

**The Influence of Total Quality Management (TQM) Applications to
Sales Raising at PT. Kereta Api Indonesia (Persero) Bandung The 2nd
Operations Area**

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ABSTRACT

The Indonesian transportation services industries, especially land transportation which owned by The State or The State Corporations (Badan Usaha Milik Negara/BUMN) always facing many problems, one of them is decreasing of sales. That's reasons why the applications of Total Quality Management is necessary to survive and superior in global competition to produce the best quality.

The aim of research is to know the influence of Total Quality Management applications to raise up sales of PT. KAI Bandung 2nd Operation Area (DAOP 2). The research held with Descriptive Analyzing Method and SPSS (Statistical Product and Services Solutions) software.

Based on research result can be made conclusion as below, The Total Quality Management applications have significant to sales raising up of PT. KAI (Persero) Bandung 2nd Operation Area (DAOP 2) up to 68%, and 31,8% of them influence by another factors which are not investigate in this paper.

Key words : Total Quality Management (TQM) and Raising up of Sales

1. INTRODUCTION

The Indonesian economics in current time is very fluctuate, fluctuate very fast and hard to be predictable. This situation is advanced of Indonesia monetary crises several years ago. Monetary crises is a hard strike for Indonesian business, it's shown by economics decrease and bankruptcies. Corporation Management which survive from the crises endeavor to corporate recover trough wise, transparent, effective and efficient.

As we understanding, Indonesia transportation service industries, land transportation especially, always facing of many problems, one of them is decreasing of sales. One of that corporation is National Trains Corporation (PT. Kereta Api Indonesia) The 2nd Operation Area (DAOP 2) Bandung, held in land transportation and provide trains services named KA. Parahyangan. After Cipularang Toll opened, and The Government opened the new line license of public car transportation with Bandung to Jakarta and opposite destinations, that's made competition between trains and public car transportation are very hard. And PT. Kereta Api Indonesia many times reduce the ticket pricing to pressure disparity of ticket between train and public car transportation.

PT. Kereta Api Indonesia (Persero) of Bandung needs to give special attention for Service quality and services to raise up of occupancy. Total Quality Management in Bahasa Indonesia said with Integrated Quality Management, is a concept born from Corporations success in quality control applications.

As per Mardiyah Ainul Aida and Listianingsih (2005), are: TQM is a system which designed as a unity, costumer approaching focus with raise up of service and product quality.

The basic idea of how important of Total Quality Management is very simple, the best actions to survive and superior in global competition is produce the best quality. Business strategic to be done is to fill attention for costumer satisfaction, it's mean to fill various costumer demands in high quality of product, competitive price (low cost), and satisfaction of services, quality is one of the key to survive in a global competition. Define of quality is a whole characteristics of

product or services to fill of demands in their capability. Costumer expectation in quality is beyond than the other variables.

That's mean every corporation in produce high quality of product or services is necessary with low cost and reasonable price having superiority in quality of demand, effectively promotion and distribution of product and services more fast to their costumer.

To produce the best quality needs continuously repairing effort to human capability, processing and environment. The best way to repairing components continuously is implemented of Total Quality Management.

Raise up of sales could be happened if the corporate to implementation the right of Total Quality Management in all aspects of their operations. Needs continuously all of parties to implementation to whole of better corporate operation to achieve quality of product and services as needed, and will impact to corporate sales.

Implementation of Total Quality Management in a corporation is very important to support quality standard achievement and keep consistency of product quality and services produce. Make them to accept high of costumer, stability of profit and fast business growing.

In effort to raise up and keep corporation image, full attention of quality will be bring positive impact to raise up corporation sales. The impact of raise up sales evoke corporate prosperity.

At the last, one question come to the surface is how much the influence of Total Quality Management to the corporate sales at The State Corporation. The reason of The Author to select of The State Corporation because The State Corporations focused to costumer and has been implemented Total Quality Management consistently, and The Author can be evaluate how much influence of Total Quality Management to the corporate sales.

