

# ROLE OF KNOWLEDGE MANAGEMENT IN STRATEGICALLY SUITABLE DECISION MAKING IN TELECOMMUNICATION SECTOR

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## Abstract

*The world is dynamic in nature and so are the needs and demands of the people. Failure and success of any organization depend upon their decisions. Now the question is how an organization makes its decisions? What are the essential elements of decision making? The aim of this research is to find out the role of Knowledge Management in making Strategically Suitable Decisions. It also addresses the outcomes of Knowledge Management and their impact on the quality of organizational decisions. The research is based on a quantitative analysis of the questionnaire, collected from the Telecommunication industry. The study finds out that Knowledge Management is one of the fundamental sources of Competitive Advantage, Information Security and Customer Relationship; which are the focus of any organizational decisions. Although the research is conducted in the Telecommunication industry, it is equally applicable to any type of organization producing products and services.*

**Keywords:** Knowledge Management (KM), Competitive Advantage (CA), Customer Relationship (CR), Security of Information (SI), Strategically Suitable Decision Making (SSDM).

**JEL Classification:** Z000

## Introduction

The needs and demands of the world are changing, political scenario is inconsistent, climate and seasons are changing, this not only change the minds of the people outside the organizations but bounds the inside employees to make such steps which are suitable for the customers and for their organizations (Wild & Griggs, 2008). Telecommunication organization is one of the dynamic field of technology and innovation. Its services and products not only need to be developed regularly but also need to be managed properly (Sayed & Shahid, 2015).

Managing information is one of the most important issues in organization and strategically

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fit decision making is another. Due to this significance a new word “Knowledge management” came into being. A logical method and tools to manage Knowledge within the organization for its effective use are called Knowledge Management (Girard, John Girard, JoAnn, 2015). The subject is not only getting familiarity in academics but also in social sciences, management, business organizations, engineering and economics (Martin, 2008).

What compels organizations for managing knowledge and information? The answer to this question is very difficult to find out. Knowledge is the primary component of all operations in any organization. Knowledge plays the core strategic role in any organizational strategy and in making all types of decisions (Rowley, 2007). Knowledge covers all inside and outside environment of an organization, so its meaning changes from one sector to the other.

In this research, we will find out the main outputs of KM and the elements, specifically Security of Information, Competitive Advantages, and Customer Relationship, which can be obtained through proper KM and can play a key role in Strategically Suitable Decision Making. The study also proposes the interconnection and relationships of KM and SSDM in a structural model, for making it easy to manage knowledge and information properly, for deriving the strategic important outcomes which contribute to SSDM. The research is trying to add some valuable result to the importance and need of KM in today's emerging working environment regarding the security, competition, decision and customer relationship.

## **Literature Review**

### *Knowledge Management*

KM has made very significant and astonishing modifications and developments in the fields in telecommunications and Information technology (Caldwell, 2001). The core aim of KM is innovation, collaboration and decision making (Havens & Knapp, 1999). Other objectives of KM are to appropriately assemble and design an environment in which employees are provided the opportunity to share, implement, develop and protect knowledge which leads to new innovation (Davenport, 2013). According to another research, KM awakes the senses of an organization to feel the essential opportunities for new products and services (Barnett, Michael. 1997a).

There are also a lot of organizations operating in a much-diversified environment and the fragmentation of knowledge is of more importance for different departments and region within the boundary of organization (Zack, 1999). If there is no KM, then communication of knowledge is not worthwhile (Hargadon, 2000).

This literature shows that there are the very extensive role and benefits of Knowledge management in the dynamic nature of market needs and modern development. Without proper

knowledge management, it is impossible for the organization to achieve its objectives in the age of continuous developments and competition. So if the organizations want to face these challenges optimistically, it must manage the knowledge in a suitable and remarkable way.

### *Security of Information*

SI is one of the prime needs of organizations in modern days. Speed in communication, transmission and electronic devices have alarmed for SI around the globe (Andress, 2014). Electronic devices like mobile phone, computers, USB, memory cards are majorly used in modern day businesses (Kakareka, 2013). Information of an organization is exchanged, transmitted and shared through them which can cause severe damage to personal and organizational information (Dodge, 2007).

