

Review Paper

Evaluating the Impact of Business Process Reengineering on the Performance of Regional Electric Company of Mazandaran Province

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Available online at: www.IJSMD.Com

Received 25th Nov 2013, revised 1th Dec 2013, accepted 10th Jan 2014

Abstract

The purpose of this study was to assess the impact of re-engineering based on four measures of financial performance, ability to build production and innovation, customer satisfaction and employee communications, supply chain and related indicators in each dimension before and after the implementation of the Regional Electricity Company in a province. For the purposes of this study, the type of applied research, the descriptive nature of the survey. Population survey of managers, supervisors and experts are. Data analysis using a paired test to compare the situation before and after the re-engineering and implementation of the Friedman test was conducted to rank the variables. Results show the success of the performance impact of after the engineering re than before its implementation on the regional electric company crosses the province harder to arrange their impact: financial performance, customer satisfaction and employee communications, supply chain, capable of making, and innovation.

Keywords: process reengineering, performance indicators, assess the utility

1. Introduction

In the dynamic and competitive environment in which firms operate inside and outside are forced to change as a result of non-compliance with the market requirements and operational processes, resources are wasted. Reengineering business processes with other management approaches of re-engineering in order to vary the basic radical transformation and improvement of the organization's activities are predicated. Re-engineering, change is purposeful and planned, before the change is imposed from outside the system, the system improves and eliminates extra layers. (Ahmed, et al, 2010)

Since reengineering theory, a new theory is to improve business processes and approaches are still being developed, and as the application of reengineering can be formed in different ways distinct from it, because emphasis on some factors in a reengineering project to another project will be different. (Sidikat, et al, 2008). Re-engineering is a process in which the current task instead of their core business processes has changed. The task-oriented approach towards process-driven organization mode moves. Also accelerate business processes and reduce costs, and thus is becoming more competitive organization. (Amiri, et al, 1389).

This study evaluated the impact of re-engineering in Mazandaran Regional Electric Company managers and supervisors in assessing the views of experts has been investigated and analyzed. The purpose of this study is to determine the impact of re-

engineering the company's performance. And to answer the question is whether the function of Mazandaran Regional Electric Company before and after the re-engineering there is a significant difference?

Dimensions include 1 : Financial Performance 2 : Ability to create , produce and innovation 3 : the satisfaction of customers and employees 4 : Community and supply chain re-engineering parameters associated with each dimension impact on the evaluation of each indicator . The results of this study clearly determines the top priorities and important points for improving the transformation increase the flexibility of structures and of show the utility processes tasks experts administrators the determination a regional power company hierarchy does the organization .

2 - Theoretical reengineering:

Project management studies in the nineties University Massachusetts Institute of Technology (MIT) has been re-engineering background. Michael Hammer theory first propounded the concept of reengineering; her article "Automation does not work, remove waste activities" in "the Harvard Business Review" in 1991, re-engineering, knowledge management, introduced to the world. The book re-engineering, organizational revolution with the help of Bill James wrote in 1993 Jeums Champy reengineering explained in terms of a theory. Reengineering the most famous and most controversial management theory during recent years. Reengineering, the celebrity division of labor and a few hundred to easily overturns

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Manuscript No: IJSMD-KINA-2013-033

Smith. Many issues prior to 1991 was on reconstruction and organization of management, such as improved management,

change management, Kaizen, Total Quality Management, Innovation managers and management theorists were occupied, but what other methods of reengineering management before and it distinguished itself as a revolutionary theory of management issues in organizations and creative ways to evaluate and refine the planning process re-engineering that was based on. (Champy , 2002). Recognition regardless of the language used in engineering sciences, knowledge reengineering management is possible, and perhaps the best way to interact with other management theory is the theory. Because many of those who have been re-engineered and are even used. The forest management theories have been confused and this causes concern reengineering has provided. (Blocki, 1391). Reengineering different definitions have been proposed (Blocki, 1391). Hammer and Champy (1993, 30) argue that the most general definition of reengineering is starting again. In one of the best and most definitions, the engineering is defined as: the fundamental rethinking and radical new design processes to achieve dramatic improvement in measures such as cost, quality, service and speed. **Basic:** the basic questions people should ask for reengineering. Why what we do we do? Why what we do, these do?