Based on details above shown how important the influence of Total Quality Management implementation to the corporate sales at The PT. KAI Bandung. The aim of the research is to know the influence of Total Quality Management to the corporate sales at PT. KAI Bandung 2nd Operation Area

II. LITERATURE REVIEW AND HYPOTHESIS

2.1 Literature Review

2.1.1 Define of TQM

As per Soewarso Hardjosoedarmo (2004:1), are: TQM is implementation of quantitative repairing to materials and services as input of organization, repairing all of important process in organization, and raise effort to fill costumer needs of product and services in current time and the future.

As per J. Paul Peter dan H.Donnelly in Wibowo (2007:150), are:

“Total Quality Management is organization commitment for costumer satisfaction with continue improvement to business process and product and services deliver.”

As per Fandy Tjiptono and Anastasia Diana (2003:4), are:

“TQM is a business approaching to maximized organization competitiveness trough continuously improvement of product, services, human, process and environment”

Based on the concept above, the author can be explain that TQM is a management tools to quality improvement in a corporation to maximized organization competitiveness trough continuously of product, services, human, process and environment to all important aspects of product and services for costumer.

2.1.2 The elements of *Total Quality Management*

The different of TQM and others approaching in business is “How” component. This components have 10 elements as per Goetsch dan Darvis and excerpt by Fandy Tjiptono & Anastasia Diana (2003:15-18), are:

1. Costumer focus
2. Quality obsession
3. Empirical approaching
4. long term commitment
5. *Teamwork*

6. Continuously system restructuring
7. Education and training
8. Controllable freedom
9. Unity of the aim
10. Involving and employee efficient use

Based on excerpt above can be explain below:

1. Costumer focus

In TQM, external or internal costumer is the driver. External costumer decide product and services quality which deliver to them, and internal costumer decide quality of human, process, and environment which related with product and services.

2. Quality Obsession

In organization who implemented of TQM, to keep quality at all aspect is not to easy. More complicated if the costumer change their perceptions of quality. Change of lifestyle and economics could be change costumer quality perception. Costumer perception of services quality more higher in market could be more profit. High quality in services more select by costumer and will be more profitable.

3. Empirical approaching

Empirical approaching is very important in TQM implementation, mainly to working design, decision process and problem solving of working design. Data needs to make benchmarking, achievement monitoring and restructuring.

4. Long term commitment

TQM is new paradigm in business. Needs new corporate culture as well. That's reasons why long term commitment is very important for culture change to TQM success implementation.

5. Team Work

Effective team can be plan growing and make solution problems solving for employee who doesn't exist before. Success of team depends on individuals and commitment of every teams member. Teamwork could be more success than individuals working.

6. Continuously system restructuring

Quality management can not separate with continuously effort to restructuring and based on Japanese concept, Kaizen, try to achieve best continuously operation restructuring. Continuously restructuring to identified best benchmark and self belonging in process works.

7. Education and training.

In TQM implementing in organization, education and training properly must given to employee in all of hierarchy to make understanding of quality management system, how they are have a role and how to responsible to organization. Training is main role for organization to use and growing certain employee capability to TQM principles implementation.

8. Controllable freedom

In TQM, involving and employee efficient use in decision making and problem solving is important element. And that's element can be raise up of self belonging and employee responsibility on decision has been made and enrich of perspective because many parties involve.

9. Unity of aim

TQM will be implemented well if corporate have unity of aim. Every effort can be focused in one aim. However, agreement between Management and employee is not necessary.

10. Involving and employee efficient use.

Involving and employee efficient use are important in TQM implementation. Effort to involving of employee brings two benefit, are:

1. To raise up of good probability decision, good plans, and effective restructuring.
2. To raise up self belonging and responsibility of decision and involve the executive employees. **Fandy Tjiptono & Anastasia Diana (2003)**

2.1.3 The aim of TQM

As per **Sjamsudin Benny (2006:96)**, *Total Quality Management*, have several aims:

1. To produce the quality product and services:

To make corporate profit, the corporate should be create quality product or services, the corporate needs quality continuously structuring. Important to be done by corporate to more magnified costumer, and raise up corporate sales.

