serving as this sounds, it's actually quiet genius. In the case of Inglourious Basterds, which did extremely well at the box office and saw 78% of tweets being positive, the Weinstein Co. held a private screening of the movie, with tickets given away only via Twitter, during Comic Con. They also used Twittering celebrities to their advantage and held a Red Carpet Twitter meetup at the movie premiere. Clearly their proactive Twitter-specific engagement efforts are starting to pay off.

This is one effective marketing way that can be used by **recycle together**. It is effective to gain mass attention. All they should do is some clicks on the internet to make twitter account and post the informations there.

2. Most powerful Social Media: Facebook

Social Media Marketing is still in its infancy. We consider this as an advantage because there are not many set rules, you can try & experiment with different methods & techniques. Here are some tried and tested methods that will ensure success:

- 1. Be Unique and Keep Updating:** There's nothing more boring than bland Facebook



pages. Add lots of personality and fun to profile. If possible, try to create applications just for your page. Offer something different so that they keep coming back, instead of letting them wait for updates from you. For example, if we see [Dell's Facebook page](#), we will see that it keeps updating its status and gives new information on their products and about technology.

- 2. Use a Big Profile Picture:** Who says size doesn't matter? Using a big profile picture is one of the best ways to brand your Facebook page. Facebook allows images of up to 200pix wide x 600pix high to be used as profile images Pages. This way, you stand out in a crowd. Check out [Bob Marley](#) or [Johnny Depp's](#) page on Facebook.

- 3. Tag Fans in Photos:** You can tag your fans in pictures of new collections, or even ask them to tag themselves as a part of a game or contest. Musician Lenny Kravitz uploaded pictures of his concert in Italy in 2009 and asked everyone to tag themselves. This gave him good publicity as the update on being tagged appeared on the fans' walls.

Lenny Kravitz's Photos - July 29, 2009 - Tarvisio, Italy

Photo 12 of 74 · See on Album · Lenny Kravitz's Photos · Lenny Kravitz's Profile

Previous Next



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Added 27 August 2009

Photo File Name:
July 29, 2009 - Tarvisio, Italy by
Lenny Kravitz

Share
Download Photo

4. Exclusive Landing Page for Users: Use different pages to target different sets of people. Take new users to a page that encourages them to 'Like' you or to a page they would find interesting enough to keep coming back. Members/fans can be directed to the wall or a game page that might interest them. Red Bull's profile page is designed in a way that users are given a hint to 'Like' the page, while fans are taken directly to the Wall. We can get innovative in designing landing pages and targeting different people.





5. Reward Loyal Supporters: Encourage loyal supporters to join your Page and reward them. Tabs or badges like 'member of the month' that can be placed on their profiles for visibility can be awarded to them. A happy customer on Facebook can get us lots of attention. Remind users to Like and Share information about you. When their friends see the updates on the News Feed, it's highly likely for them to do the same.

6. Use Contests and Polls: Holding contests encourage fans to interact directly with the company. Domino's 'Show Us Your Pizza' is a contest where people can send pictures of Domino's pizzas they've orders. The best picture will be chosen by Domino's and the photographer gets a prize of \$500 and a chance to get his picture featured in an ad. This has received a lot of attention from Facebook users.



7. Actively Participate Outside Your Page: Find other Facebook pages related to your industry or topic using Facebook Search & start actively commenting on their posts & updates. This is a great way to build relationships in your industry and even adds credibility to your business. If you're willing to offer free advice on communities and discussions, it will encourage people to check your website out.

8. Integrate Facebook Social Plugins to Your Site: When I go to CNN's website, I can see what stories my friends have 'Liked', or what movies my friends 'Recommend' on IMDB. The Like button on your site enables users to share pages from your site back to their Facebook profile and the Recommendation button gives users of your site personalized suggestions for pages that they like. There are many more buttons like LikeBox, Comments, Live Stream etc that you can add to your website. With this, you can see for yourself what your target likes and design your product/service accordingly.

You can also integrate Facebook Connect Plugin in your blog which will enable Facebook users to leave comments on your blog without registering. The comment they make will be put up on their wall instantly which will be visible to all their friends. So, you effectively get a lot of exposure without doing much!