Root: a radical redesign means getting to the root of not performing or working surface changes to what already exists, but to throw away the old ones (all structures existing methods) is.

- The impressive opening limited and gradual reforms with the aim of engineering is not about the pursuit of function mutations is great.

- Processes: The fourth and most important key words. However, most managers provide the difficulties. Most people who are in business and process-not people, they are not paying attention to the functions and structures. Customer-oriented and process reengineering of the core.

2.1. Establishments classified in terms of preparation reengineering

Leading: Companies such as insurance, telecommunications, electric power, which are at the forefront of re-engineering.

Ready to get started: companies that are ready to redesign such as chemical companies, electronics, computers, pharmaceuticals.

Backward: Companies such as banks, retailers and government agencies of re-engineering have been left behind.

Michael Hammer of the three species is re-engineering of the company's First serious companies who drowned in deep trouble and have no alternative. Latter firms are still the problems are not wrestle management prospective feel the third risk, and companies that are in excellent condition and future prospects

they cannot see the problem, but the management of these companies have high ambition and perseverance(Alias, 2010).

3. Literature review

Bahraini (1388) paper entitled Evaluation of the implementation process reengineering in higher education in this country has concluded that the re-engineering a large and prestigious universities, leading to a 35 percent cost reduction is.

Amiri(1389) paper entitled Portfolio Selection Process Reengineering to conclude that the relative improvement in performance after the re-engineering of the maximum and minimum are employees' resistance to its implementation.

Zarei (1389) a review of research experience in engineering, project status, lower-middle to show. This is a tale of failure to achieve the expected results of the project are complete.

Sidikat (2008) in a study titled Evaluation of the performance of engineering organizations have come to the conclusion that the re-engineering projects, providing business plans and programs, with training, will be required.

The design process is based on a new system without considering the desires and needs of the users, they arouse discontent and resistance training costs can be substantial for the company.

Herzog (2009) in a study entitled to conclude that the role of engineering simulation that simulates a powerful tool for helping to analyze the system managers they are safe.

Ahmed (2010) in a study titled the re-engineering process modeling to conclude that the most important factor that affects the choice of modeling approach can be successfully re-engineering, goal modeling, and the type of people that model it can be done.

4. Identify aspects of the performance index

This model is based on research (Amiri et al, 1389) has taken the following four performance measures (financial performance, ability to build, produce, satisfied customers and employees, supply chain relationships) index associated with each dimension of it is extracted from the set of indicators, a good measure to characterize the expression and function of Mazandaran regional Electric Company provides.

5. Methodology

According to the above study is a descriptive survey research data collection methods in combination (library and field), respectively. Population survey , managers, supervisors and experts in the province are in a regional power company that over 120 people and sample -based Morgan 92 are due to the limited statistical population of simple random sampling was used. Towards collecting data on the scale of five option Likert was used cronbach alpha order reliability was assessed using a questionnaire containing 30 questions is. To assess data normality

test Kolmogorov - Smirnov and Paired-Samples T Test conducted to compare the situation before and after the implementation of reengineering, as well as the Friedman test rank of engineering re- used.

6. Analysis of data:

Data analysis was performed using SPSS software. Tests conducted are as follows:

6.1.Cronbach's alpha

To assess the reliability coefficient of the questionnaire, Cronbach's alpha was used to calculate the alpha value for the reliability of the present study show that is equal to the 95% level $\alpha = 0.851$ speaking confidence in of the present study has acceptable reliability.

