

## **COMPARATIVE ANALYSIS OF THE EFFECT QUALITY MANAGEMENT SYSTEM APPLICATION FOR THE EDUCATION QUALITY IN INDONESIA**

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### **ABSTRACT**

This study aims to determine differences in the quality of education in Indonesia before and after the implementation of the quality management system. Basically a quality education does not appear to itself, but through an organized school procedures and control by management system quality. Guarantee the quality of education in Indonesia is set in National Education Minister Regulation No. 63 of 2009 concerning Guarantee System Education Quality. In this rule, there are 3 levels of reference in achieving quality of education (article 10, paragraph 1). One is the standard of quality of education above National Standard Education, which can be applied after the school successfully implement the Minimum Standard Service and the National Standards Education. It can be performed by adopting or adapting an international standard. Quality Management System ISO 9001: 2008 is one of the basic guidelines international was originally used by the industry to manage industrial processes so as to improve the quality of the resulting product. Concomitant with the time and the high demand of the people of the education quality, then education also began to implement a quality management system ISO 9001: 2008. One is in the SMK-SMAK Padang began to apply ISO 9001 quality management system in 2007 until the present. This research is done by using quantitative methods. Data collection technique done with the survey and documentation. Sample selection technique used is simple random sampling. Data analysis was performed using comparative analysis of the average. Model design of this research is the analysis of comparative, by comparison the average score on the condition SMK-SMAK Padang before and after applied the quality management system ISO 9001: 2008. The results showed that the difference was not significant among the conditions prior to the implementation quality management system ISO 9001: 2008 with the implementation of a quality management system following ISO 9001: 2008. This matter indicating the need for improvement in implementing the quality management system ISO 9001: 2008.

**Keywords:** quality management system, the quality of education, ISO 9001:2008

### **1. INTRODUCTION**

Education is an effort to develop the human resources. The ability developed from human resources involves various aspects including the ability to think, logical, intellect, skill and others. Education as solution to develop human resources quality supposed to be the main concern of the society, because a developed education in a country will give a positive effect to develop people in that country.

The development of education in Indonesia nowadays begins to show awareness of school to improve the quality. School is an institution that provides educational services, where the teachers are internal customers while students, parents, and school partners are external customers. The position of each party must be clearly understood by every school administrators, in order to support school continue in order to improve the education quality

in order achieve school customer satisfaction. In this case, education quality means level of intelligence a country that can be achieved from National Education System (SPI).

Education quality guarantor in Indonesia rules on Minister of National Education regulation number 63 year 2009 about Education Quality Assurance System. In article 2, paragraph 1 in the regulation of the Minister of National Education is stated finale purpose of quality assurance system is high intelligence of people and nation's as wishes from the opening of the Indonesian constitution 1945 that achieve from implementation of assurance education quality system. Every institution formal or non – formal shall obligated assurance education quality that intended to filled three level of education quality reference, that is Minimum Service Standard (MSS), National Standard of Education (NSE), education quality standard above NSE. The three level purpose education quality gets step by step by education institution. Minimum Service Standard (MSS) fulfill at least two years since education institution operation approved. National Standard of Education (NSE) filled step by step and carried on appropriate of medium-term framework that state on school strategic plan. And then for quality standard above NSE can be implemented by education institution if had achieve MSS and NSE. Quality standard above NSE can be adopted from certain international quality. International quality standard choose by education institution compatible with autonomous educational unit principal. In other words, school must be able to carry out good management, to achieve implementation of quality education services.

The frequently used guidance of management quality is ISO 9001, that focused on international standard of management quality. ISO 9001 implementation is one of policies product rules on Minister of National Education regulation number 63 year 2009 about Education Quality Assurance System where the porpose is national standard of education above NSE.

This journal try to explain how management quality system ISO 9001 – 2008 influence education quality on ISO 9001 – 2008 at Padang high school (SMK – SMA).

## **2. QUALITY MANAGEMENT**

Management is inseparable thing from human activity, in the language of management can be defined as the art of arranging. According to James A.F. Stoner, and Charles Wankel in HB. Siswanto (2011: 2), the management is the process of planning, organizing, leadership, and control members effort and so using all resources in order to achieve the organisation goals. According to Andri Feriyanto and Endang Shyta T. (2015: 4) management is a process of organizing various activities in order to implement and as ability or skill of the person occupying managerial positions to obtain a result in the achievement of objectives through the other activities. So it can be concluded if in organization management is an expertise in controlling and maximizing the resoures to achieve their goals.

Meanwhile, the quality is a concept that was originally introduced by W. Edwards Deming, an expert from the United States. Deming does not mean quality in one term. He stated that the quality of a product or service can only be defined by the customer. Quality is a relative term that can change meaning depending on customer needs (Suarez, 1992: 3).

According to Philip B. Crosby (Suarez, 1992: 3), the quality is conformance to requirements. Quality should be defined as something that can be measured and clearly stated terms to assist organizations in taking action based on measurable targets more than a hunch, experiences and opinions. Crosby proposed a "zero defect" as the goal of quality (Single,

1993:71). Another definition of the concept of quality is also expressed by Josep M. Juran (Sallis, 2002: 42) states that the quality is fitness for use or purpose.