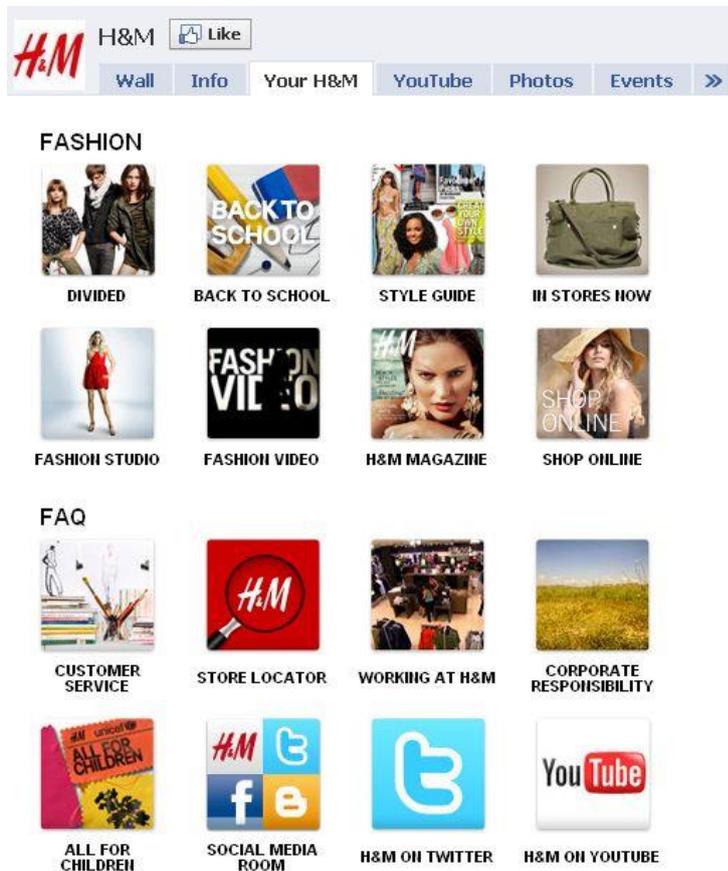
9. Marketplace: With Facebook Marketplace, you can buy and sell anything using the listing service. The Marketplace application page displays all the most recent listings in your networks. The difference between normal listings and the Marketplace is that you don't see another boring list of business, but they show up as the site's own updates. For example, a sales listing would show up in news feeds as "John is selling Abstract Art." In this case, John can be a 'friend' of your or even a friend's friend. You can find out what people want, what they are offering and also how you are connected to these people on Facebook. This is what the page looks like:

10. Don't Just Write for an Audience of Teenagers: It's time we free ourselves of this misconception. Facebook isn't filled with youngsters. Though Facebook has many youngsters who belong to the age group 16 to 25, we see an increase in the number of people from other age groups who use Facebook regularly. According to Pingdom, 61% of Facebook users are over 35 years old. In fact, the 26 – 34 age group rivals the 18 – 25 age group in both the US and the UK. So, make sure communicate to your target the right way.

INNOVATIVE CAMPAIGNS

You can check out some of these for ideas:

- **H & M:** Very interactive Facebook profile. Shows all of its new collections and is easily maneuverable.



- **Victoria's Secret PINK:** The pink challenge: Design your own look.



PINK POLYVORE

UNDERCOVER FASHION CHALLENGE

The top ten are in!

PINK designer, Susan Anderson, chose the sets that best captured the essence of PINK while highlighting the main accessories – bras and panties. Now you decide who wins!

Check 'em out and vote for your fave!

- **Lacoste:** Simple, yet elegant, approach to displaying products on a catalog on Facebook.



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Analyzing Corporate Strategies behind the Merger of Two Newspaper Companies:

Case Study of the Newspaper 'der Bund' in Switzerland

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Abstract

The face of Switzerland's newspaper industry was experiencing a drastic change when a publishing company Tamedia PLC, located in Zurich, announced the merger with their opponent from Bern, Espace Media Groupe which was approved by the Swiss competition commission. Tamedia PLC acquired 80% of the stock capital of the Espace Media Group, in order for Tamedia to become the second biggest player in the Swiss media market. However, with this merger, the changes in the media landscape were not over, yet they had just started, as Tamedia PLC had to evaluate the new context this big corporation was working in and review the new resource base as well as the structures, systems and processes, in order to exploit the new chances and ensure early detection of upcoming dangers. Restructuring was to be expected, in order to implement the new corporate strategy and to reach the most effective economic performance possible. Thus, the purpose of this paper was to analyze their changes in corporate strategy using Porter's five forces, traditional SWOT analysis, and strategic triangle, which in the end helped in developing several probable action plans.