As the medium through which information of an organization are made accessible, these information needs to be prevented from corruption, theft and alteration and the process of doing so is known as SI (Vural, 2007). It is a complicated process, affected by workers, their education, and technology. Therefore, these factors need to be managed carefully.

SI is not only an organizational issue. Its failure can cause severe damage at industry/market level as well. Therefore, national and international policy and regulations have been developed for it. Every employee and organization is bound to obey the laws and standards regarding information and its security (Wood, 2005).

Importance of SI depends upon the nature of organization and information. Due to this natural fact, almost every organization has different security policy and regulations for SI. The strictness and rigidity of SI policy also differ from organization to organization and have a strong relationship with organizational goals and objectives. Through SI policy firms secure its information by adopting rules, control tools, protection walls etc. (Kalman, 2003).

In order to make information secure, organizations have to evaluate security risks continuously and make every possible and necessary step for its control (Peltier, 2005). In spite of its sole importance usually, organizations invest less amount than the required for its information security (Deloitte, 2006). Information of an organization can be made secured by the proper KM process (Sayed & Shahid, 2015). The following hypotheses are assumed to be true.

$H_1$ : Knowledge Management has positive relationship with SI

$H_2$ : SI in an organization has positive correlation with its CA

$H_3$ : SI has positive impact on SSDM

### *Competitive Advantage*

Modern markets are getting complexity day by day due to the rapid growth in the numbers

of products and services. It solely depends upon the organization's knowledge to fulfill the market demand and compete with the competitors. This shows the dependence of competitive advantage over KM (Zviran, 1999). Knowledge itself does not make any sense; it needs to manage in more attractive and efficient style than competitors which will ensure its competitive edge and position in the market (Panettieri, 1995)

Knowledge can be broadly divided into two main categories, i.e Tacit Knowledge and Explicit Knowledge. None of the above can be advantageous for the organization until their application to a specific task, product or process. Therefore, knowledge must be used to enhance employee's competencies and skills (Dhillon, 2000). Some of the most important competencies are the skills necessary for operating a technological device or machinery and organizational capabilities. These capabilities are the base of organizational CA (Grant, 1996a). Core capabilities are defined as, the capabilities which are superior to those of competitors and are unique (Pfeffer, 1998). CA which is one of the most important element of strategy making can be obtained through KM (Sayed & Shahid, 2015).

The research argued that CA can be achieved only through the effective management of knowledge and information. Knowledge in a firm, if creates, modified and use effectively gives the firm a better and strong position than its competitors. The following hypothesis is derived from the above literature.

$H_4$ : KM has positive impact over CA.

$H_5$ : CA has positive correlation with SSDM.

### *Customer Relationship*

The process through which information related to technology and market are converted to decisions in such a strategic manner, which fulfills the customer needs according to the customer behavior and satisfaction is known as Knowledge Management (Nordhaug, 1994). KM ensures best customer relationship by providing customer-focused information. It also gives knowledge about CR lifecycle which further leads to new product innovations and developments. Through effective KM customer can be served on time and effectively. KM also integrates knowledge about the customers and market within various organizational departments and helps where customer related information be created and used (Leonard-Barton, 1992).

Organizations are doing businesses for making a profit. A customer is the only source of generating money for them. This importance reduced staff general functions of KM and raised the methods of using KM for CR strategies. In addition, most of the firms are operating and providing their products and services globally or in more than one country. This increases the prerequisite to maintain and build profitable CR which is only possible if knowledge and information about these

globally dispersed customers and markets are organized appropriately (Leonard-Barton, 2003).

It is suggested in this research that best and satisfied CR is achieved through suitable KM. KM will not only share information about customers and their market among employees and management of the organization but innovate services and products according to customer satisfaction, needs, wants and demands. The summary of the literature survey is summarized in the hypothesis below.

$H_6$ : KM has positive influence over CR.

