



Identification and Prioritization of Factors Affecting CRM Success in Sistan & Baluchestan Cement Company

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Abstract: *The purpose of this study is to identify and rank the key elements of success in customer relationship management (CRM) in Cement Company of Sistan and baluchestan province. For that purpose, considering four aspects of human element, appropriate organization of communication networks, technology, and focus on key customers, several standardized and native hybrid models have been used and a questionnaire with Cronbach's alpha of 0.896 was designed and distributed. The questionnaire is consisted of 46 items. This is an applied study, and from perspective of data collection and conclusion it is a survey research; and from analytical point of view, it is a correlational study. The statistical population is consisted of 288 people, which includes 64 employees and 224 customers, who have been selected using stratified random sampling during the time period from February 20th to August 23rd of 2014. To analyze the data descriptive and inferential statistics methods have been used. The results of Friedman's test indicate that according to respondents (employees and customers), the key elements of success in customer relationship management are technology, appropriate organization of communication networks, human factor, and focus on key customers, respectively.*

Keywords: *key elements, customer relationship, technology, appropriate organization of communication networks, human factor, focus on key customers, Cement Company.*

INTRODUCTION

Today's is a world of change, such as change in technologies, change in information, changes in peoples demands, change in customers and change in global market. However one of the most important changes in business is the change in the values presentable to customers, which is known as the main element of success in organizations. Pioneer organizations in each industry owe their success to their ability to present higher values than their competitors. Therefor better business performance relies on keeping the customers in long run. As the competition between companies to find customers for their products and services intensifies, and as modern competitive business world empowers the customers evermore, not only do the organizations have to find new customers, they also have to be able to keep their regular customers and try to establish a stronger bond with them [1]. As you know, customer relationship management (CRM) is a commercial strategy focused on the customer which tries to increase customer's loyalty by presenting more personal services to him. Some managers think of customer relationship as a management approach which includes identification, attraction, development and maintenance of permanent and profitable relationship with customers. Also the studies reveal that a 5% increase in maintaining customers would lead to 95% increase in organization's value [2]. There is no record of studies on customer relationship management in Cement Company in Iran. Some related studies have been conducted in banks, insurance companies, governmental organizations, and in private companies such as Iran-Khodro etc. CRM helps organizations establish effective relationships with their customers [3].

Therefore key elements of success in customer relationship management in Cement Company are those that aid these companies in achieving that goal. It is apparent that by identification and understanding of these elements, such companies can better implement customer relationship management. Recognition of these elements helps customer relationship managers in programming and taking initiative and reduces the risk of bankruptcy. A study revealed that an unsatisfied customer transfers his negative experience to 10 other persons; and 13% of unsatisfied customers share their opinion about the low quality of an organization and its products with 20 other people.

In Cement Company, it seems possible to analyze the relationship with each customer separately (intra-organizational tasks of financial, production or research and development departments); and after analysis of the data on each customer, separate programs can be implemented (extra-organizational task of sales and marketing departments). Due to recent economic fluctuations, technological growth, complication of customers' demands and expectations, and increase in number of Cement Company, identification and prioritization of key elements of success in CRM in Cement Company is a new challenge. In order to achieve their objectives and move toward their ideals, each company and organization needs to seek out solutions and correctly implement different aspects of elements of success.

2- Research literature and background

2-1- History of customer relationship management

Ever since industrial revolution, from early years of 19th century until the end of the first world-war, most of the organizations focused on products. Their philosophy was based on the idea that if a product is presented with high or acceptable quality, it will always have enough customers and demands on the market. In the early years of 20th century, Ford automobile company had so many customers that it could sell as many cars as it could produce [4]. In this kind of balance between the supplier and the customer, the supplier had the upper hand. In the years between 1920 and 1950, sales-oriented ideology became prevalent in the market. This view emphasized on the fact that it is possible that the customer might lose interest in buying; then the organization will have to take measures in order to sell its products and services. In the balance of this point of view (emphasis on the product and customer), the buyer has the upper hand.

From the beginning the 1980s, production and industrial organizations became interested in marketing-oriented point of view. This view was based on the idea that the more an organization knows about its customers and their requirements, less problems it would face during the sales. Transition from industrial economy and dissolution of geographical boundaries in business and consequent intensity of competition has made the customer the main principle and focal point of organizations' activities. Organizations have acknowledged that keeping customers is cheaper than attracting new ones, and the best way to do that is to satisfy the customers. Studies also indicated that customer satisfaction will increase a brand name credibility and profitability of an institution. During the 90s, with development of information technology, customer relationship management has evolved into an important business approach aimed to revive individual marketing.