2. Leadership guaranty to avoid for error and squandering

People hopes squandering does not continue in long term, because serious impact for corporate, one of them is decreasing of corporate sales. The corporate leader have hard work for minimized of error or to decide something to avoid time and cost squandering.

The existence of Human resources in a corporation is very important to reach the aim was determined. The corporation have to realized to not depend on natural resources and technology. To survive and grow up corporate more depend on human resources management.

3. Produce competitive product and services.

To produce competitive product and services, the corporate needs system processing and continuously restructuring and superior in market share and costumer trusted.

2.1.4 Definition of sales

As per **Henry Simamora (2000:24)** in his book “**Akuntansi Basis Pengambilan Keputusan Bisnis**” said:

“Sales is common revenue in a corporation and gross amount to be paid by product or services buyers.”

Based on definition above, sales is agreement between two parties buyers and seller, seller offering products and hopes buyer agree and deliver some money to be pay, Hendriksen said:

1. As a legal, sales happened as transfer of right from seller to buyer and demand payment from buyer to seller.
2. As economics sales happened if:
 - a. Have certainty evidence, buyers buy something from seller.
 - b. Identified certainty of product ready to be sale.
 - c. Agreement between buyer and seller in price or conditions of price.

2.1.5 Sales control process

As per Sjamsudin **Benny (2006:96)**, Sales control process as below:

- 1.Measurement determination is standard, budget and targets.

Sales control process needs determine of standard. Standard is a norm as a formal document and create criteria, method, process and engineered of practice or uniform technique. A standard as an artifact or formal set to calibrate. Prime standard usually under jurisdiction of national standardization council. Secondary standard, tertiary standard, check and others standard materials usually used in metrology system.

- 2.Measurement of sales.

To understanding corporate sales achievement needs to measure at sales section. One of the way to make measurement is costumer satisfaction of product or services which produce by corporate. Costumer need much more product or services which produce by corporate, indicate that corporate sales is good (rais up).

- 3.Analyzing various factors of sales deviation.

Causal factors of sales deviation is sales budget and realization of sales doesn't appropriate. Cost of budget determination lower than realization, that's the reason of sales descent.

- 4.Recovery action.

After causal factors of sales deviation are known, corporate have to take recovery action to sales increase of sales and for prevention at the future. Recovery action needs for increase back of corporate sales.

2.1.6 Sales target

Hartono G. Petrus (2005) wrote: the points to reach corporate sales targets as below:

1. Achievement of sales target.

Sales target achievement could be reach by corporate with quality restructuring to make costumer satisfaction. Target achievement may raise up corporate profit and use more magnified of costumer to consume corporate service more and more.

2. Budget system loyalty policy

In budget determination any policy to be obedient and appropriate with corporate rules. The corporate policies will be patron to arrange corporate budget and employee could be arrange budget appropriate with corporate policies which determine before.

2.2 Hypothetic

Hypothetic will be testing in this research to understanding influence of X variable and Y variable. Hypothetic conditions are below:

H_0 = TQM is not in positive influence to raise up of sales.

H_a = TQM is not in positive influence to raise up of sales.

III. RESEARCH METHOD

Research method in this paper using Descriptive Analyzing with survey study approach.

3.1. Variable Utilizing

Variable utilizing in the research with two variables, are:

a. *Independent Variable*

TQM symbolized with X (Variable X) with indicators are: 1. TQM elements with sub indicators : focus to costumer, quality obsession, empiric approach, long term commitment, team working, continuously restructuring, education and training,

controllable freedom, unity of aim, involving and employee efficient use 2. TQM aim with sub indicators: produce quality product and services, leadership guaranty to avoid for error and squandering, and produce competitive product and services

b. Dependent Variable

Increasing of sales symbolized with Y (Variable Y). Indicator used 1. Sales control process with sub indicators: determination measurement of standard, budget and sales target. 2. Sales target with sub indicators : achievement of sales target plan appropriate , obedient to budget system policy.

