

# Effect of Knowledge Management on Firm Competitive Advantage Among Commercial Banks in Kenya

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## Abstract

We examine the effect of knowledge management on firms' competitive advantage among commercial banks in Kenya. Using multiple regression analysis, we found support for the proposition that knowledge acquisition, knowledge dissemination and responsiveness to knowledge enhance firms' competitive advantage. Given the increasingly critical role of Knowledge management in connection with firm competitiveness in today's dynamic market place organizations are required to manage effective knowledge to ensure they have a sustain competitive advantage.

**Keywords:** firm competitive advantage, knowledge acquisition, knowledge dissemination and responsiveness to knowledge

## 1.1 Introduction

According to Powell, (2001) competitive advantage is an advantage gained over competitors by offering customers greater value, either through lower prices or by providing additional benefits and service that justify similar, or possibly higher, prices. Competitive advantage is achieved when an organization acquires or develops an attribute that allows it to outperform its competitors (Russel, 2003). Therefore, for organizations to be successful and to obtain competitive advantage, they should not only seek finding new opportunities, but also to concentrate on the development of their products and markets (Tajeddini, Trueman and Larsen, 2006). In the present knowledge-based economy, people are regarded as the most important assets (Fang *et al.*, 2005) and the ultimate knowledge inventors and owners (Alvesson, 1993). Similarly the key objective of management should be to improve the process of knowledge management within the organization so as to allow the creation and diffusion of knowledge which are essential elements in firm competitive advantage (Sundiman *et al.*, 2013).

Knowledge management is an important function of management because it has been linked to business competitive advantage. The link between Knowledge management and firm competitive advantage has been the focus of attention in a number of studies (Drucker, 1993; Spender, 1996; Grant, 1996b; Nahapiet and Ghoshal, 1998; and Liao, 2009). Knowledge management is the organization - wide activity of creating and using knowledge to enhance a competitive advantage. In the face of increasingly rapid change in markets, technologies, and competition, individuals and organizations must continually identify new opportunities to maintain their competitiveness. Similarly most studies have establish a positive effect of knowledge management and firm competitive advantage (Zwain, 2012; Fang *et al.*, 2005 and Wang & Noe, 2010).

Although knowledge management has been frequently cited as a prime source of organization competitiveness, moreover, the mechanism through which this is achieved remains an area for investigation. However, it has been difficult to draw conclusions from the extant of the relationship between effective knowledge management and firms' competitive advantage because there is a dearth of empirical research that investigated relationships between the two constructs. Even though to gain competitive advantage, organizations must consider how to enhance knowledge management among employees (Wang & Noe, 2010) and the transfer of expertise or knowledge from experts who have it to novices who need to know (Hinds *et al.*, 2001). Therefore, the study will seek to establish the effect of knowledge management on firms' competitive advantage among Commercial Banks in Kenya putting in consideration the competitiveness and dynamic nature.

## 2.0 Theory and hypotheses development

### 2.1 Competitive Advantage

Competitive advantage is dominance gained by an organization when it provide the same value as its competitors but at a lower price, or at higher prices by providing greater value through differentiation. Competitive advantage results from matching core competencies to the opportunities (Thomas, 2001). According to Powell, (2001) firm competitive advantage is advantage gained over competitors by offering customers greater value, through lower prices or by providing additional benefits and service that justify similar, or possibly higher, prices. Therefore if a firm possesses resources and capabilities which are superior to those of competitors, then as long as the firm adopts a strategy that utilizes these resources and capabilities effectively, it should be possible for it to establish a Competitive advantage.

According to Michael Porter firm competitive advantage is achieved relative to its rivals, that is, lower cost or differentiation. This advantage derives from attributes that allow an organization to outperform its

competition, such as superior market position, skills, or resources. In Porter's view, strategic management should be concerned with building and sustaining competitive advantage (as cited by Barney, 2007). The sustainability of competitive advantage depends on three major characteristics of resources and capabilities: Durability; which is the period over which a competitive advantage is sustained, Transferability; the harder a resource is to transfer the higher sustainable the competitive advantage, and finally Replicability; means cannot be replicated or purchased from a market (Sadler, 2003). It is further attributed that competitive advantage is attained by an organization when it implement value creating strategy that is superior to the competitor's strategy (Clulow *et al.* 2003).