Many diagnostic quality of the definition above we can conclude that the quality of a product is reached if it meets the requirements of the customer, or exceeds the requirement or desire filed by customers and in accordance with the purpose of the goods or services. In other words, quality is the achievement of customer satisfaction. According to AV Feigenbaum (1992: 54), the quality of goods and services directly affected in nine basic areas, or known as "9M" namely:

- a. market,
- b. money,
- c. management,
- d. men,
- e. motivation,
- f. material,
- g. machines and mechanization,
- h. modern information methods,
- i. product mounting requirements.

The concept of quality continues to experience growth over time,. Many thought that arise regarding the quality and numerous innovations emerging to meet the quality of a product. In detail, Rudi Suardi in Wijaya (2008: 86) divides the concept of quality into five stages, namely:

a. Era Without Quality

This era began before the 18th century, where a product is made is not considered quality. This condition can occur if the organization does not have a competitor or in a monopoly situation.

b. Inspection Era

This era lasted in the West around the 18th century. In this era, the quality is only attached to the final product and quality problems related to the defective product / defective. Manufacturers started to have competitors and the production of bulk goods.

c. Statistical Quality Control Era

In this era, the inspection section equipped with the tools and statistical methods for detecting irregularities on the attributes of the products produced in the production process. Deviation detection statistically started by the production department.

d. Quality Assurance Era

In this era, the quality concept has expanded from a narrow concept of (confined to the production stage) to stage design and coordination with service parts (such as workshops, energy, production planning and control, as well as warehousing). Introduced the concept of quality cost.

e. Strategic / Total Quality Management / Total Quality Service

In this era, top management involve is very large and decisive making quality to put the organization in a competitive position. This system is called the strategic and integrative

management system because it involves leaders and employees as well as the use of qualitative and quantitative methods to improve organizational processes on an ongoing basis in order to meet and exceed the needs, desires and expectations of customers.

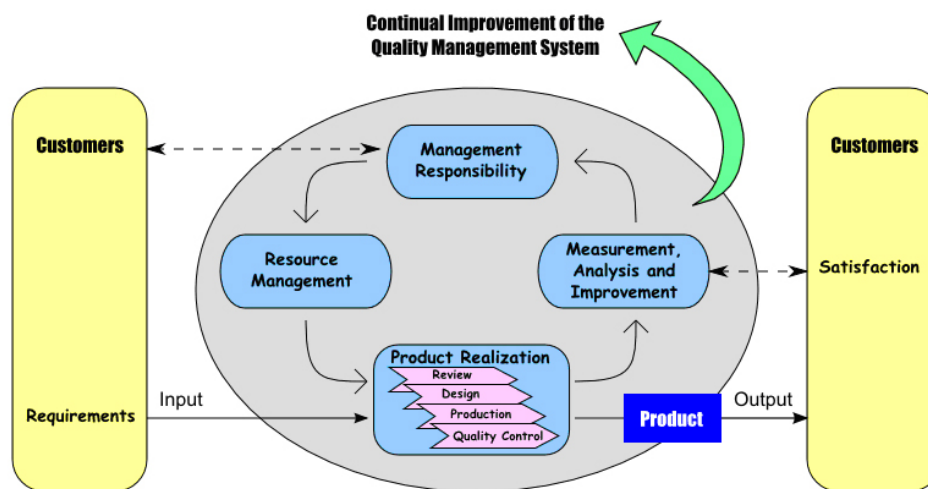
The quality of development, eventually known as the term quality management. Gaspersz (2011: 9) defines quality management as a way of improving performance on an ongoing basis at each level of operations or processes, in every functional area of an organization, using all human resources and capital available. Such as quality, quality management also defined in many versions, but according Gaspersz (2011: 10) is essentially a quality management focus on continuous improvement to meet customer needs. Which means, quality management is a process that is ongoing again and again.

ISO 9001 is an international standard for quality management systems. ISO 9001 establishes requirements and recommendations for the design and assessment of a quality management system, which aims to ensure that the organization will provide products (goods and / or services) that meet the requirements that have been established (Gaspersz, 2011: 358). The requirements and recommendations in ISO 9001 applied to the management of the organization that supplies the product, so it will affect how a product is designed, manufactured, assembled, and others offered (Gaspersz, 2011: 359). In the education case requirements of ISO 9001 is applied by a school as an educational institution providing education services to students and their parents and school stakeholders as customers will affect how schools provide services.

At first the ISO 9001 standard is only used in business and industry, but along with the increasing demands of the world for the quality of human resources, the standard may also be applied to the world of education. The quality management system required by the education due to the existence of a consistent system to help educational and training institutions in carrying out the planning and each unit of management processes. The system also controls and prevent management processes that do not fit as well as the systems that help educational and training institutions to improve the quality on an ongoing basis (Purwadi, 2012: 35).

The process of implementing the quality management system ISO 9001: 2008 in an organization can be explained as follows:

Figure 1. Quality Management System Model Based Process



Source: SNI ISO 9001-2008, *Quality Management Systems-Requirements*, page vi.