3.2 Population and sample

Population in this research are PT. KAI employee with number 15 persons. Technique sampling used is saturated sampling. Sugiono (2010:122) wrote: saturated sampling is sample determine technique if all of population used as sample, and this research all of population used are 15 people.

3.3 Data collection technique

The author using data collection technique are below:

1. Prime data, data collection with interview, questioner and observation.
2. Secondary data, Library research.

3.4 Data quality test

3.4.1 Validity test

Validity test is a statistical test to understanding if any questions subject to change because are not relevant. Validity test with product moment correlation formula, Husseun Umar (2008:166)

3.4.2 Reliability test

Reliability test to be done for questions to understanding measurement result consistent steady if any reevaluation with same symptom, using formula Split half Spearmen Brown, Sugiyono (2004:122)

3.5 Statistic test selection

1. Rank Spearmen correlation analyzing

Rank Spearman formulated as below:

$$r_s = 1 - \frac{6 \sum_{i=1}^n d_i^2}{n(n^2 - 1)}$$

Condition:

r_s = Coefficient correlation *Rank Spearman*

d_i = Different data Rangking variable X dan Y

n = number of sample

Interpretation of r or coefficient correlation from the calculation guided by (Rachmat, 1998:29) as below:

Table 3.1

Guidance coefficient correlation interpretation

Interval coefficient	Relation level
< 0,20	very low
0,20 – 0,40	low but sure
0,40 – 0,70	significant
0,70 – 0,90	strong
> 0,90	very high/very strong

Source : Guslford (Rachmat, 1998)

2. Coefficient determination

Formula to calculate coefficient determinan (K_d) as below :

$$K_d = r^2 \times 100 \%$$

Means, $\eta\%$ from change varian in variable Y occasioned by change varian in variable X. Strong in coefficient correlation make strong coefficient determination as well, and opposite.

3. t test

Calculation of t test with formula as below:

:

$$t = rs \frac{\sqrt{n-2}}{\sqrt{1-rs^2}}$$

Notes:

t = Value t count

rs = Value coefficient correlation

n = Number of data

Calculation of t table with formulas as below :

- Freedom level = n - 2
- Freedom level= 0.05, means probability of the truth conclusion having profitability 95% or margin for error are 5%. Others social knowledge significant level 0.05% is tolerable, tight enough for variable tested.

IV. RESULT AND DISCUSION

4.1 Validity test

Validity test result using software SPSS 18 (statistical product and service solutions), every variables are variable validity test result implementation of TQM and raise up of sales PT. Kereta API Bandung 2nd Operation Area, all of author question to respondent are suitable to continue , because have value up to 0.300 (Saifuddin Azwar 2007: 158)

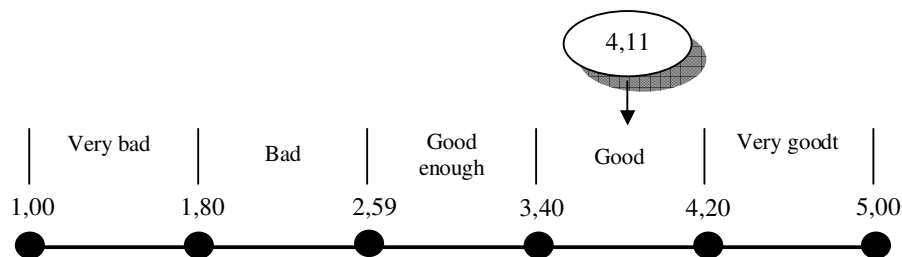
4.2 Reliability test

Reliability test result using Software SPSS 18, every variables reliability test result to all items are reliable because value of reliability coefficient Split half >0.700 are 0.986 and 0.921, and all of reliability variable are confirmed.

4.3 TQM implementation at PT KAI Bandung 2nd Operation Area.

Based on questioner data spread to 15 people at Sales Section PT. KAI Bandung 2nd Operation Area for TQM implementation, we have result that TQM implementation is good, because average value for all statement are 4.11 in interval of 3.40 to 4.20.