So, it is clear that customer satisfaction is required for the surviving of the organization. And it is possible only if an organization knows well about the demands and needs of its customers, and makes good use of its information compare to its competitors (Tavana & Ali, 2013). It will provide the organization a chance to make a strong and everlasting relationship with its customers. It is only possible if all the information provided by the customers and market are properly managed. CR is also necessary for information related to the market, which is also a valuable source of comparative advantage (Prasongsukarn, 2006). The following statement was assumed.

$H_7$ : CR has positive influence over its CA.

$H_8$ : CR has positive influence over its SSDM.

### *Strategically Suitable Decision Making*

A strategy of a firm is a high-level planning for achieving its objectives in a highly uncertain environment. In other words, "a chain of decisions" is a strategy (Handen, 2000). It is important to understand the internal and external issues and challenges of a company and derive a solution to the problems for the accomplishment of its goals. This process is called strategic management (Nicolett & Andren, 2000). Objectives, policies, and planning for achieving the objectives are all the part of strategic management. It is crystal clear that there is a lot of work done by researchers and thinkers regarding alternative strategy, but unfortunately, too little effort has been done over the factors and elements which have direct or indirect influence over the making of strategically suitable decisions (Porter, 1996).

Decision making plays a vital role in the running of an organization. Making effective decision requires enough knowledge (Kvint, 2009). Also, most of the organizations are under remarkable pressure of the modern age and its inventions, needs, and demands. There is very little time for decisions to be made these days (Mulcaster, 2009). No one understood clearly the collection of knowledge, its managing and sharing to make decision effectively in the context of sustainability (Ernst & Young, 1999).

There is a competition everywhere in the market. No one knows what will come tomorrow, so organizations use to take decision strategically. Making the decision strategically is dependent upon the prediction of the upcoming areas of competition and knowing all about the upcoming demands.

More over the performance of decision making may get impacted due to better knowledge may not be available for the right person at the right time at a right place (Parlby & Taylor, 2000). In addition, without proper knowledge and capabilities of an organization and decision maker, an organization cannot make suitable decisions (Sayed & Shahid, 2015).

A range of organizations also highlights the emerging worry to make secure the environment for the upcoming generations through loyalty to concepts of sustainable development (Semple, 2000). Enough knowledge is needed for sustainable development which provides the base for decision and efficient ways for the management of knowledge, to help in the creation and distribution in order to support issues regarding sustainability (Malone, 2002). Human resource professionals need to know and guide the human capital on the way of development of competencies and abilities. Also HR professional needed to be having a strategic approach which is reactive to an unpredictable and dynamic environment (Sage, 1998).

It is suggested that an expert knows better about the business or organization and so he can take corrective actions in the favor of business (Laszlo, 2002). Research also shows that it is necessary for Human Resource to adapt itself according to the changing knowledge era (MacDonald, 2003).

In short, effective decision making adds a valuable contribution to the value and services of an organization. So, it is suggested that if an organization want to compete, it must manage the information in such a way to make the right decision at the right time for the right direction of the organization. Without effective management of knowledge, it is very hard for an organization to participate in the modern world and make fruitful decisions.

### *Proposed Structural Model*

The needs and demands of worlds is changing; political scenario is changing; this not only changes the minds of the people outside the organizations but bounds the inside employees to make such steps which not only suits for the outside world but also for their organizations. In other words, any organization needs to have such strategy which can face the challenges it faces. The formulation of such strategy is only possible if the 88 organization and its management create, analyze and use knowledge and information in a strategic manner. This research is adding valuable consequences to the importance and need of Knowledge Management in today's emerging working environment. In this research we find out the main outputs of knowledge management (KM) which are the pre-requisites of Strategically Decision Making (SSDM).

This research aims to present the impact and importance of Knowledge Management on Security of Information, Competitive Advantages, and Customer Relationship which are the essential factors of SSDM. We also proposed the interconnection and relationships of KM and SSDM in a structural model, for making it easy to manage knowledge and information properly, for deriving

the strategic important outcomes which further enhances and clarifies way for SSDM. In short, the research will clear the need and importance of KM and will present the main outcomes which come from proper KM. Each of the KM outcomes is studied deeply and a structural model was made and presented for each. Furthermore; the research will link these outputs with SSDM, which is shedding light over our main objective of “KM as a tool for SSDM in telecommunication organizations.” A structured model was designed after deep literature survey and will be tested for its accuracy in coming chapter. It is claimed that the research will be equally applicable to social sciences, engineering and economics; whether producing services, products or both. As in literature review, various relationships were assumed for this research. The authors proposed the model (See Appendix, Figure 1), showing the relationships among various variables, assumed to be true. These hypotheses are to be checked for their rejection or validation.