## 2.2 Concept Knowledge Management

Knowledge management is a management function that seeks to create and disseminate knowledge and information. According to Darroch and McNaughton (2003) have highlighted three main activities of knowledge management: knowledge acquisition, knowledge dissemination and responsiveness to knowledge. knowledge management processes can help an organization acquire, store and use knowledge for problem-solving, dynamic learning, strategic planning and decision-making (Sveiby, 1997). Studies that have highlighted the importance of knowledge management processes in contemporary organizations (Conner & Prahalad, 1996; Kogut & Zander, 1996), suggesting that an organization's ability to generate knowledge is vital (Nonaka & Takeuchi, 1995; Powell, 1998; von Krogh, 1998). Knowledge management has also been attributed to firm performance through the improvement of job performance, leveraging core business competencies, accelerating the time to market, reducing cycle times and enhancing product quality (Argote & Ingram, 2000; Davenport & Prusak, 1998).

Organizations need to generate knowledge continually, facilitate the sharing of knowledge within the organization and apply the knowledge so that the organization can generate new products or services. Knowledge management have been recognized as a processes of ensuring organization's success (Cole, 1998; Davenport & Klahr, 1998; Porter, 1980; Powell, 1998). Effective knowledge management has been considered as an important antecedent of innovation and competitive advantage. Specifically, responsiveness to knowledge and knowledge dissemination are pivotal for creating strategic positioning such as innovation (Day, 1994). Jiménez-Jiménez & Sanz-Valle's (2011). The study provides extra evidence to previous literature that innovation has positive effect on performance. Same content is supported by the study of Calantone, Cavusgil & Zhao (2002). Knowledge management has been emerged as determinant of innovation (Carnerio, 2000; Dove, 1999). The knowledge, learning and innovation are interrelated constructs.

## 2.3 Knowledge Management and Firm Competitiveness

Knowledge management is perceived as the development of organizing the intangible asset of a firm. The economic and production level of a company relies more on its brainpower, human capital and invisible competences than its physical assets". (Quinn Q, 1992) It is gradually acknowledged the function of each business relies upon the knowledge of its human capital. Employees apply this knowledge in building infrastructure and relational activities to achieve sustainable competitive advantage. For example, through management of strategic, recently, the emphasis has been on the understanding of "what" and "how". In other words, currently, what the company knows? , what it should get in order to have strong intangible core competencies and how it can achieve it. (Grant, 1991; Zack, 1999). Indeed, knowledge achievement, integration and distribution needs energetic project and it should spread through the firm (Teece T *et al.*, 1997).

### 2.3.1 Knowledge Acquisition and Firm Competitiveness

Knowledge acquisition involves the processes of creating, generating, developing, building and constructing knowledge. Organization acquire knowledge from external sources, through hiring people possessing the required knowledge or purchasing knowledge assets such as patents, research documents or other intelligence (Wong & Aspinwall, 2004). Organization can also acquire external knowledge through benchmarking other organizations (Huber, 1991; Lee & Yang, 2000) or obtaining it from knowledge-driven firms. The accumulation of information can increase an organization's understanding of their employee's skills and experiences, and enable the organization to better produce products that can meet customers' satisfaction (Yang, 2008). Knowledge can be effectively manipulated for the business purposes at hand, it must be harnessed from within the organization or acquired in some sense from outside the firm. It is at the point of knowledge acquisition that the boundaries between knowledge and information will blur considerably (Jacob & Ebrahimpur, 2001).

Knowledge acquisition, however, does not guarantee that the knowledge will be exploited internally, or that it will be accepted within the organization. In this study, we therefore propose that the capacity to transfer knowledge internally is essential for the integration of external knowledge. Thus, internal knowledge transfer enables inter-organizational knowledge flows to become more efficient, so the organization can exploit knowledge in the same way as it exploits any other resource (Szulanski, 1996). Pioneering studies on knowledge transfer (Szulanski, 1996; Minbaeva *et al.*, 2003; Argote *et al.*, 2003) state that knowledge transfer can be understood as a process in which different elements (knowledge users and the transfer context) play a part. This

understanding of transfer allows us to make a diagnosis of the effect that each element has on the result of the firm's processes, which can be used to design organizational mechanisms that favor organizational outcomes.