Figure 1 shows how the interaction of each of the main items in the process of quality management system (Purwadi, 2012: 359), namely:

- a. The quality management system (part 4 of the ISO 9001: 2008)
- b. Management responsibilities (section 5 of the ISO 9001: 2008)
- c. Resources (section 6 of the ISO 9001: 2008)
- d. Realization of products (section 7 of ISO 9001: 2008)
- e. Measurement, analysis and improvement (section 8 of ISO 9001: 2008)

The fifth item is a requirement of ISO 9001: 2008 to be fulfilled by every organization that wants to get the certificate of ISO 9001 is consistently at least for three months.

### 3. QUALITY EDUCATION IN INDONESIA

In the education ministerial decree number 63 of 2009 on Education Quality Assurance System means quality of education is the level of intelligence of the nation's life that can be achieved from the implementation of the National Education System. The education system in Indonesia refers to the eight educational standards stipulated in Government Regulation No. 32 of 2013 concerning Amendment to Government Regulation No. 19 of 2005 National Education Standards, namely:

1. Content Standards
2. Processing Standards
3. Competency Standards Graduates
4. Standards of Teachers and Education Personnel
5. Infrastructure Standards

6. Management Standards

7. Standard Financing

8. Education Assessment Standards

Each of these standards is set into some regulation of the Minister of National Education, includes:

Table 1. Regulation of the Minister of National Education related to National Education Standards

No.	National Education Minister Regulation	Title
1.	Number 22 of 2006	Content Standards for Primary and Secondary Education
2.	Number 23 of 2006	Competency Standards for Primary and Secondary Education
3.	Number 16 of 2007	Academic Qualification Standards and Competencies Teachers
4.	Number 19 of 2007	Standards Management For Elementary and Secondary Education
5.	Number 20 of 2007	Education Assessment Standards
6.	Number 40 of 2008	Infrastructure Standards For School Vocational School / Madrasah Aliyah Vocational
7.	Number 69 of 2009	Standard Operating Costs nonpersonnel 2009. For Primary Schools / Islamic elementary schools, Junior High School / Madrasah Tsanawiyah, Senior High School / Madrasah Aliyah, vocational schools, Disabilities Schools.
8.	Number 65 of 2013	Standard Process Elementary and Secondary Education

*Source: Data processed by researchers, 2015*

According to the table above, it can be seen that each standard outlined in the regulation of the Ministry of Education are different, so implementation is easier to understand. Each of the criteria set out in the eight national education standards contained in this regulation should be a guideline for every school in running educational programs. So, indirectly eight national education standards have become the minimum rules that must be achieved by the school.

Not much different from the national education standards that are used in Indonesia, Sallis (2002: 1-2) also suggests that there are plenty of candidates for the source of quality in education. Amongst These are: outstanding teachers; high moral values; excellent examination results; the support of parents, business and the local community; plentiful resources; the application of the latest technology; strong and purposeful leadership; the care and concern for pupils and students; a well-balanced and challenging curriculum.

So, based on Sallis's thought, to achieve good quality education, an educational institution must have nine of these indicators. It can be said that nine of these indicators can be used to measure the quality of education.

West Sumatra is one of the provinces in Indonesia that began to pay great attention to improving the quality of education. West Sumatra has 99 Vocational High School with various types of competence, about 26 schools have been awarded ISO 9001: 2008 (<http://datapokok.ditpsmk.net> (accessed: October 3, 2014 at 14:06 GMT)).

Table 2. Schools Certified ISO 9001: 2008

No.	Schools Name	Address	Year obtained ISO 9001
1.	SMK Negeri 2 Bukittinggi	Bukittinggi City	2007
2.	<b>SMK SMAK Padang</b>	<b>Padang City</b>	<b>2007</b>
3.	SMK Negeri 1 Solok	Solok City	2007
4.	SMK SMTI Padang	Padang City	2007
5.	SMK Negeri 1 Payakumbuh	Payakumbuh City	2008
6.	SMK Negeri 5 Padang	Padang City	2008
7.	SMK Negeri 3 Padang	Padang City	2009
8.	SMK Negeri 2 Pariaman	Pariaman City	2009
9.	SMK Negeri 1 Lembah Gumanti	Solok Districk	2010
10.	SMK Negeri 1 Gunung Talang	Solok Districk	2010
11.	SMK Negeri 2 Gunung Talang	Solok Districk	2010
12.	SMK Negeri 1 Hilir Gumanti	Solok Districk	2010
13.	SMK Negeri 2 Padang	Padang City	2010
14.	SMK Negeri 2 Sijunjung	Sijunjung District	2011
15.	SMK Negeri 2 Solok	Solok City	2011
16.	SMK Negeri 1 Bukittinggi	Bukittinggi City	2011
17.	SMK Negeri 2 Batusangkar	Tanah Datar District	2012
18.	SMK Negeri 1 Lintau Buo	Tanah Datar District	2012
19.	SMK Negeri 1 Lubuk Sikaping	Pasaman District	2012
20.	SMK Negeri 1 Solok Selatan	Solok Selatan District	2012
21.	SMK Negeri 2 Solok Selatan	Solok Selatan District	2012
22.	SMK Negeri 4 Solok Selatan	Solok Selatan District	2012
23.	SMK Negeri 5 Solok Selatan	Solok Selatan District	2012
24.	SMK Negeri 1 Pulau Punjung	Dharmasraya District	2012
25.	SMK-SPP Negeri Padang	Padang City	2012
26.	SMK Negeri 3 Payakumbuh	Payakumbuh City	2012

Source: <http://datapokok.ditpsmk.net>

According to the table above, some schools can be seen that the Padang SMK - SMAK is one of the schools that have been long enough to apply a quality management system ISO 9001: 2008. This school is one of the technical implementation unit in the form of secondary school in the field of formal vocational education program 4 (four) years in the Ministry of Industry to carry out vocational education, competency skills Chemical Analysis. Where is the school's main funding comes from the Ministry of Industry.