Keyword: *corporate strategy, strategic management, change management, media*

1. Background

In May 2007, the publishing company Tamedia PLC, located in Zurich, announced the merger with their opponent from Bern, Espace Media Groupe. Three months later, the merger was approved by the Swiss competition commission. Tamedia PLC acquired 80% of the stock capital of the Espace Media Group, in order for Tamedia to become the second biggest player in the Swiss media market. However, with this merger, the changes in the media landscape were not over, but they had just started, as Tamedia PLC had to evaluate the new context this big corporation was working in and review the new resource base as well as the structures, systems and processes, in order to exploit the new chances and ensure early detection of upcoming dangers. Restructuring was to be expected, in order to implement the new corporate strategy and to reach the most effective economic performance possible.

Since 2008, a project group of Tamedia PLC was examining many different strategies for the newspaper "Der Bund", which had been in the red for many years and was struggling to survive. This case study deals with the situation "Der Bund" was in at that time, and presents the strategic options Tamedia faced, in order to bring "Der Bund" back into profitable numbers.

"Der Bund" was established in 1850. For 160 years, it has represented the highest

quality daily newspaper in Switzerland's capital Bern. This traditional paper has always been standing for objective news coverage and well-researched reports around such themes as politics, economy, local, culture and sport. Since 2005, "Der Bund" has been published by the Bernese media corporation Espace Media Groupe. As Tamedia PLC took over the Espace Media Groupe in 2007, "Der Bund" became a strategic business unit of the Tamedia PLC.

At the time, the Espace Media Groupe was taken over by Tamedia PLC, "Der Bund" faced many problems and challenges. A lot had changed since the golden era, when "Der Bund" considered itself the voice of the new federal state. For almost twelve years already, "Der Bund" had been generating huge losses. The reasons for the bad financial results in years past were to be found internally as well as externally.

Not only "Der Bund", but the whole media branch was in an upheaval during that time. The causes for the turmoil in the media landscape were due to the rise of The World Wide Web and the attendant advent of digital newspapers that cannibalized their traditional predecessors, as well as the emergence of cost-free newspapers, constituting another substitute for traditional newspapers. All of this had a big influence on the branch, making the situation on this market more complex and competitive than it had ever been before. The new competition and rivalry resulted in declining sales for all competitors and pushed a few of them into the loss area like it happened with "Der Bund".

However, the other reason for the financial difficulties of "Der Bund" was to be found inside the company itself. Before Tamedia PLC took over the Espace Media Groupe, no one had felt responsible for "Der Bund", as it had been owned by three different companies at once (NZZ, Espace Media Groupe, and Publisuisse). Additionally, "Der Bund" was not the only daily newspaper in the city of Berne, but the Espace Media Groupe also published the "Berner Zeitung (BZ)", which was more profitable than "Der Bund", to make things worse again. Therefore, the discussion started if there is a need for two different daily newspapers in the same city. In 2007, when Tamedia PLC finally took charge of "Der Bund", many people thought that this was going to be the definite end of this newspaper.

Tamedia PLC was aware of the problem from the very beginning and knew that a change might be necessary. This is why first discussions about a potential change already arose in 2007, right after the merger with Espace Media Groupe. But as the whole Espace Media Groupe was still in the black due to the newspaper "Berner Zeitung", which generated profits higher than the losses of "Der Bund", the urgency was ignored up to one year after Tamedia PLC had bought the Espace Media Group.

The major reason for the omittance of acting immediately was due to the fact that before Tamedia PLC could turn towards the problem of "Der Bund", they had to deal with some other difficulties in connection with the new merger of the Espace Media Groupe such as, for example, merging the accounting and the IT department. In addition, they were faced with the so called "Tagesanzeiger", another poor-dog newspaper published in Zurich, which was generating losses as well.