### **2.3.2 Knowledge Dissemination and Firm Competitive Advantage**

Based on the definition of Knowledge Management (KM) by Darroch (2003), knowledge dissemination is one of the dimensions of KM. Knowledge dissemination involves organizing knowledge that has been created or acquired and applying it in ways that allow the knowledge to become formalized and accessible. In the context of commercial bank, knowledge tends to be passed on with records or documentation because of Firms informal communication culture. Firms tend to believe that it is not feasible to establish a formal system for codifying, organizing and storing knowledge because their employees are busy with their daily routines (Wong & Aspinwall, 2004).

More so, knowledge sharing refers to the provision of task information and know-how to help others and to collaborate with others to solve problems, develop new ideas or implement policies or procedures (Pulakos et al., 2003; Cummings, 2004). Knowledge sharing can occur via written correspondence or face-to-face communications through networking with other experts or documenting, organizing and capturing knowledge for others (Pulakos et al., 2003; Cummings, 2004). Knowledge transfer typically has been used to describe the movement of knowledge between different units, divisions or organizations rather than individuals (Szulanski et al., 2004). Knowledge transfer occurs when experience in one unit of an organization affects another unit.

Knowledge transfer can occur explicitly when, for example, a unit communicates with another unit about a practice that it has found to improve performance. Knowledge transfer can also occur implicitly without the recipient unit being able to articulate the knowledge it has acquired (Argote & Ingram, 2000). Argote & Ingram further noted that if an individual uses a tool that has been modified to improve its performance, the individual can benefit from the productivity enhancement in the tool without necessarily understanding the modifications or being able to articulate why the modifications improved the tool's performance. Similarly, norms or routines can be transmitted to group members without the members being able to articulate why the modifications improved the tool's performance or being aware of the knowledge embedded in it.

According to Alwis & Hartmann (2008) a climate of openness and trust amongst organization members is the basic condition that allows tacit knowledge to be created, shared and used in the innovation process. Sharing tacit knowledge will be more successful in informal settings than in formal ones. Therefore, it is important for the management of organizations to cultivate a commitment to motivate the creation of tacit knowledge, and to create an atmosphere in which organization members in an organization will feel safe in sharing their knowledge and responding to such shared and /or disseminated knowledge so as enhance the achievement of competitive advantage in the organization.

### **2.3.3 Responsiveness to Knowledge and Firm Competitiveness**

Knowledge is an important source for learning new things, solving problems, creating core competencies and establishing new positions for individuals and the organization at present and in the future (Nasimi *et al.*, 2013). Knowledge as a fundamental principle of competitive advantage has been emphasized in the field of strategic management. To achieve sustainable competitive advantage, an organization should realize how to create, distribute and utilize knowledge (Rahimli, 2012); hence, the need for responsiveness to knowledge in organizations.

Based on the definition of Knowledge Management (KM) by Darroch (2003), responsiveness to knowledge is one of the dimensions of KM (knowledge acquisition, knowledge dissemination and responsiveness to knowledge). Since KM is a process that transforms individual knowledge into organizational knowledge (Rasula et al., 2012), the dimensions of KM allow organizations to learn, reflect, unlearn, relearn, build, maintain and replenish its core competencies (Bhatt, 2001). Responsiveness to knowledge also known as knowledge application is described as developing the knowledge acquired, enabling the use of the knowledge to be more effective so as to increase its worth (Ng *et al.*, 2012).

According to Chen & Chen (2006) asserted that responsiveness to knowledge means that the organization must be seen to be utilizing the knowledge acquired by making decisions and taking actions that create superior performance internally and in the marketplace. The application of knowledge goes along the line of being responsive to knowledge collected and shared (Darroch, 2003). Chen & Chen further asserted that internally, the organization can make improvements such as improving employees' skills, improving core business processes, decreasing operation costs, decreasing product cycle time, increasing productivity, and externally by increasing sales volume, increasing market share, develop better customer relationships and develop better supplier relationships.