The quality management implementation system ISO 9001 in SMK-SMAK Padang at first appears because of the desire of the school to implement a system that has a standard that is recognized by many external parties. Through the implementation of the Quality Management System ISO 9001: 2000 which has been declared for all teachers, employees and students of SMK-SMAK Padang since 05th February 2007 and then since May 13, 2009 turned into a version of the Quality Management System ISO 9001: 2008. These applications are expected to achieve the goals, vision and mission of the school according to the stipulation. To be able to implement them in accordance with ISO 9001: 2008, SMK Padang-SMAK in cooperation with SAI Global as a consultant and as a certifying institution. In practice, SMK Padang-SMAK apply the requirements of ISO 9001: 2008 adapted to national education standards in every process that takes place in school collected several areas continues to change in accordance with the needs of the school.

#### **4. COMPARATIVE ANALYSIS OF QUALITY MANAGEMENT SYSTEM ISO 9001:2008 IMPACT ON THE QUALITY EDUCATION IN SMK- SMAK PADANG**

Quality assurance is one of the reasons for everyone to choose the goods or services which they want, as well as education. With the quality assurance provided by the educational institution will appeal to users. In Indonesia, quality assurance of educational institution aims to achieve the life of men and nations. So that human resources are able to compete globally. To obtain the desired quality in an organization, it takes a strong commitment. According to Joseph M. Juran, quality does not come with its own, but there are plans to get it. Joseph M. Juran in Sallis (2002:42) also states:

*.... that most quality problems are traceable back to management decisions. He believed that poor quality is usually the result of poor management.*

Whilst philosophy behind ISO 9000 (Sallis, 2002:52), said that:

*Quality should be built into the systems and procedures of the organization, where the emphasis is on prevention rather than cure.*

Juran opinion and philosophy of ISO 9000 become the thinking basis that management has a role in improving the quality. So, quality of education improvement required organized procedures and controlled quality management system.

Education quality assurance in Indonesian education institutions aimed to meet three reference quality: (1) Minimum Service Standards (MSS); (2) National Education Standards (NES); (3) quality standard above NES which adopt or adapted international standards. Education institutions can do the third reference quality after implementing MSS and NES. In other words, implementation of Education Quality Assurance with international standards is one form of government policy that will give spesific impact to Indonesian education.



According to Samodra Wibawa (1994:29), there will be a consequences after implementation of each policy (outcomes, effect). This consequences never be known fully, therefore policy action monitoring is a necessity (Dunn, 1994:508). According to Rossi and Freeman in Wayne Parsons (2001:604), impact assessment is to assess whether the intervention produces the desired effect or not. Thus, it can be concluded that the major concern in view of the policy impact is long-term effects that have been generated from a policy implementation.

According to Rossi and Freeman (Wayne Parsons, 2001: 604), there are several methods to determine the impact of a policy:

- a. Comparing the problems/situations/conditions that occur before and after the intervention;
- b. Conducting experiments to test the impact of a program on an area or group that compares with what happened in the area or group that doesn't targeted of interventions;
- c. Compare the benefits and costs achieved as a result of intervention;
- d. Using a model to understand and explain what happens as a result of past policies;
- e. Qualitative and judgmental approach to evaluate the success/failure of policies and programs;
- f. Comparing what has happened with the specific goals or objectives of a program or policy;
- g. Using performance measurements to assess whether the goals or targets are met.

Based on Rossi and Freeman's opinion, then the influence of the quality management system ISO 9001:2008 for the quality education at SMK-SMAK Padang in this study conducted by comparing the conditions before and after the intervention.

The study was conducted using quantitative descriptive design. Effect measurement of the application ISO 9001:2008 for the quality of education at SMK-SMAK Padang was conducted by comparing the conditions before and after implementation of the quality management system ISO 9001:2008.