At the end of 20th century, with increase in competition and introduction of new technology especially in the field of information and communication, organizations were lead to the understanding that the sole means of survival is not just knowing the customer, but relating to him as well [5].

2-2- Customer

From legal point of view, customer is a person or organization who contracts another to present products or services. From the point of view of economy and market, customer is someone whose demands are met by a person or organization. This demand might be some kind of food, drink, computer, healthcare service, or personnel service [4].

2-3- Customer relationship management

Despite being one of the most important issues of electronic trade, there is still no clear definition of customer relationship management. Some professionals and analyzers define customer relationship management as the following: in 1998, Kodwiel defined CRM as the combination of customer-oriented processes and technologies. Kala kuta & Robinson in 2000, defined CRM as integration of sales strategies, marketing, and services; they think of it as a factor against one-dimensional view about the customer, and point out the role of integration of processes and departments in implementation of CRM with the purpose of improvement and increase in customer service [op. cit.].

Dodes (2001) refers to CRM as presenting better services to customers in all levels of and organization [op. cit.]. Suifder (2001) defines CRM as an organizational approach to understand and influence the customer in his relationship with the organization in order to capture, keep, and ensure loyalty of the customer and his profitability [op. cit.]. Parvatiyar & Sheth (2001) defined CRM as a comprehensive strategy and process of capture, maintenance, and participation of selected customers to create higher values for customer and the organization, which include integration of marketing and sales and customer service departments and organization's cycle of supply, in order to achieve higher efficiency and effectiveness in presentation [op. cit.]. In 2004, Armstrong describes CRM as "the general process of creating and maintaining the relationship with profitable customers by providing higher values to customers and satisfying them" [6]. Sudhakar & Sudharani [7] state that CRM is a new emerging technique for IT-based businesses and can be identified as a kind of technical innovation in organizations [7]. CRM is an expanded IT process which is responsible for recognition, development, combination, and focus on different organizational capabilities to identify valuable customers [8] and seeks better recognition of market for potential customers [9].

Customer relationship management is a customer-based commercial strategy which dynamically integrates sales, marketing, and services in order to create and increase values, both for customer and the organization [10]. Through the mentioned definitions of customer relationship management, three different views on CRM can be inferred:

First view- CRM philosophy: a collection of values about the whole strategy and technology of and organization, and the philosophy of customer relationship in relation with customer-oriented culture and strong emphasis on establishment of long-term structures in relationship with customers.

Second view- CRM strategy: organizational strategies that conduct different task districts and departments of organization toward establishing relationship with customers.

Third view- CRM technology: focus on the role of information systems in use, collection, analysis and application of the data in order to create and manage the relationship with customers [11].

3- Research questions

- What are the key elements of success in customer relationship management?
- How is the ranking and prioritization of key elements of success in customer relationship management?

4- Research methodology

This is a correlational type descriptive study. The statistical population is consisted of 288 persons that include 64 employees and 224 customers. Considering the accessibility of the whole population, the sampling was done using stratified random sampling method. In the primary sample on the scale of 0 to 100 the maximum standard deviation is 45; according to Cochran formula a sample of 100 persons can provide 95% confidence, $p=95$; and less than 5% margin of error.

$$n_0 = \frac{\frac{z_{\alpha}^2 s^2}{2}}{d^2} = \frac{1.96^2 \times 0.45^2}{0.05^2} \approx 311$$

If we place this quantity in the sample size formula, then we have:

$$n = \frac{n_0}{1 + \frac{n_0}{N}} = \frac{311}{1 + \frac{311}{288}} \approx 149$$

Of course the sample size has been slightly larger and a number of 150 persons have been studied, 33 of whom were employees and 117 were customers.

Data collection methods: to collect data in this study, two methods have been employed:

First- library method: a part of the task to collect the data required for this study has been conducted on a theoretical basis where books, articles, theses and researches have been used. Also Iran's center for scientific documents has been referred to, and articles and theses outside the country were accessed using computer and web search.

Second- field method: since by purpose, the present paper is an applied study, the required data has been gathered by field collection from statistical sample. In this stage, the most suitable method for data collection

was the use of questionnaires; since direct connection and separate interviews with each subject was not possible and would bring up difficulties in the course of the study. Hence, the tools for data collection in this study were interviews and use of questionnaires designed by the researchers; and the statistical data for measuring the variables of the research have been extracted based on that.