### **Research Methodology**

The study is based on hypothesis testing. There are five main variables in the research. Based on these relationships, hypotheses were derived and questionnaires were developed and the survey was conducted. The author collected 315 questionnaires from the telecommunication sector organization (PTCL, Ufone, Zong, Mobilink, Telenor, & Warid) in all of the provinces of Pakistan. Stratified random sampling method was used. Out of 315 questionnaires, the author selected 300 questionnaires which were found good and suitable for the research.

### **Results and Analysis**

#### *Reliability Test*

It is necessary to test the data for its reliability. Initially, we check a small amount of data which were purely collected for the purpose and after finding the suitability we collected all the required data and then again find out the reliability. The Cronbach's Alpha which represents the reliability value is 0.747 which is an acceptable value.

#### *Regression Analysis*

Regression analysis is used to estimate relationships between variables of interest. Here the focus is on two variables i.e. the dependent variable and independent variable. It helps to see the expected change in the dependent variable when the independent variable is changed. R-square, known as determination coefficients is used for the purpose to predict dependent variable from the variation in the independent variable. It ranges from 0 to 1, closer to 1 means that the relationship is strong while closer to 0 represents a weak relationship between the variables. The value 0 means that there is no relationship between the variables. Tested Model after results and analysis is present in Appendix (See Figure 2).

### *Hypothesis 1*

*H1*: Knowledge Management has positive relationship with Customer Relationship

*H1<sub>o</sub>*: Knowledge Management has no relationship with Customer Relationship

In the above hypothesis, the author has proposed that there is a positive relationship between KM and CR. The relation was checked for its validation or rejection. For the above relationship  $R = 0.549$ ,  $R\text{-Square} = 0.30$ ,  $F\text{-value} = 85$  at the significant level 0.000. It means that there is a positive relationship between KM and CR and the null hypothesis is rejected. There is a 30 % confidence level of CR prediction as KM varies.

Table 1  
*ANOVA<sup>b</sup>*

Model		Sum of Squares	Df	Mean Square	F	Sig.	R-Square
1	Regression	3.089	1	3.089	85.285	.000a	.301
	Residual	7.172	298	.036			
	Total	10.262	299				

a. Predictors: (Constant), KM

b. Dependent Variable: CA

### *Hypothesis 2*

*H2*: Knowledge Management has a positive relationship with Security of Information:

*H2<sub>o</sub>*: KM has no relationship with SI

For the relationship between KM and SI,  $R = 0.39$ ,  $R\text{-square} = 0.15$ ,  $F\text{-test value} = 36$  with the significance level 0.000. It means that SI can be predicted from KM with the certainty value 15 %. Hence the null hypothesis is rejected and our assumption is true.

Table 2  
*ANO ANOVA<sup>b</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.	R-Square
1	Regression	1.149	1	1.149	36.397	.000a	.155
	Residual	6.250	298	.032			
	Total	7.398	299				

a. Predictors: (Constant), KM

b. Dependent Variable: SI



### Hypothesis 3

*H3*: Knowledge Management has a positive impact over Competitive Advantage

*H3<sub>o</sub>*: KM has no impact over CA

There is a positive and significant relationship between KM and CA as the author has proposed. The relationship is validated by regression analysis with R-value 0.383, R-square value 0.147 and F-test value 34 at the significant level of 0.000. This shows that KM is a significant predictor of SI with 14 % certainty as in below table.

Table 3  
*ANO ANOVA<sup>b</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.	R-Square
1	Regression	1.254	1	1.254	34.139	.000a	.147
	Residual	7.274	298	.037			
	Total	8.528	299				

a. Predictors: (Constant), KM

b. Dependent Variable: CA

### Hypothesis 4

*H4*: Customer Relationship has a positive influence on Competitive Advantage

*H4<sub>o</sub>*: CR has no influence on CA

We have assumed that there is a positive influence of CR over CA in our research but after regression analysis, it is found out that there is no relationship between the variable as the significant level ( $p < 0.05$ ) does not exist. We have significance level 0.07 which is greater than 0.05. Therefore, our assumption is wrong and the null hypothesis is accepted.