Quality of education is level of intelligence of the nation's life that can be achieved from the implementation of the National Education System base on decree of education ministerial number 63 of 2009 about Quality Assurance System. According to Sallis, to get quality of education, an educational institution must have the following:

1. Outstanding teachers,
2. High moral values,
3. Excellent examination results,
4. The support of parents, business and the local community,
5. Plentiful resources,
6. The application of the latest technology,
7. Strong and purposeful leadership,
8. The care and concern for pupils and students

### 9. A well-balanced and challenging curriculum,

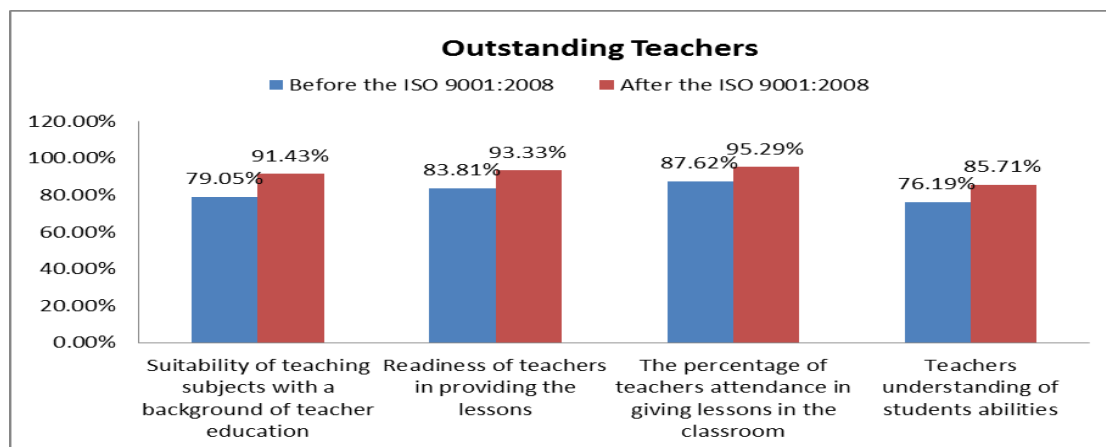
However, only 5 (five) indicators have used, cause the other indicators are included to variable X, such as plentiful resources; the application of the latest technology; strong and purposeful leadership; the care and concern for pupils and students. The investigators do this to prevent repetition of the question.

Response of the 21 teachers who responded to the quality of education at SMK Padang SMAK before and after SMM ISO 9001: 2008 implemented is shown of following data.

#### a. Indicators Outstanding Teachers

To calculate the average of indicators of outstanding teachers before and after SMM ISO 9001: 2008, should determine the ideal score of indicators of quality management. Ideal score =  $5 \times 4 \times 21 = 420$ , where 5 is the highest score of the item number of questions, 4 is the number of items a question on indicators of quality management, and 21 is the number of respondents. And score of each question item is  $5 \times 21 = 105$ . After data processing, there is a conclusion about teacher's comment as the respondent for quality management apply in SMK – SMAK before and after SMM ISO 9001: 2008, which shown in figure 2.

Figure 2. Graph of Outstanding Teacher



Source: Data processed by researchers, 2015

Based on the figure 2 can be explained that the assessment of outstanding teachers before and after SMM ISO 9001: 2008 consists of four items of questions as follows:

The first question on this indicator describes the correspondence between the lesson of teaching with the educational background of teachers. Before implementation of SMM ISO 9001: 2008 was got 70.05% and after it increase to 91.43% of the expected. Compatibility between the subjects of teaching with educational background is very important, because when the teacher concerned is not able to understand subjects into its responsibilities, it will be prone to error. And learners are the most disadvantaged. Incompatibility of teaching subjects with a background in education, also occur due to lack of human resources in this regard completely truthful teacher according to each subject. The

next questions is about the readiness of the teacher in delivering the subject matter. Before the implementation of SMM ISO 9001: 2008 was got 83.81% of expected and after that increase to 93.33% of expected.

The next question about the percentage of attendance of teachers in giving lessons in class. Before implementation of SMM ISO 9001:2008 only 87.62% teacher attendance than expected. While after the implementation of SMM ISO 9001: 2008 the percentage 95.29% of expected. This indicates an increase. The presence of the teacher in the classroom during a lesson is one of discipline reflection of teachers. The next questions about teacher's understanding about student's ability. Before the implementation of SMM ISO 9001: 2008 was got 76.19%, and after it increase to 85.71% of the expected. Thus, we can conclude that the teacher tries to understand the capabilities of each learner. An understanding about abilities of learners must be owned by every teacher, as such, learners have many opportunities to receive briefings according to his ability based on teacher's understanding.

Furthermore, to prove the significance of differences in the level of ability of teachers seen through the indicators outstanding teacher before and after SMM ISO 9001: 2008 at SMK Padang SMAK, need to be tested statistically by paired sample t-test. Results of analysis using SPSS software shown on table 3:

Table 3. Comparative Test of Outstanding Teacher Before and After QMS ISO 9001: 2008

Paired Samples Test									
		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	outstanding teachers before ISO9001 - outstanding teachers after ISO9001	-.48810	.44354	.09679	-.68999	-.28620	-5.043	20	.000

Source: Data processed by researchers, 2015

Hypotesis:

Ho : There is no increase in the value of the indicator of outstanding teachers between before and after SMM ISO 9001: 2008 is applied.

Ha : There is an increase in the value of the indicator of outstanding teachers between before and after SMM ISO 9001: 2008 is applied.