Methods of data analysis: in this research, the data is described by use of descriptive statistic methods such as tables and charts, frequency percentage, mean and median, standard deviation, minimum and maximum. The data provided by questionnaires were figured out based on demographical variables (age, work experience, education etc.) and then statistically analyzed using an analysis software. The most important test used in this research is Friedman’s test.

In order to confirm the validity of the questionnaires, they were handed to the research’s supervisor and advisor and also experts in Cement industry; and after making the suggested alterations and corrections, the validity of the questionnaires were confirmed. Therefore the present questionnaire has contextual validity. Also to determine its reliability, the questionnaire was examined against Cronbach’s alpha test. For all four aspects of the questionnaire, the obtained Cronbach’s alpha was greater then 0.7, which confirms its reliability. As far as data analysis in concerned, the effort was to reach better result explanations by separating the analytics based on research hypotheses; and for that purpose SPSS software was used to analyze the data.

5- Concept model

By taking researchers’ different point of view into consideration, the following model for key elements of success can be presented:

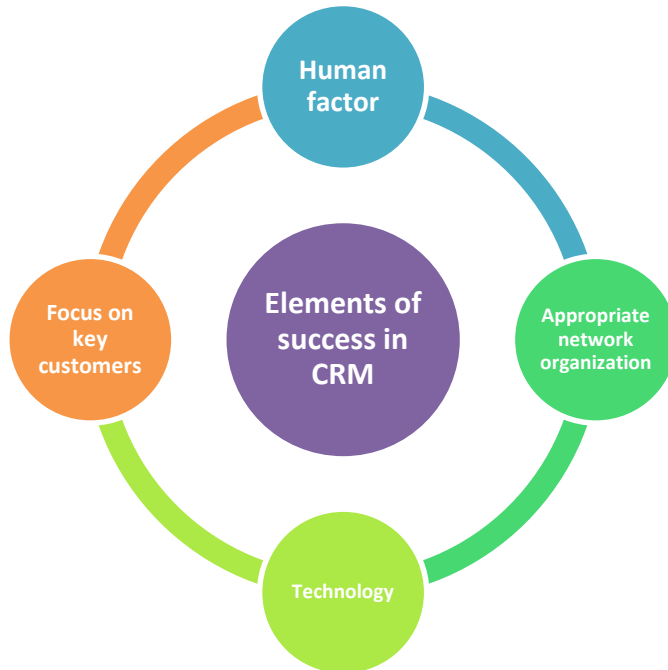


fig 1: research concept model

As demonstrated in concept model, the elements of success in CRM are studied in four aspects. Also each aspect is divided into various sub-categories based on studies and investigations and theoretical literature and interviews with professionals, experts and managers of Cement industry.

6- Results

6-1- identification of key elements of success in CRM

The above hypothesis can be statistically examined against ratio test in the following manner:

$$\left\{ \begin{array}{l} H_0: \text{Human factor is not a key element of success in CRM} \end{array} \right.$$

H₁: Human factor is a key element of success in CRM

Table 1: ratio test for human factor

	Ratio estimation index		z	p
	Observed frequency	Ratio to total frequency (percent)		
<i>Human factor is not a key element of success in CRM</i>	42	28	5.39	0.000
<i>Human factor is a key element of success in CRM</i>	108	72		

Considering the test's statistic and probability (p-value=0.000) it can be concluded that the null hypothesis (i.e. according to research subjects, human factor is not a key element of success in CRM) with significance level of 5% is rejected; and with 95% confidence it is confirmed that human factor is a key element of success in CRM.

6-2- Appropriate organization of communication networks

The above hypothesis can be statistically examined against ratio test in the following manner:

- H₀: Appropriate organization of communication networks is not a key element of success in CRM*
- H₁: Appropriate organization of communication networks is a key element of success in CRM*

Table 2: ratio test for appropriate organization of communication networks factor

	Ratio estimation index		z	p
	Observed frequency	Ratio to total frequency (percent)		
<i>Appropriate organization of communication networks is not a key element of success in CRM</i>	45	30	5.68	0.000
<i>Appropriate organization of communication networks is a key element of success in CRM</i>	105	70		

Considering the test's statistic and probability (p-value=0.000) it can be concluded that the null hypothesis (i.e. according to research subjects, appropriate organization of communication networks is not a key element of success in CRM) with significance level of 5% is rejected; and with 95% confidence it is confirmed that appropriate organization of communication networks is a key element of success in CRM.