In 2008, however, Tamedia PLC could no longer shut their eyes to the fact: A change for the newspaper "Der Bund" had become inevitable. As already pointed out in the previous section, the main reason for the need for change was the economic situation of "Der Bund" caused by the structural changes within the whole media branch. It was out of question that something had to be done in order to lead "Der Bund" out of the crisis and back to where it could operate in the black again.

In November 2008, their management came up with the idea for the project "future subscribed daily newspapers". This overarching corporate-level project did not only affect

“Der Bund” but also many other parts of the Tamedia PLC, such as, for example, the reorganization of the sales department or the formation of a new brand management.

1.1 Strategic Options

In the course of their reflections on the project “future subscribed daily newspaper”, the managing staffs were pondering on the problem child, “Der Bund”. They promptly recognized the demand for action, which would require substantial adjustments that would lead to a considerable change for “Der Bund”. The first step, in evaluating the situation, was to think about each and every possibility on how to proceed with this unprofitable daily newspaper. After a thorough analysis of the setting, by taking into account all the relevant factors, the following four potential options were formulated, with each having their respective advantages and disadvantages:

- “Der Bund” continues to exist as an independent newspaper just as before, under certain clearly specified conditions.
- “Der Bund” and “Berner Zeitung” get merged and only one newspaper for Berne is produced. This project was called “Neue Zeitung Bern”.
- “Der Bund” continues to exist and collaborates with the Zurich newspaper “Tagesanzeiger”. This project was called “Tages-Bund”.
- “Der Bund” is abolished.

The first three options were publicly announced. The fourth option remained unofficial but was treated as a legitimated alternative, if the other three variants were not to succeed. The reactions to the announcement were not long in coming. It induced numerous, mostly regretful or indignant responses. In the sequel, a committee called “Save Der Bund” was established that fought for the sovereignty of “Der Bund”. The committee was presided by politicians from different parties and personages from economy, science, and culture, and within two weeks numbered more than 7000 members.

1.2 The Agony of Choice: The Evaluation Process

To keep “Der Bund” as an own newspaper, a possibility would have to be found to turn it into a profitable newspaper again. The challenge was that if there were changes, they were not allowed to affect the excellence of the reporting. The quality was not to suffer to ensure that the present readers would still be willing to pay for the information. Despite cost savings, “Der Bund” would have to provide objective news coverage and well-researched reports. On the one hand, “Der Bund” should survive in order to preserve the media diversity in Berne. On the other hand, there was still a major doubt whether the current situation still legitimated the existence of “Der Bund”.

Certainly, the major concern was about the economic performance of Tamedia PLC and the intention to maximize profits. Thus, to let “Der Bund” persist as an independent newspaper and, in fact, change nothing, was no option. On one side, there was a thought to get rid of this ailing business unit that diminished the annual profits of the whole corporation. Then again, if “Der Bund” would not keep on existing, Tamedia might lose a lot of its readers to its competitor Ringier, the other big publishing company in Switzerland. It was not guaranteed that the people reading “Der Bund” would turn to the “Berner Zeitung” after a potential abolishment of “Der Bund”, which would bring along other bad implication to the financial result and the competitive position.

Moreover, all staff of “Der Bund” would have to be laid off. Given the harsh public

opposition to any change to the current situation, led by the committee “Save Der Bund”, it was unclear, what the reaction on such an announcement would be. But it seemed obvious that it would damage the reputation of Tamedia PLC intangibly. Alternatively, it was expected that with the project “Neue Zeitung Bern” a lot of synergies could be exploited. But at the same time, this project bore the risk that neither the readers of “Der Bund” nor the readers of “Berner Zeitung” would identify with the newly merged newspaper, which would be neither fish nor fowl, and the diversity in the Bernese media landscape would be given up.

Eventually, the project “Tages-Bund” also left hopes for synergies, thus being cost-saving, while at the same time ensuring the persistence of the newspaper “Der Bund” under its original name and most probably with its current subscribers and readers. At the same time, this project would require a substantial reorganization. Moreover, it was not sure, whether the different organizational cultures would fit together.