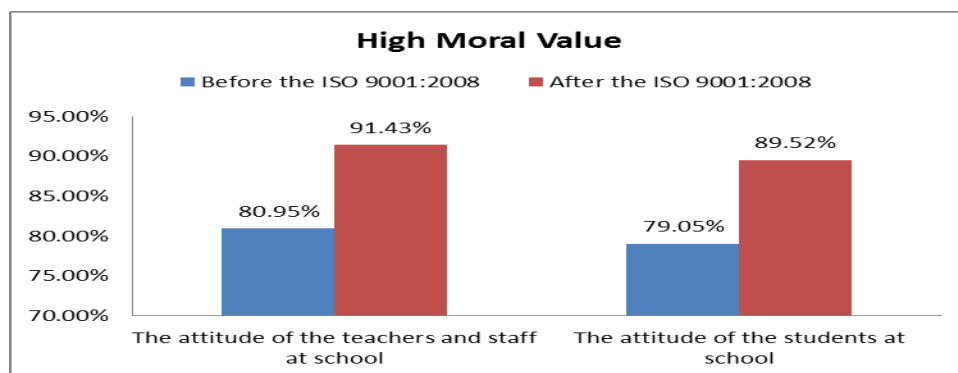
From the results of data processing using SPSS software, get  $t$  is -5.043 and absolutized be 5.043. Using two-way hypothesis, got  $t$ -table is 2.085 with  $\alpha = 0.025$  and  $df = 20$ . Because  $t > t$  table ( $5.043 > 2.085$ ) so  $H_0$  is rejected. It can be concluded that there is an increase in the

indicator's value of outstanding teachers before and after implementation of SMM ISO 9001: 2008.

b. Indicators of High Moral Values

To calculate the average on indicators of high moral values before and after SMM ISO 9001: 2008, determine the ideal score of indicators of quality management. Ideal score =  $5 \times 2 \times 21 = 210$ , where 5 is the highest score of the item number of questions, 2 is the number of items a question on indicators of quality management, and 21 is the number of respondents. And score of each question item is  $5 \times 21 = 105$ . After data processing, there is a conclusion about teacher's comment as the respondent for high moral values apply in SMK – SMAK before and after SMM ISO 9001: 2008, wick shown in figure 3.

Figure 3. Graph of High Moral Value



Source: Data processed researchers, 2015

Base on the figure 3, it is known that high moral values indicator consists of two items of questions which are described as follows:

Questions about the attitude of teachers and school staff before implementation of SMM ISO 9001: 2008 was got 80.95% of the expected and after implementation increase to 91.43% of the expected. The next question about school student attitude, before the implementation of SMM ISO 9001: 2008 was got 79.05% and after implementation increase to 89.52% of the expected. From the questions it can be concluded that the implementation of SMM ISO 9001: 2008 also affected the change in the attitudes of teachers, learners and their staff.

Furthermore, to prove the significance of differences in moral values before and after SMM ISO 9001: 2008 at SMK Padang SMAK, need to be tested statistically by paired sample t-test. Results of analysis using SPSS software, is shown on table 4.

Table 4. Comparative Test of High Moral Value

Paired Samples Test									
		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	high moral value before ISO9001 - high moral value after ISO9001	-.52381	.62202	.13574	-.80695	-.24067	-3.859	20	.001

Source: Data processed researchers, 2015

#### Hypothesis:

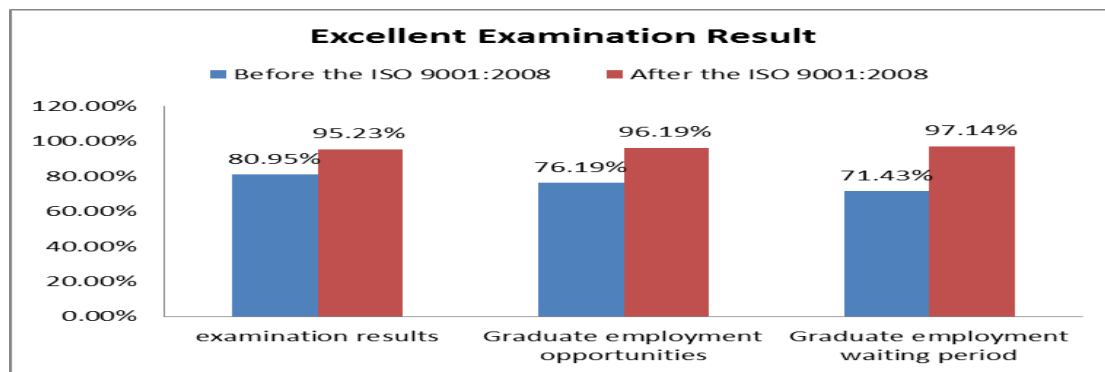
- Ho : There is no increase in the value of the indicator of high moral values between before SMM ISO 9001: 2008 and after SMM ISO 9001: 2008 is applied
- Ha : There is an increase in the value of the indicator of high moral values between before SMM ISO 9001: 2008 and after SMM ISO 9001: 2008 is applied

From the results of data processing using SPSS software, get  $t$  value is -3859 and absolutized to 3.859. . Using two-way hypothesis, got  $t$ -table is 2.085 with  $\alpha = 0.025$  and  $df = 20$ . Because  $t > t$ -table ( $3.859 > 2.085$ ), then  $H_0$  is rejected. It can be concluded that there is an increasing in the indicator's high moral values at SMK Padang SMAK between before and after implementation of SMM ISO 9001: 2008.