6-3- Technology

The above hypothesis can be statistically examined against ratio test in the following manner:

- H₀: Technology is not a key element of success in CRM*
- H₁: Technology is a key element of success in CRM*

Table 3: ratio test for technology factor

	Ratio estimation index		z	p
	Observed frequency	Ratio to total frequency (percent)		
<i>Technology is not a key element of success in CRM</i>	46	31	4.65	0.000
<i>Technology is a key element of success in CRM</i>	104	69		

Considering the test’s statistic and probability (p-value=0.000) it can be concluded that the null hypothesis (i.e. according to research subjects, technology is not a key element of success in CRM) with significance level of 5% is rejected; and with 95% confidence it is confirmed that technology is a key element of success in CRM.

6-4- Focus on key customers

The above hypothesis can be statistically examined against ratio test in the following manner:

- H₀: Focus on key customers is not a key element of success in CRM*
- H₁: Focus on key customers is a key element of success in CRM*

Table 4: ratio test for the factor of focus on key customers

	Ratio estimation index		z	p
	Observed frequency	Ratio to total frequency (percent)		
<i>Focus on key customers is not a key element of success in CRM</i>	54	36	3.42	0.000
<i>Focus on key customers is a key element of success in CRM</i>	96	64		

Considering the test’s statistic and probability (p-value=0.000) it can be concluded that the null hypothesis (i.e. according to research subjects, focus on key customers is not a key element of success in CRM) with significance level of 5% is rejected; and with 95% confidence it is confirmed that focus on key customers is a key element of success in CRM.

6-5- Rating of key elements of success in CRM according to employees and customers

The table below demonstrates the employees’ and customers’ rating of key elements of success in CRM.

Table 5: Rating of key elements of success in CRM according to employees and customers

elements	Mean	S.D	Min	Max
Technology	3.46	0.57	2.43	4.79
Appropriate organization of communication networks	3.43	0.42	2.43	4.43
Human factor	3.31	0.70	1.73	4.73
Focus on key customers	3.21	0.68	1.83	4.67

Table 6: Friedman’s test for Rating of key elements of success in CRM according to employees and customers

N	X ²	df	P
150	47.48	3	0.000

As demonstrated in the above table, technology is the most important element of success in CRM; and focus on key customers has the last priority among other elements of success.

Considering the test’s statistic and probability value (0.000), with 95% confidence this comparison can be generalized to the whole population. In other words, it can be accepted with 95% probability, that there is a significant difference between key elements of success in customer relationship management.

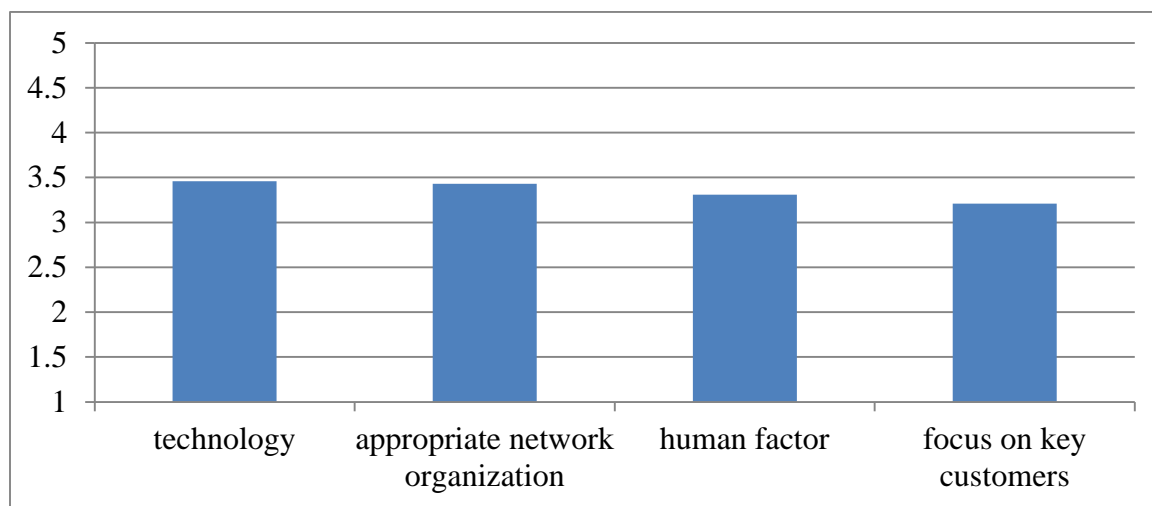


Chart 1: Rating of key elements of success in CRM according to employees and customers