Table 4  
*ANO ANOVA<sup>b</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.	R-Square
1	Regression	.169	1	.169	3.309	.070a	0.016
	Residual	10.093	298	.051			
	Total	10.262	299				

a. Predictors: (Constant), CR

b. Dependent Variable: CA

### Hypothesis 5

*H5*: Security of Information has a positive impact on Competitive Advantage

*H5<sub>o</sub>*: SI has no impact on CA

Security of Information's impact on CA was checked through regression analysis. The values for regression coefficients R is 0.591 and R-square is 0.345. It means that CA can be predicted with the certainty of 35 % if SI is known. In other words, if SI varies CA will also vary with the rate of 35 %. F-test value for the relationship was also found out and is equal to 47 with the significance level 0.000. Hence the null hypothesis is rejected and our designed hypothesis for the relationship of SI and CA is true.

Table 5  
*ANO ANOVA<sup>b</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.	R-Square
1	Regression	1.246	1	1.246	47.375	.000 <sup>a</sup>	.345
	Residual	9.015	298	.046			
	Total	10.262	299				

a. Predictors: (Constant), SI

b. Dependent Variable: CA

### Hypothesis 6

*H6*: Customer Relationship has a positive influence on Strategically Suitable *Decision Making*

*H6<sub>o</sub>*: CR has no influence on SSDM

There is a significant and positive relationship between CR and SSDM. The regression coefficients values are R is equal to 0.77, the R-square value is 0.59 and F-value is 63 with the significance level 0.000. The values clearly show that the null hypothesis is rejected and our proposed hypothesis is true and validated. Also, the R-square value is greater so there is a high certainty for the prediction of SSDM by CR.

Table 6  
*ANO ANOVA<sup>b</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.	R-Square
1	Regression	.371	1	.371	63.87	.000a	.590
	Residual	11.509	298	.058			
	Total	11.880	299				

a. Predictors: (Constant), CR

b. Dependent Variable: SSDM

*Hypothesis 7*

*H7*: CA has positive impact on Strategically Suitable Decision Making

*H7<sub>o</sub>*: CA has no impact on SSDM

The relationship between CA and SSDM is significant and positive. R-value for the relation is 0.681, R-square value is 0.46 and F-statistics value is 46.553 with significant level 0.000. The value shows that CA can be used to predict SSDM. The value also demonstrates that the null hypothesis is rejected and our assumption that CA has a positive influence on DM is true. SSDM can be predicted with the certainty value of 45 %.

Table 7  
*ANO ANOVA<sup>b</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.	R-Square
1	Regression	1.851	1	1.851	46.553	.000a	.463
	Residual	10.029	298	.051			
	Total	11.880	299				

a. Predictors: (Constant), CA

b. Dependent Variable: DM

*Hypothesis 8*

*H8*: Security of Information has a positive relationship with Strategically Suitable Decision Making

*H8<sub>o</sub>*: SI has no relationship with SSDM

The following tables show that the correlation coefficient value  $R = 0.78$  and  $R\text{-square} = 0.608$ . The F-test value is equal to 85.8 with the significant level of 0.006. It means that the relationship is positive and significant. Therefore, by improving SI in the organization, a good decision can be made. The certainty value the prediction is 60 %. As there is a positive and significant relationship between the variables so the null hypothesis is rejected and our assumed hypothesis is true and is validated.

Table 8  
*ANO ANOVA<sup>b</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.	R-Square
1	Regression	.453	1	.453	85.4	.000a	0.608
	Residual	11.427	298	.058			
	Total	11.880	299				

a. Predictors: (Constant), SI

b. Dependent Variable: SSDM

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## Conclusion

Knowledge management is a key to making a strategically suitable decision. Without proper knowledge management, it is not only difficult but impossible for an organization to achieve its strategically fit goals and objectives. In order to be the first in the run of the market competition, it is highly recommended that they should manage their information as better as possible. Besides other advantages of better knowledge management, it gives competitive advantages, provides a profitable relationship with customers, and secures the secret information of organizations, which in turn are considered helpful in our proposed model.