Get more easier to analyzing, the author will show analyze result in average value of TQM implementation based on collection data as below:



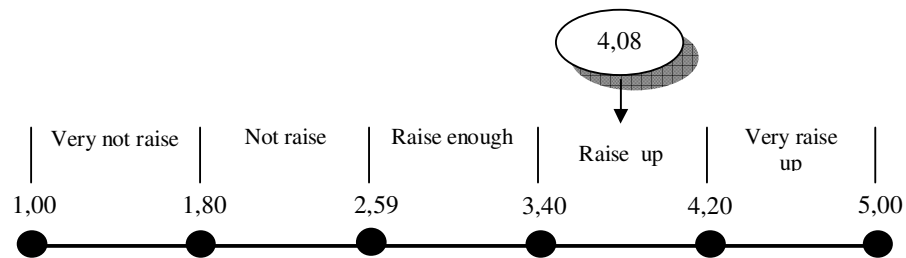
Exhibition 4.1 Total Quality Management (TQM) Implementation

Based on exhibition 4.1, we know average value TQM implementation are 4.11 in interval of 3.40 to 4.20, and we have conclusion that TQM at PT. KAI is good.

4.4 Raise up of sales PT KAI Bandung 2nd Operation Area

Based on data which collect from questioner spread to 15 people at Sales Section PT. KAI Bandung 2nd Operation Area for increasing of sales, we have result that sales increasing is good, because average value for all statement are 4.08 in interval of 3.40 to 4.20. We have elements needs to be attention because value under average.

Get more easier to analyzing, the author will show analyze result in average value of sales increasing PT.KAI Bandung 2nd Operation Area based on collection data as below:

**Exhibite 4.2 Raise up of PT. KAI Bandung 2nd Operation Area**

Based on exhibition 4.2 we have average value of raise up of PT. KAI Bandung sales for 4.08 and interval 3.4 to 4.2, and we have conclusion that Sales of PT. KAI is increase.

Targets sales chieivement PT. KAI Bandung 2nd Operation Area, Parahyangan 2008-2010

TABLE 4.1**TRAIN PASSANGER OF PARAHYANGAN YEAR 2008**

NO	DETAILS	CLASS	PROGRAME	REALISATION	PRESENTASION
			PNP	PNP	VOL
1	2	3	4	5	5/4
1	UTAMA	EXECUTIVE BUSINESS	108.372	78.551	72
		TOTAL UTAMA	80.123	58.197	72
			188.495	136.784	72

Based on table 4.1 above, sales oh PT. KAI Parahyangan direction year 2008, categories in not good, because sales realization lower than planed program.

TABLE 4.2**TRAIN PASSANGER OF PARAHYANGAN YEAR 2009**

NO	DETAILS	CLASS	PROGRAME	REALISATION	PRESENTASION
			PNP	PNP	VOL
1	2	3	4	5	5/4
1	UTAMA	EXECUTIVE BUSINESS	86.406	38.020	44
		TOTAL UTAMA	64.016	36.134	56
			150.422	74.154	49

Based on table 4.2 above, we know that sales PT. KAI Bandung 2nd Operation Area Parahyangan direction year 2009 categories Not Good, because sales realization lower than program plan and percentage decent of 72% year 2008 and become 49% year 2009.

TABLE 4.3
TRAIN PASSANGER OF PARAHYANGAN YEAR 2010

NO	DETAILS	CLASS	PROGRAME	REALISATION	PRESENTASION
1	2	3	4	5	5/4
1	UTAMA	EXECUTIVE BUSINESS	41.822	43.100	103
		TOTAL UTAMA	39.747	40.159	101
			81.569	98.895	121

Based on table 4.3 above, sales of PT. KAI Bandung 2nd Operation Area Parahyangan direction year 2009 categorized good, because sales realization upper than plan program and percentage of sales raise up for 49% year 2009 become 121% year 2010.