6-6- Friedman’s test analysis

The results of Friedman’s test in analysis of the data demonstrate the rating of key elements of success based on importance and priority according to the employees:

Employees' point of view					
Row	Factor	Weight	Rating	Score	Aspect
1	Application of new technologies	3.5	4.27	14.95	Technology
2	Access to internet	3.5	4.18	14.63	Technology
3	Use of telephone & fax machine	3.5	4.12	14.42	Technology
4	Creating & use of a website and updating it	3.5	4.09	14.32	Technology
5	Use of E-mail in order to send advertisement and interaction with customers	3.5	4.03	14.11	Technology
6	Information systems integration	3.41	3.91	13.33	Networks
7	Database	3.5	3.73	13.06	Technology
8	Level of support and backup from top management	3.34	3.88	12.96	Human factor
9	Desirability of the announcement of CRM strategy to employees	3.41	3.79	12.92	Networks
10	Management of contact with customers	3.24	3.97	12.86	Focus on key customers
11	Desirability of sales automation use	3.5	3.67	12.85	Technology
12	Consistency between internal departments	3.41	3.73	12.72	Networks
13	Organization's IT capabilities and strong infrastructures	3.5	3.58	12.53	Technology
14	Data storage capability	3.41	3.67	12.51	Networks
15	Situation of commercial transactions in three aspects of information, contract, and payment	3.24	3.85	12.47	Focus on key customers
16	Desirability of operational management performance	3.34	3.7	12.36	Human factor
17	Level of customer service	3.5	3.52	12.32	Technology
18	Presence of business unit experts	3.34	3.61	12.06	Human factor
19	Presence of suitable structures, standards, and models to support organization's performance in knowledge storage	3.41	3.48	11.87	Networks

20	Clarity of the objectives	3.34	3.42	11.42	Human factor
21	Customers' information management	3.24	3.42	11.08	Focus on key customers
22	Employees' commitment	3.34	3.24	10.82	Human factor
23	Employees' knowledge about technology	3.34	3.18	10.62	Human factor
24	Desirability of marketing automation use	3.5	2.97	10.40	Technology
25	Application of a proper combination of processes, individuals and information technology	3.41	3.03	10.33	Networks
26	Presence of communication networks	3.24	3.18	10.30	Focus on key customers
27	Presence of IT experts	3.34	3.06	10.22	Human factor
28	Presence of technically specialized customer relationship manager	3.34	3.06	10.22	Human factor
29	Commercial development of software for relationship management with existing and potential customers	3.24	3.15	10.21	Focus on key customers
30	Application of a software for ordering and listing of products	3.5	2.91	10.19	Technology
31	Presence of computer servers	3.5	2.91	10.19	Technology
32	Presence of project managers specialized in business	3.34	3.03	10.12	Human factor
33	Presence of expert consultants	3.34	2.97	9.92	Human factor
34	Complexity of CRM activities	3.41	2.91	9.92	Networks
35	Presence of clients	3.5	2.79	9.77	Technology
36	Use of billboards	3.24	2.97	9.62	Focus on key customers
37	Presence and use of electronic markets	3.5	2.7	9.45	Technology
38	Use of chat rooms	3.24	2.79	9.04	Focus on key customers
39	Presence of vital salesmen	3.34	2.42	8.08	Human factor

Based on the score difference among rated factors, the factors can be divided into three types on a Likert triple scale, which are, factors with little importance, factors with medium importance, and vital factors as demonstrated below:

$$(14.95-8.08)/3 = 2.29$$

Type of the factors	Factors with little importance	Factors with medium importance	Vital factors
Acquired score	8.08 - 10.37	10.37 - 12.66	12.66 - 14.95

It can be concluded that factors with higher importance are recognized as key factors by employees. Also the results of Friedman’s test in analysis of the data demonstrate the rating of key elements of success based on importance and priority according to the customers:

CUSTOMERS' POINT OF VIEW

ROW	Factor	Weight	Rating	Score	aspect
1	Information systems integration	3.5	3.95	13.83	Networks
2	Use of telephone & fax machine	3.38	4.08	13.79	Technology
3	Application of new technologies	3.38	4.03	13.62	Technology
4	Access to internet	3.38	3.91	13.22	Technology
5	Creating & use of a website and updating it	3.38	3.88	13.11	Technology
6	Desirability of the announcement of CRM strategy to employees	3.5	3.69	12.92	Networks
7	Data storage capability	3.5	3.67	12.85	Networks
8	Presence of business unit experts	3.26	3.82	12.45	Human factor
9	Level of customer service	3.38	3.63	12.27	Technology
10	Situation of commercial transactions in three aspects of information, contract, and payment	3.09	3.97	12.27	Focus on key customers
11	Desirability of operational management performance	3.26	3.73	12.16	Human factor
12	Presence of suitable structures, standards, and models to support organization’s performance in knowledge storage	3.5	3.44	12.04	Networks
13	Clarity of the objectives	3.26	3.69	12.03	Human factor
14	Organization’s IT capabilities and strong infrastructures	3.38	3.56	12.03	Technology