### *Recommendations*

1. It is strongly recommended here that management should follow the proposed model in order to make strategically fit decisions in the favor of their organizations and will find it more helpful than the older ones.
2. Knowledge should be managed in such an approach to give the firm CA.
3. It is also recommended that information and knowledge of an organization can only be secured through proper KM.
4. The research also recommends that KM gives CR and CR which in turns gives infinite valuable information to the organization.
5. The study recommends that CR, CA and SI have great importance in SSDM. These three variables and their outcomes can be achieved through KM

### *Research Limitations and Future Research*

This is an irrevocable fact the people need to consider the results and conclusion of any research within some limitations context. As answering particular questions usually generates further questions that need to be explored but to the scope of this research these questions were not explored and need to be explored in future studies. Readers should also remember that the current research was carried out with the help of clearly determined population and sample; in other settings, the same research may produce different results. To make the results more generalized, further investigation is required in other organizations.

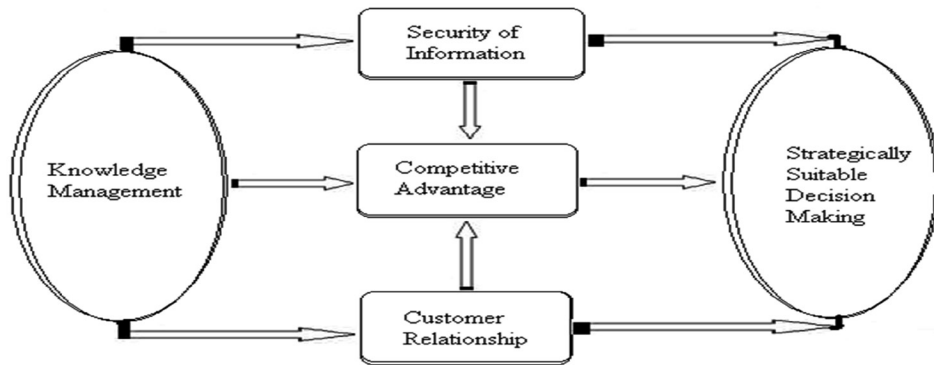
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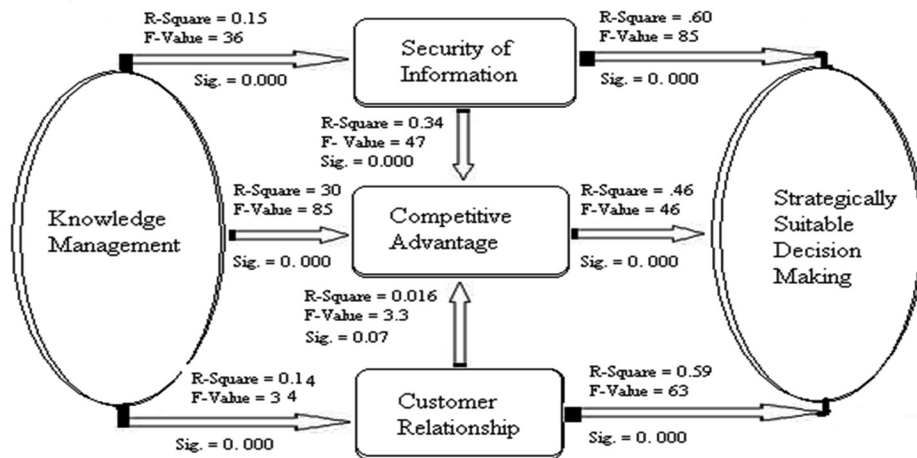
## Appendix



Model:

Knowledge Management as a Tool for Making Strategically Suitable Decisions in Telecommunication Sector Organizations

Figure 1: Proposed Model



Model:

Knowledge Management as a Tool for Making Strategically Suitable Decisions in Telecommunication Sector Organizations

Figure 2: Tested Model