Additionally, firms that achieve competitive advantage through responsiveness to knowledge have also learned to combine effectively their KM resources to create an overall KM capability. Thus, firms with high KM capability in a key area should be able to respond very quickly to strategic moves by competitors (Gold *et al.*, 2001). Adopting Pan & Scarbrough (1998) classification scheme for resources, the key KM resources are classified in the following order: (i) the technical KM resources comprising the physical IT infrastructure

components, and its KM capability (Gold *et al.*, 2001; Lee & Choi, 2003); and (ii) the social KM resource comprising the structural, cultural and human resource, and its KM capability (Lee & Choi, 2003).

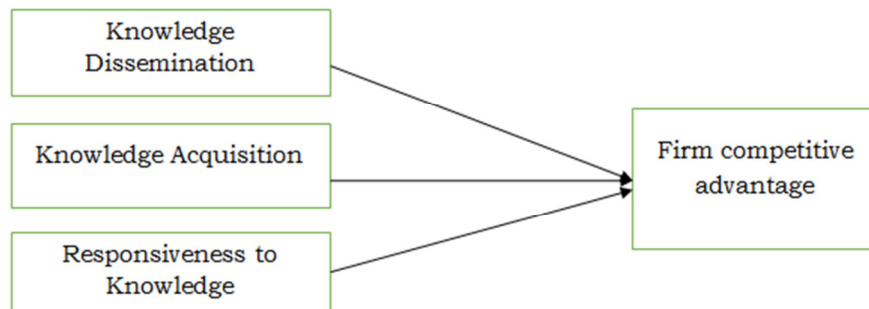


Figure 1. The study model. (Study survey 2016)

### 3.0 DATA AND METHODOLOGY

#### 3.1 Research Design

The study used a descriptive design since we focused on getting inferences from the findings on the impact of knowledge management on firm competitive advantage of selected commercial banks in Kenya.

#### 3.2. Population and Sample Size

The population of the study consisted of managers and employees of the commercial banks in Nairobi, Kenya. Nairobi was chosen because most commercial banks headquarters are located in Nairobi (Central Bank Directory, 2015). According to the central bank of Kenya directory (2015), there are six banks listed in Nairobi stock exchange and categorized as large commercial banks. For which had 258 employees based in Nairobi and its selected environs.

#### 3.3. Data Collection Instruments

The questionnaires were the main instrument of data collection. Questionnaires were issued owners of selected small and medium enterprises. Each respondent was given enough time to respond to questions and any clarification was done at the same time by research assistants.

#### 3.4 Measures of variables

Knowledge management was conceptualized following three prominent dimensions: knowledge acquisition, knowledge dissemination, and responsiveness to knowledge. We measured knowledge management using the five item instrument developed by Darroch and McNaughton (2003) have highlighted three main activities of knowledge management: knowledge acquisition, knowledge dissemination and responsiveness to knowledge. Knowledge management processes can help an organization acquire, store and use knowledge for problem-solving, dynamic learning, strategic planning and decision-making (Conner & Prahalad, 1996; Kogut & Zander, 1996) and modified for this study. Responses were recorded on a 5-point likert-type scale (1 = strongly disagree to 5 = strongly agree). The items measuring knowledge acquisition include “Recruit those with experience; Train employees; Developing of new product and process; Gathering advice from customers or suppliers; acquiring other organizations; Contracting with other organizations. are stored and indexed in data bases in our organization; our company culture contains valuable ideas and ways of doing business; our database is updated promptly whenever new information or data is created; and our company encourages free talks and discussions between colleagues; the systems and procedures in our organization is flexible and efficient.” While items measuring knowledge dissemination include “Integrating different sources and types of knowledge; sharing knowledge between supervisors and subordinates; Sharing knowledge across units and colleagues; Sharing knowledge among partners; Creating awareness on information on knowledge; Making informed choices among alternatives.” Lastly responsiveness to knowledge was measured using the following items “Oriented to information about customers’ needs; Taking actions that create superior performance internally and in the marketplace; Responding very quickly to strategic moves by competitors; Improving employees’ skills; Improving core business processes; Developing better customer relationships and develop better supplier relationships; Decreasing operation costs, decreasing product cycle time, increasing productivity and externally by increasing sales volume.”