4.4 Implementation effect of Total Quality Management (TQM) to increasing sales of PT. KAI Bandung 2nd Operation Area

The effect TQM implementation of PT. KAI Bandung 2nd Operation Area sales increasing, the author need to testing relation level between variable X to Variable Y with two steps, are:

1. Rank Spearmen Correlation Analyzing

Assistance of software SPSS 18, we have correlation between TQM implementation to increasing of PT. KAI Bandung sales.

Table 4.4
Rank Spearman correlation test

Correlations				
			TQM (X)	Peningkatan Penjualan (Y)
Spearman's rho	TQM (X)	Correlation Coefficient	1,000	,826**
		Sig. (2-tailed)	.	,000
		N	15	15
	Peningkatan Penjualan (Y)	Correlation Coefficient	,826**	1,000
		Sig. (2-tailed)	,000	.
		N	15	15

** . Correlation is significant at the 0.01 level (2-tailed).

Based on table 4.4 above, calculation of Rank Spearman correlation we have 0.826 and shown that tight relation between variable of TQM implementation to PT. KAI sales increasing is strong categories. We have in interval of 0.7 to 0.9 and we presenting based on Guilford guidance as below:

Table 4.4
Coefficient Correlation of interpretation guidance

Interval coefficient	Relation level
< 0,20	Very low
0,20 – 0,40	Low but sure
0,40 – 0,70	Significant
0,70 – 0,90	Strong
> 0,90	Very strong

Source : Guildford (Rachmat, 1998)

2. Coefficient Determination

The calculation of TQM contribution to PT. KAI Bandung increasing of sales will be known trough coefficient determination (Kd). Coefficient determination is coefficient correlation (R) quadrate or named R-square. Coefficient determination formula as below:

$$Kd = r_s^2 \times 100 \%$$

Note : Kd = Coefficient determination
 r_s^2 = Value of coefficient correlation

The result as below :

$$\begin{aligned}Kd &= 0,826^2 \times 100\% \\&= 68,2 \%\end{aligned}$$

Coefficient determination (Kd) 68,2% means TQM implementation have contribution to PT. KAI increasing of sales 68.2%. , and the rest of 31.8% influence by other variable are not discuss in this paper.

3.Hypothetic test (t test).

A coefficient correlation must be significant value, we need to test correlation with hypothetic test to r_s , between TQM implementation and increasing of sales. In hypothetic test the author determine value of (α) 5% (0.05) with freedom level $df=n-2$, hypothetic test as below:

Testing criteria:

- $H_0 : r < 0$, means TQM implementation have not positive effect and significant to increasing of sales.
- $H_a : r > 0$, means TQM implementation have positive effect and significant to increasing of sales.

Test criteria: reject H_0 if t count $>$ t-table, and accept H_a if t count $<$ t-table

Based on the above, we know that t count and t table calculate as below:

$$t = r_s \frac{\sqrt{n-2}}{\sqrt{1-r_s^2}}$$

$$t = 0,826 \frac{\sqrt{15-2}}{\sqrt{1-0,826^2}}$$

$$t_{\text{count}} = 5,279$$

Based on the above calculation, we know value of t count for TQM variable with 5.279. This value will compare with t table on distribution table. With $\alpha=0,05$, df

= $n-2 = 15-2 = 13$, to testing one side we have t value 1.771, t count for TQM implementation variable $5.279 > t$ table (1.771), H_0 reject, means TQM have positive effect and significant to sales increasing.

V. CONCLUSION.

Based on research result of PT. KAI Bandung 2nd Operation Area , Variable X (TQM implementation) have positive effect has confirmed and significant to variable Y (Sales increasing) up to 68,2%. This relation in very strong category . Test result with statistical t test we have value of t count ($5.279 > t$ table (1.771)). The result indicates reject of H_0 shown as positive relation between TQM implementation influence to sales increasing. Coefficient determination from the calculation get 68.2%. We have understanding, the implementation of TQM have positive effect to increasing of sales 68,2 % and the rest of 31,8% influence by other factors are not discuss in this paper.

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