All of the following had to be considered in the evaluation of the different options:

- Partnership:

The company Tamedia PLC publishes many other newspapers and magazines. Whatever option is chosen, synergies between the different departments should be harnessed (e.g. articles could be exchanged between the different newspapers published by Tamedia PLC).

- Core competences:

“Der Bund” has strong core competences it should focus on (e.g. local reporting from the federal parliament building). It will have to be decided which information they may want to take over from other newspapers also belonging to Tamedia.

- Reorganization:

To save costs, a reorganization of the department of “Der Bund” is a must.

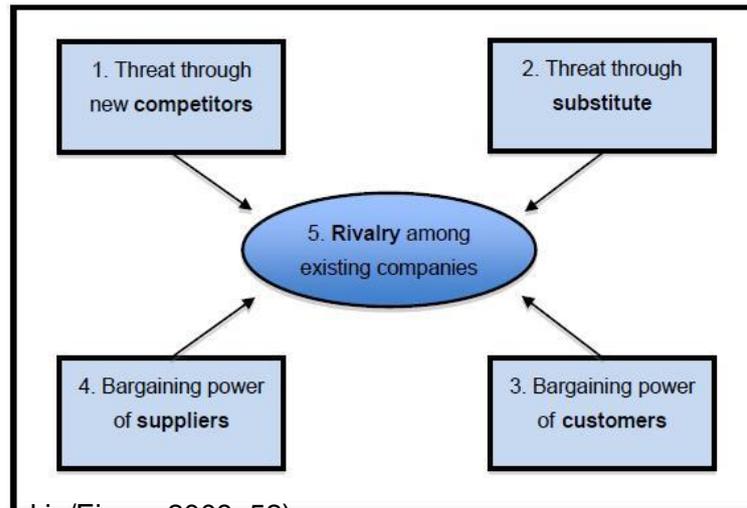
2. Theoretical Analysis

In order for a corporation to be successful, it is all about its corporate strategy and corporate advantage. However, it is important to recognize, that whatever strategy a corporation is pursuing, most of its value will be created in the business units, after all. Hence, in order to create value, a corporation must be able, to contribute to the competitive advantage of its businesses (Collis & Montgomery, 2005). Therefore, the successful merger between Tamedia and Espace Media Groupe was not the entire story. But for Tamedia PLC, it became crucial to analyze all of the different business units and find out, whether they were adding to the overall profit or destroying value. As pointed out in the case, “Der Bund” had been generating losses for more than 12 years. Thus, a change was really needed.

Based on the case and hints from several experts, let’s start our analysis by examining the situation “Der Bund” was in after the merger had taken place. Therefore, it is required to utilize two theoretical frameworks: Porter’s Five Forces Model (Lombriser & Alplana, 2005) and the SWOT analysis (Phillips, 2011).

2.1 Porter’s Five Forces Model

Porter’s model identifies five major factors influencing the competition in a branch. These five forces are shown in the next illustration:



(Source: Dess/Lumpkin/Eisner 2008, 52)

As mentioned in the case, the media market is strongly influenced by the internet and the free newspapers. If the Five Forces Model is used, the free newspapers can be seen as **new competitors**, which deliver the same product, newspapers, but on different distribution channels like train and/or bus stations. Several printed media, such as “Blick Am Abend” and “20 Minuten” can be found easily in several public places and the readers do not have to pay a single penny for reading them. Therefore, the threat through new competitors must be classified as high.

At the same time, the internet represents a **substitute** for traditional newspapers like “Der Bund”. In the cyber era we are living, people tend to choose reading news on online websites, because these news are updated every hour, sometimes even every minute (Kaye & Johnson, 2004), while people have to wait for the next day to get the printed traditional news. Not only the articles but also the advertisement sections, the second revenue channel of a newspaper, are slightly moving to the internet as well. All of this turns the threat through substitution to an extremely high level.

The **bargaining power of suppliers** has not changed much, since the amount of news agencies has stayed the same. But generally, their power should not be underestimated as each and every country has only a few news agencies. Thus, a local newspaper does not have too many alternatives. The raise of online newspapers might slightly affect this power balance, but in the end, the news agencies will simply have more demanders. All in all, this factor can be evaluated as moderate.