Firm competitive advantage was measured using 5 items on a likert scale of 1–5 (1 = strongly disagree to 5 = strongly agree) using 16 items derived from Musazizi (2010), the items will comprise enhanced decision making process, decentralized organizational structure, stability of employees, manages its capabilities, good reputation, strong brands, understanding of our customers, capable of building long term relationships with



suppliers and chain members, effective advertising and product patents.

### 3.4 Data Processing and Analysis

The data collected from the respondent was coded and entered in SPSS V20 for data analysis. Before analysis was, test for normality was done so as to ascertain whether to use parametric or non-parametric test in subsequent analysis. Descriptive statistics was done to identify characteristics of demographic data of respondents while inference statistics was done for the purpose of Correlation i.e. identify the relationship between knowledge management and Firm competitive advantage. The model below was used to predict the firm competitiveness.

### 3.5 Model Specification

To test for the effect *knowledge management on firm competitive advantage*. Multiple regression analyses was conducted and the coefficient significances being examined at every step of the process. The multiple linear regression models that was used for the study is as shown below;

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \dots \dots \dots (i)$$

Simple regression analysis with  $X_1$ - $X_3$  (knowledge management dimensions) predicting Y (Firm competitive advantage) to test *effect of knowledge management on firm competitive advantage*. Significant levels was measured at 95% confidence level with significant differences recorded at  $[p < 0.05]$

### 3.6 Preliminary analysis

To ensure the reliability of the data collection instrument, Cronbach's alpha was used as echoed by Nunally, (1978) as cited by Tarus and Sitienei (2015). The threshold reliability value is .60 and above will be considered (Hair, Anderson, Tatham & Black, 2006), and so the results of this study are reliable because all the study variables had Cronbach's alpha of more than 0.7 (knowledge acquisition  $\alpha = .80$ ; knowledge dissemination  $\alpha = .83$ ; responsiveness to knowledge  $\alpha = .96$ ; firm competitive advantage  $\alpha = .87$ ). Factor analysis was also conducted for purposes of construct reduction. To ensure that the items loaded into their constructs, a principal component analysis with a VARIMAX rotation was performed. Knowledge management yielded three-factor solution with eigen value of 2.69 and item loadings of greater than the rule of thumb of .50, indicating evidence of convergent validity in our measure (Hair, Black, Babin, Anderson, & Tatham, 2006). None of the items loaded on their corresponding factor levels lower than .50, and so all items in the instrument were retained for the rest of the analysis.

## 4. Results

Table 2 summarizes the study finding on Response Rate of the study. The study finding reveled that out of 213 questionnaires distributed to the respondents, only 175 questionnaires were filled and completed accurately and were used for analysis which gives a response rate of approximately 82.15% (percent). The response rate was, therefore, accepted as adequately sufficient for the intended purpose (Oso & Onen, 2005).

Descriptive statistics and correlations results among the study variables are reported in Table 3. The levels of correlations among the variables are relatively modest, with most variables exhibiting significant correlations. Since a number of independent variables were relatively correlated, a multicollinearity analysis was conducted using Variance Inflation Factors (VIF). The results indicated that multicollinearity was not a problem since all the variables were within the recommended threshold of 10 (Hair *et al.*, 2006).

Hypothesis 1 predicted that the more the knowledge acquisition in a firm, the higher the firms' competitive advantage. However, results on Table 4 reveals that the hypothesis hold ( $\beta = -.369$ ,  $p < .05$ ). Hypothesis 2 suggested that the greater the knowledge dissemination in commercial banks, the higher the firms' competitive advantage. This hypothesis was supported by the results ( $\beta = .710$ ,  $p < .05$ ). Hypothesis 3 proposing that the greater the responsiveness to knowledge, the greater the firms' competitive advantage, also received support from the results ( $\beta = .460$ ,  $p < .05$ ).