15	Level of support and backup from top management	3.26	3.66	11.93	Human factor
16	Use of E-mail in order to send advertisement and interaction with customers	3.38	3.52	11.90	Technology
17	Management of contact with customers	3.09	3.79	11.71	Focus on key customers
18	Consistency between internal departments	3.5	3.31	11.59	Networks
19	Database	3.38	3.42	11.56	Technology
20	Employees' knowledge about technology	3.26	3.53	11.51	Human factor
21	Desirability of sales automation use	3.38	3.26	11.02	Technology
22	Application of a software for ordering and listing of products	3.38	3.14	10.61	Technology
23	Presence of computer servers	3.38	3.14	10.61	Technology
24	Presence of IT experts	3.26	3.22	10.50	Human factor
25	Presence of project managers specialized in business	3.26	3.22	10.50	Human factor
26	Employees' commitment	3.26	3.2	10.43	Human factor
27	Presence of expert consultants	3.26	3.2	10.43	Human factor
28	Presence of technically specialized customer relationship manager	3.26	3.17	10.33	Human factor
29	Application of a proper combination of processes, individuals and information technology	3.5	2.93	10.26	Networks
30	Commercial development of software for relationship management with existing and potential customers	3.09	3.13	9.67	Focus on key customers
31	Presence of clients	3.38	2.85	9.63	Technology
32	Presence of communication networks	3.09	3.1	9.58	Focus on key customers
33	Desirability of marketing automation use	3.38	2.77	9.36	Technology
34	Complexity of CRM activities	3.5	2.67	9.35	Networks
35	Presence of vital salesmen	3.26	2.79	9.10	Human factor
36	Customers' information management	3.09	2.93	9.05	Focus on key customers

37	Use of chat rooms	3.09	2.92	9.02	Focus on key customers
38	Presence and use of electronic markets	3.38	2.45	8.28	Technology
39	Use of billboards	3.09	2.63	8.13	Focus on key customers

Based on the score difference among rated factors, the factors can be divided into three types on a Likert triple scale, which are, factors with little importance, factors with medium importance, and vital factors as demonstrated below:

$$(13.83-8.13)/3 = 1.9$$

TYPE OF THE FACTORS	FACTORS WITH LITTLE IMPORTANCE	FACTORS WITH MEDIUM IMPORTANCE	FACTORS WITH VITAL FACTORS
ACQUIRED SCORE	10.03 - 8.13	11.93- 10.03	13.83 - 11.93

It can be concluded that factors with higher importance are recognized as key factors by customers.

7- Conclusion and discussion

Results of questions’ analysis

Question 1: what are the key elements of success in customer relationship management?

Results of data analysis related to the first question of the research indicate that according to the subjects (employees and customers) with 5% significance level and 95% confidence it is confirmed that all four aspects of the concept model i.e. human factor, appropriate organization of communication networks, technology, and focus on key customers are key elements of success in CRM.

Question 2: what is the rating and prioritization of key elements of success in CRM?

The results of Friedman’s test for analysis of the data related to the second question indicate that according to the subjects (employees and customers) the prioritization and rating of key elements of success in CRM is as bellow:

- Technology
- Appropriate organization of communication networks
- Human factor
- Focus on key customers

As demonstrated, technology is the most important key element of success in CRM and focus on key customers has the last priority.

Question 3: what is the rating of key elements of success in CRM according to the employees?

The results of Friedman’s test for analysis of the data related to the third question indicate that according to employees, the prioritization and rating of key elements of success in CRM is as bellow:

- Technology
- Appropriate organization of communication networks
- Human factor
- Focus on key customers

Question 4: what is the rating of key elements of success in CRM according to the customers?

The results of Friedman’s test for analysis of the data related to the third question indicate that according to customers, the prioritization and rating of key elements of success in CRM is as bellow:

- Appropriate organization of communication networks
- Technology
- Human factor
- Focus on key customers

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