#### c. Indicators of Excellent Examination Result

To calculate the average on indicators of Excellent Examination Result before and after SMM ISO 9001: 2008, determine the ideal score of indicators of quality management. Ideal score =  $5 \times 3 \times 21 = 315$ , where 5 is the highest score of the item number of the question, 3 is the number of items a question on indicators of quality management, and 21 is the number of respondents. While the score of each question item is  $5 \times 21 = 105$ . After data processing, there is a conclusion about teacher's comment as the respondent for the excellent examination apply in SMAK - SMK Padang before and after SMM ISO 9001: 2008, which shown in figure 4.

Figure 4. Graph of Excellent Examination Result



Source: Data processing by researchers, 2015

Base on figure 4, it can be seen that the indicator management responsibilities consisted of four question items described as follows:

The first question on this indicator about school exam results at SMAK - SMK Padang. Before the implementation of SMM ISO 9001: 2008 was got 80.95% of the expected and after the implementation increase to 95.23% of the expected. This shows an increase in school test scores of students in SMK - SMAK Padang. From the question can be concluded that the improvement of the management of the various elements of the school is able to support an increase in the value or the ability Study abroad students.

The next question is about graduate employment opportunities, which prior to before implementation of SMM ISO 9001: 2008 was got 76.19% of the expected and after implementation increase to 96.19% of the expected. From the question can be concluded that the implementation of SMM ISO 9001: 2008 helps graduates of SMK - SMAK Padang to have greater employment opportunities. The next question is about graduate employment waiting period. Before the implementation of SMM ISO 9001: 2008 was got 71.43% of the expected and after implementation increase to 97.14% of the expected. In other words, it can be concluded that after the implementation of SMM ISO 9001: 2008 graduate SMK Padang SMAK more go to fast in getting a job.

Furthermore, to prove the significance of differences excellent indicator of examination result before and after SMM ISO 9001: 2008 at SMK Padang SMAK, need to be tested statistically by paired sample t-test. Results of analysis using SPSS software, is shown on table 5:

Table 5. Comparative Test of Excellent Examination Result

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	excellent examination result before ISO9001 - excellent examination result after ISO9001	-1.00000	.71492	.15601	-1.32543	-.67457	-6.410	20	.000

Source: Data processing by researchers, 2015

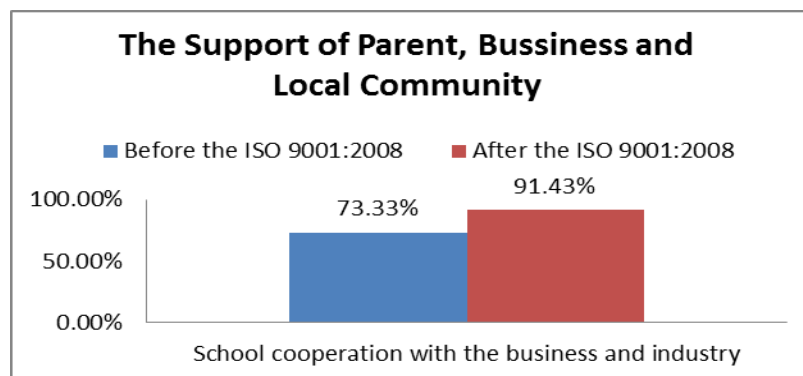
### Hypothesis:

- Ho : There is no increase in the value of the indicator of excellent examination result between before SMM ISO 9001: 2008 and after SMM ISO 9001: 2008 is applied
- Ha : There is a growing increase in the value of the indicator of excellent examination result between before SMM ISO 9001: 2008 and after SMM ISO 9001: 2008 is applied

From the results of data processing using SPSS software, get  $t$  value is -6.410 and absolutized be 6.410. Using two-way hypothesis, got  $t$ -table is 2.085 with  $\alpha = 0.025$  and  $df = 20$ . Because  $t > t$  table ( $6.410 > 2.085$ ), then  $H_0$  rejected. It can be concluded that there is an increase in the indicator's excellent examination result between before after implementation of SMM ISO 9001: 2008.

### d. Indicators of the Support of Parents, Business And The Local Community

Figure 5 Graph of The Support Of Parents, Business And The Local Community



Source: Data processing by researchers, 2015

Based on figure 5 can be explained that the indicators of the Support of Parents, Business And The Local Community before and after QMS ISO 9001: 2008 consists of a single items of question. Item of question is about how the school co-operation with business and industry. Before the implementation of QMS ISO 9001: 2008 the percentage amounted to

73.33%; while after implemented the QMS ISO 9001: 2008 by 91.43%. The percentage value on these items showed an increase. It can be concluded that after the implementation of QMS ISO 9001: 2008 by SMK-SMAK Padang, these schools to establish more cooperation.