At the other side, the **bargaining power of customers** has increased a lot. Media consumption has changed: Customers are not willing anymore to pay for information they can get for costless in the internet or free newspapers. This results in a declining readership (Flavian & Gurrea, 2006). Thus, also the bargaining power of customers must be classified as extremely high.

Nowadays, many regions in Switzerland are served by only one regional newspaper at the expense of the media diversity. This is the result of **rivalry** between existing companies and even the rivalry within the own company, for example, Espace Media Groupe publishing the “Berne Zeitung” and “Der Bund”. Both are getting tougher. Other competitors for “Der Bund” are “Blick” and “Berne Bär”. Overall, the rivalry among existing companies in the media market can be classified as moderate to high.

2.2 SWOT Analysis

After the analysis of the Five Forces Model has shown that the market attractiveness of the media industry is very low, respectively that the industry growth rate (Dess, Lumpkin & Eisner, 2008) is negative at the moment, we want to further explore the specific situation of the newspaper “Der Bund”, in order to find out about its specific situation. We try to figure it out with a SWOT analysis.

<p>Strength</p> <ul style="list-style-type: none"> - Established brand for more than 150 years - Strong core competencies: Politics, etc. - Established contacts to suppliers & other media partners, advertising companies, etc. - High quality newspaper with well researched & analyzed background stories 	<p>Weaknesses</p> <ul style="list-style-type: none"> - Financial difficulties (12 years of losses) - Old layout & design not attractive anymore - Weak editorial departments (all those which are no “core competencies”) - Declining readership; “Berner Zeitung” and “Blick” have much more readers: Relatively Low Market Share
<p>Opportunities</p> <ul style="list-style-type: none"> - With the acquisition by Tamedia, “Der Bund” might reach broader distribution channels - Possibility for partnership with other newspapers - New technologies such as computer tablets Simplify access to customers 	<p>Threats</p> <ul style="list-style-type: none"> - Fast growth of Online Media: major threat of printed newspapers in general - Free newspapers - Tamedia decides to close “Der Bund”

The SWOT Analysis has shown that the competitive situation of “Der Bund” was rather weak. In the language of the BCG Portfolio Matrix, the low relative market share combined with the low industry growth rate made “Der Bund” a “Dog” business unit (Homburg & Krohmer, 2006, 542).

2.3 Evaluation of the 4 Strategic Options

The theoretical frameworks so far have shown that “Der Bund” was in a very difficult situation and most probably could not have survived in the state it was. Therefore, a change was inevitable. In this section, we will have a further look at the four strategic options presented in the case, by applying a SWOT analysis again for every option. Based on no-go criteria, for the respective options, marked in red, we will be using the principle of exclusion, so to say, in order to determine which option should be chosen. After that we will round our solution with a corresponding Action Plan.

- *“Der Bund” continues to exist as an independent newspaper just as before, under certain clearly specified conditions*

Strength

- Maintain the present readership
- No dismissals necessary
- Maintain full independence and media diversity
In Berne
- Maintain established contacts to suppliers & other media partners

Weaknesses

- **Huge financial effort needed**
- Old layout & design not attractive anymore
- Weak editorial departments (all those which are no "core competencies")
- Declining readership; "Berner Zeitung" and "Blick" have much more readers: Relatively Low Market Share

Opportunities

- With the acquisition by Tamedia, "Der Bund" might reach broader distribution channels
- Regain former strength by a proper reorganization
- New technologies such as computer tablets

Threats

- Fast growth of Online Media: major threat of printed newspapers in general
- Free newspapers
- Enforces cannibalism towards another Tamedia's business unit, "Berner Zeitung"

□ "Der Bund" is abolished"

Strength

- Solves financial difficulties; Total cost reduction
- Tamedia can focus on "Berner Zeitung" in Bern; no internal rivalry within own company anymore
- Stick to the core
- Some resources may be used for other business units

Weaknesses

- Big loss of media diversity in Berne
- All the good structures and relationships to former partner companies may be lost
- Under-utilized capacities
- All staff must be laid off; losing employees, know-how, etc.