**Table 2 Study Response Rate**

| Category     | No of Respondent | Percentage |
|--------------|------------------|------------|
| Sample Size  | 213              | 100.00     |
| Response     | 175              | 82.15      |
| Non-Response | 038              | 17.85      |

Source: Survey Data (2016)

**Table 2 Study Response Rate**

| Variable                         | Mean | Std Dev. | FCA    | KA     | KD     | RK |
|----------------------------------|------|----------|--------|--------|--------|----|
| Firm competitive advantage [FCA] | 4.11 | .34      | 1      |        |        |    |
| knowledge acquisition [KA]       | 4.34 | .48      | .740** | 1      |        |    |
| knowledge dissemination [KD]     | 4.63 | .61      | .457** | .298** | 1      |    |
| responsiveness to knowledge [RK] | 4.11 | .43      | .604** | .235** | .195** | 1  |

Notes: Pearson's product moment correlation, 2 tailed test: \*p < .05; \*\*p < .01; N = 175.

**Table 3 Regression Test Results**

| Model      | Unstandardized Coefficients |            | Standardized Coefficients |  | t      | Sig.  |
|------------|-----------------------------|------------|---------------------------|--|--------|-------|
|            | B                           | Std. Error | Beta                      |  |        |       |
| (Constant) | 1.239                       | .326       |                           |  | 3.806  | .000* |
| 1 KA       | -.369                       | .082       | -.344                     |  | -4.503 | .000* |
| KD         | .710                        | .081       | .670                      |  | 8.815  | .000* |
| RK         | .460                        | .094       | .396                      |  | 4.906  | .000* |

a. Dependent Variable: FCA firms' competitive advantage

b. KA= Knowledge Application, KD= Knowledge Dissemination, RK=Responsiveness to Knowledge

R= .658a

R<sup>2</sup>= .434

Adjusted R<sup>2</sup>=.423

F test = 141.914\*

Notes: N = 175; \*p < .05; \*\*p < .01.

## 5.0 Discussions and conclusions

This paper focused on three key issues: First is whether Knowledge Application affects firms' competitive advantage, whether Knowledge dissemination affects firms' competitive advantage and lastly whether Responsiveness to Knowledge affects firms' competitive advantage. Using employees of selected commercial banks in Kenya, we found support for the proposition that knowledge acquisition, knowledge dissemination, and responsiveness to knowledge enhance firms' competitive advantage. Consistent with previous results, knowledge acquisition has a statistical significant relationship with firm competitive advantage. This finding is similar to the result obtained by Yli-Renko et al. (2001) and Lin & Lee (2005). Yli-Renko et al. found that knowledge acquisition is positively correlated with knowledge exploitation for competitive advantage, while Lin & Lee found that, knowledge acquisition is positively related to competitive advantage.

The study findings also revealed that knowledge dissemination was positively associated to firm competitive advantage. Knowledge dissemination, also known as the sharing and transferring of knowledge, represents the exchange of information, expertise or knowledge between members within a firm (Bartol & Srivastava, 2002, Li, 2007). Knowledge sharing represents the provision of task information and know how to help others and to collaborate with others to solve problems, develop new ideas or implement policies or procedures. Finally, responsiveness to knowledge was positively associated to firm competitive advantage and had significant effect. This finding is similar to the results obtained in previous studies such as Darroch (2005) who found that responsiveness to knowledge is positively related to firm competitive advantage, which is defined as resources, routines and capabilities that underpins outputs. Thus, effective utilization of resources or better still tangible/intangible assets and intangible capabilities will not result better competitive performance.

Given the increasingly critical role of Knowledge management in connection with firm competitiveness in today's dynamic market place, this study has contributed to the current body of knowledge in knowledge management and competitive advantage by combining social capital theory and the Resource based view theory blended with knowledge and dynamic capability approaches to develop an integrative theoretical model of knowledge management capability-based Competitive advantage of the firm.

## 5.2 Limitations

The primary purpose of the study was to investigate the relationship between knowledge management dimension and firm competitive advantage among commercial banks listed in Nairobi securities exchange, Kenya. It is important to appreciate the study limitations. First, we focused on a single industry. Although this is one way of controlling for industry effects, the results may not be representative of other sectors and so we need to interpret the results with caution. Second, the sample size used is relatively small and so future research using different sectors and larger samples may provide additional insights and add to the understanding of issues explored in this study.

Last but not least further research to be conducted to tie knowledge management systems to multiple forms of performance including both financial and cycle time performance implications. Finally it may also be fascinating to examine the use of knowledge management tools, shared communication vehicles, and the facilitation of information technology as they may augment our understanding of internal knowledge management and external knowledge sharing.

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