Furthermore, to prove the significance of the different forms of support of parents, business And the local community before and after QMS ISO 9001: 2008 at SMK-SMAK Padang, need to be tested statistically by paired sample t-test. Results of analysis using SPSS, is as follows:

Table 6. Comparative Test of the Support of Parents, Business and The Local Community Before and After Implementation of QMS ISO 9001: 2008

Paired Samples Test									
		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	the support of parent, bussiness and local community before ISO9001 - the support of parent, bussiness and local community after ISO9001	-.90476	.70034	.15283	-1.22355	-.58597	-5.920	20	.000

Source: Data processed researchers, 2015 (see appendix)

#### Hypothesis:

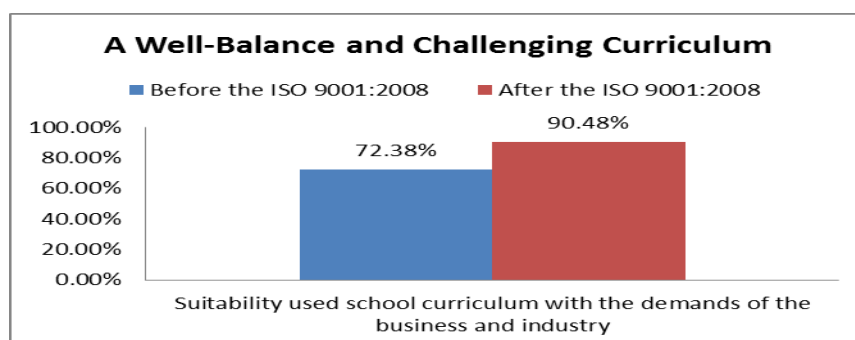
- Ho : There is no improvement in the support of parents, business and the local community between before QMS ISO 9001: 2008 and after QMS ISO 9001: 2008 applied
- Ha : There is an increase in the support of parents, business and the local community between before QMS ISO 9001: 2008 and after QMS ISO 9001: 2008 applied

From the results of data processing using SPSS in Table 6 shows the t value of -5.920 and absolutized be 5.920. While t table on the t-test with  $\alpha = 0.05$ , because it uses a hypothetical two-way then the value of  $\alpha$  is divided into 0,025. And  $df = 20$ , so obtained t table is 2.085. Hence  $t > t \text{ table } (5.920 > 2.085)$ , so  $H_0$  is rejected. It can be concluded that there is an increasing in the indicator value the support of parents, business and the local community between before implementation of QMS ISO 9001: 2008 and after implementation of QMS ISO 9001: 2008.



e. Indicators of a Well-Balanced and Challenging Curriculum

Figure 6. Graph of A Well-Balance and Challenging Curriculum



Source: Data processed researchers, 2015

Based on figure 6, it can be explained that the indicators of a Well-Balance and Challenging Curriculum before and after QMS ISO 9001: 2008 consists of a single item. Item of questions is about the suitability of the curriculum used in schools with the demands business and industry. Before the implementation of QMS ISO 9001: 2008 by 72.38% while after the implementation of QMS ISO 9001: 2008 by 90.48%. From this, it appears the increase. The increase can be summed up as an attempt of SMK Padang SMAK to adjust the curriculum used in schools with the versatility of graduates required by Du / In.

Furthermore, to prove the significance of different forms of a well-balance and challenging curriculum before and after QMS ISO 9001: 2008 at SMK Padang SMAK, need to be tested statistically by paired sample t-test. Results of analysis using SPSS, is as follows:

Table 7. Comparative Test of a Well-Balance and Challenging Curriculum Before and After Implementation of QMS ISO 9001: 2008

Paired Samples Test									
		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	a well-balanced and challenging curriculum before ISO 9001 - a well-balanced and challenging curriculum after ISO9001	-.90476	1.13599	.24789	-1.42186	-.38766	-3.650	20	.002

Source: Data processed researchers, in 2015

**Hypothesis:**

- Ho : There is no increase in the value of the indicator of a well-balance and challenging curriculum between before QMS ISO 9001: 2008 and after QMS ISO 9001: 2008 is applied
- Ha : There is an increase in the value of the indicator of a well-balance and challenging curriculum between before QMS ISO 9001: 2008 and after QMS ISO 9001: 2008 is applied

From the results of data processing using SPSS in table 7 shows the t value of -3.650 and absolutized be 3,650. While t table on the t-test with  $\alpha = 0.05$ , because it uses a hypothetical two-way then the value of  $\alpha$  is divided into 0,025. And  $df = 20$ , so obtained t table is 2.085. Hence  $t > t$  table ( $3,650 > 2,085$ ) So  $H_0$  rejected. It can be concluded that there is an increase in the value of a well-balance indicator and challenging curriculum between before implementation of QMS ISO 9001: 2008 and after implementation of QMS ISO 9001: 2008.

## **5. CONCLUSION**

Based on research data and data analysis, this research can be concluded that the difference was not significant among the conditions prior to the implementation quality management system ISO 9001: 2008 with the implementation of a quality management system following ISO 9001: 2008. This matter indicating the need for improvement in implementing the quality management system ISO 9001: 2008 at SMAK-SMK Padang. This is seen by the increase in the value of some indicators that a source in improving the quality of education that is outstanding teachers; high moral values; excellent examination results; the support of parents, business and the local community; plentiful resources; the application of the latest technology; strong and purposeful leadership; the care and concern for pupils and students; a well-balanced and challenging curriculum.

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