Opportunities

- If handled properly, might strengthen the strategic Position of "Berner Zeitung" to become #1 in Bern
- Possibility for developing new business units &

Threats

- Loss of a big group of readers: former readership might change to "Blick", etc.
- **Harsh public opposition might result in a**

to set up new concept

devastating image damage for all Tamedia

The two extreme options can be both excluded, because continuing “Der Bund” as an independent newspaper would simply not have been financially viable from a corporate perspective, whereas the abolishment of “Der Bund” would have not been publicly accepted (committee “Save Der Bund”) and might have led to a huge image loss for the whole Tamedia corporation (boycotts of all Tamedia newspapers, etc.)

- *“Der Bund” and “Berner Zeitung” get merged and only one newspaper for Berne is produced. This project was called “Neue Zeitung Bern”*

Strength

- Saving a lot of costs using synergies
- Economies of Scope
- Focus on core competencies of the two newspapers

Weaknesses

- Big loss of media diversity in Berne
- Some dismissals will be inevitable
- Many readers are subscribers of both news-papers; double readers are lost

Opportunities

- If handled properly, “Neue Zeitung Bern” might become #1 in Bern
- Build a new strong brand that is on the pulse of the time
- Creativity can bloom with the new layout and articles

Threats

- “Berner Zeitung” is already a strong brand; changing the concept may turn things round
- Possibility of losing loyal readers who do not like the new concept
- Harsh public opposition might result in a devastating image damage for all Tamedia

- *“Der Bund” continues to exist and collaborates with the Zurich newspaper “Tages-Anzeiger”. This project was called “Tages-Bund”.*

Strength

- Maintain the present readership & media diversity in Berne
- Saving a lot of costs using synergies (long-term)
- Economies of Scope
- Strong core competences complement one another perfectly

Weaknesses

- Quite a big reorganization required that will be costly
- Some dismissals will be inevitable
- Small loss of media diversity

Opportunities

- Kill two ailing fishes with one stone; making both newspapers profitable again
- New layout for both newspaper can be designed,

In order to make them trendy again

- Possibility to establish new readers

Threats

- Whether the new concept will be accepted, Is still not sure
- Both newspaper were not successful in the past; they could devour Tamedia's profits
- Harmonization of two geographically and culturally independent departments might cause difficulties

As also the project "Neue Zeitung Bern" would only hardly be practicable, because of the public interest in media diversity in Berne, there is only one option remaining: the project "Tages-Bund", which we consider the best solution. In the following, we will present the reasons, why this is a good solution and elaborate the action plan.

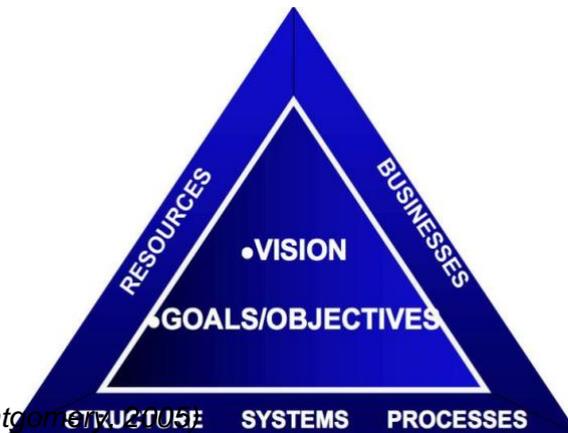
2.4 The Best Strategic Choice: The Project "Tages-Bund"

The project "Tages-Bund" builds on the strengths of "Der Bund" and partly repairs the weaknesses, by taking and exploiting the opportunities and minimizing the threats.