Table 1 - Determination of Cronbach's Alpha

N of Items	Cronbach's Alpha
60	.851

6-2 - Kolmogorov - Smirnov (KS)

Before testing the hypotheses to evaluate the claims of the normal distribution of variables Kolmogorov - Smirnov (KS) was used.

One-Sample Kolmogorov-Smirnov Test

		before	after
N		92	92
Normal Parameters ^{a,b}	Mean	2.3548	4.1855
	Std. Deviation	.35663	.21471
Most Extreme Differences	Absolute	.131	.103
	Positive	.069	.103
	Negative	-.131	-.063
Kolmogorov-Smirnov Z		1.252	.985
Asymp. Sig. (2-tailed)		.087	.286

a. Test distribution is Normal.

b. Calculated from data.

Table 2 - Results of the KS Before and after implementing reengineering

In Table 2, the significance level was calculated for each 4 performance (financial performance, manufacturing capabilities, product innovation, customer satisfaction and employee communications, supply chain) before and after implementing reengineering was more than 5%, the normal distribution of the claim is accepted. We paired test was used to test the hypothesis that sub and main results are as follows.

6.3. Paired – Samples T Test

Depending on the assumptions, hypotheses of the study was to answer the parametric paired t-test to test the hypotheses are used.

- $H_0 : \mu_d = 0$ Significant difference in performance before and after the implementation of re-engineering there.
- $H_1 : \mu_d \neq 0$ Significant difference in performance before and after the re-engineering there.

Table 3 - Results of Paired Samples Statistics before and after the re-engineering

Result	Sig	Std. Deviation	Mean after	Mean before	Upper	Lower	Dimensions of Performance
Rejection H_0	0.000	0.06342	3.8909	2.5341	-1.2309	-1.78286	Financial Performance
Rejection H_0	0.000	0.06566	4.3428	2.2635	-1.94882	-2.20969	Ability to create, produce and Innovation
Rejection H_0	0.000	0.06873	4.1022	2.2457	-1.72000	-1.99304	Customer satisfaction and employee
Rejection H_0	0.000	0.04895	4.1395	2.6060	-1.43629	-1.63074	Supply chain relationships

The results of the test, paired according to Table 3, the range of 95 percent to the mean of the Regional Electric Company province, before and after the re-engineering of the show and the mean level for all aspects of the performance, after the re-engineering prior to the implementation of re-engineering the power company, more. Since a significant amount (sig) for each of the four research hypotheses were equal to 0.000 and is smaller than 5%, then we can conclude that the hypothesis H_0 is

rejected in all four dimensions of performance and H_1 is accepted. In other words, no significant difference in the performance of Mazandaran Regional Electric Company before and after the re-engineering there.

6.4. Friedman Test

In order to rank the performance of different aspects of implementing reengineering Friedman test was used.

Table 4 - Results of Friedman test after the re-engineering

Asymp. Sig.	df	Chi-Square	N	Friedman Test
0.000	3	108.948	92	

Table 5 - Results of the rankings after the re-engineering

Mean Rank	Dimensions of Performance
1.48	Financial Performance
3.38	Ability to create, produce and Innovation
2.46	Satisfaction of customers and employees
2.68	Supply chain relationships

According to Table 4 for the sig equal 0.000 and less than 5%, the same ranking of claims will not be accepted. So we can conclude that rank (impact) dimensions of performance are different, but they according to Table 5, no matter how mean rank is smaller, importance or rank, the more so we can conclude the importance

7. Conclusion

This study proved the validity and reliability of data normality, to better evaluate and assess the situation before and after the re-engineering in the province power company parametric paired test was used.

order: financial performance, satisfaction customers and employees, supply chain relationships, manufacturing capabilities, production and innovation.

The results of this test indicate that all aspects of the company's performance before and after the re-engineering meaningful and successful influence every 4 onward, after the re-engineering prior to its implementation on the regional electric company in Mazandaran more. Arrange them in order of influence: financial performance,

customer satisfaction and employee communications, supply chain, manufacturing capability and product innovation.

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