"Der Bund" can focus on its core competencies, by maintaining its readership and precious contacts. The bad financial situation is expected to be improved and the mediocre editorial departments are replaced by outsourcing these sections to "Tagesanzeiger". The opportunity to profit from a partnership is fully exploited by merging with "Tagesanzeiger". Moreover, media diversity is maintained and thus, the public opinion respected. With this approach, both "Der Bund" and "Tagesanzeiger" can profit from economies of scope (Collis & Montgomery, 2005). This means that it is less costly to share articles and publish them in both newspapers than to write them separately and do the same work twice. "Der Bund" obtains the whole international coverage, parts of domestic politics, parts of economics, parts of culture and parts of sports from "Tagesanzeiger". In return, "Tagesanzeiger" can profit from reports about the federal government in Berne provided by "Der Bund". Through this collaboration, both editorial departments can take advantage of the synergies. Both newspapers can focus on their core competencies and make sure that the high quality of the reporting does not suffer. In every section, the best research and reporting is granted, as both editorial offices have their clearly defined strength, where they are really good at and can focus on. This will help the newspaper to better compete against free and digital newspaper, as the quality of the news coverage will be exceptional. "Der Bund" obtains the whole international coverage, parts of domestic politics, parts of economics, parts of culture and parts of sports from "Tagesanzeiger". In return, "Tagesanzeiger" can profit from reports about the federal government in Berne provided by "Der Bund". Through this collaboration, both editorial departments can take advantage of the synergies.

Since abolishing "Der Bund" was no realistic option, reorganization would have been needed anyway. Even though some dismissals were inevitable and there are still some slight cuts in the media diversity of Bern, the project "Tages-Bund" was for sure the best option at that time. We will show this more clearly by applying the theoretical framework of the "Corporate Strategy Triangle".

2.5 Strategic Triangle



(Source: Collis & Montgomery, 2005)

Tamedia's vision was to merge the two struggling business units "Der Bund" and "Tagesanzeiger" into one profitable business unit. One of their goals was to benefit from the synergies of both newspapers. Each newspaper had its strengths and weaknesses. With the merger, they were able to take the strengths from both. As a result they achieved a higher efficiency and could save costs.

The strongest "Resources" of "Der Bund" were the highly skilled journalists who made publishing well researched background stories possible. As for the "Business" perspective, they merged two badly situated business units into a strong one in order to be in the black again. Additionally, they could optimize their "Structures, Systems & Processes". By keeping "Der Bund" alive, Tamedia could maintain its competitive position and could avoid losing readers. It would not have been sure that former "Der Bund" readers would have switched to another Tamedia PLC newspaper. With the project "Tages-Bund", they were still able to offer a diversified media portfolio with which they could serve a wide range of customers.

Not only the merger of "Der Bund" and "Tagesanzeiger" has helped to lower the costs but also the restructuring of "Der Bund" was necessary to make further savings. As a consequence, they had to dismiss employees. We conclude again, that the option "Tages-Bund" was the best choice Tamedia PLC could choose.

3. Action Plan and Conclusion

For a smooth implementation of the project "Tages-Bund", the following steps will be necessary. Within the first phase people who could figure as an initiator of the alternative should be identified. It is important to know which employee could carry out the change process. In a change, the employees have normally to be motivated by the higher staff or those who decided the change.

The following goals should be determined:

- ✓ The target is to reach a profit on the financial side
- ✓ "Der Bund" should remain an independent and liberal daily newspaper offering several different opinions people are willing to pay for (high quality journalism).
- ✓ The layout of "Der Bund" and "Tagesanzeiger" must be similar to be able to copy the content, but both papers still have to be distinguishable. Besides, "Der Bund" should keep its own appearance and authenticity for its readership.

A clear priority of the tasks is important to keep the company running. The first priority goal is to overcome the loss of "Der Bund". To reach this goal and also the other mentioned complementary objectives, it is recommended to execute the following tasks within a relative short deadline:

- A structural reorganization of "Der Bund" is a must to ensure collaboration between the two newspapers. Dismissals will be necessary for that.
- A social compensation plan for all leaving employees is probably required depending on the amount of dismissals.
- It is essential to define which newspaper will produce which articles on its own and which information will be exchanged.
- To assure a frictionless collaboration between "Der Bund" and "Tagesanzeiger", a new newspaper concept and layout should be developed.
- The editing system of "Der Bund" and "Tagesanzeiger" have to be linked technically. The employees need a platform where they can exchange information.

As a conclusion, the transformation for a corporate organization needs to be well-managed, and in careful consideration toward the upcoming changes to come. Action plans and strategic formulation require systematic approach according to desired effects. After drawing out conclusion from our analysis, we believe that the strategy of maintaining the existence of "Der Bund" with some intended collaboration with "Tagesanzeiger" has been already the best choice. However, some notes remain to maintain its performance in the future.

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