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Abstract

The research intended to study the effect of knowledge management on attaining sustainable competitive advantage in FMCG sector of Pakistan. The study is an explanatory study and followed quantitative design. A closed-ended questionnaire was used as research instrument using 5-points Likert scale. Knowledge management was measured by means of the Knowledge Management Assessment Instrument (KMAI) built on the theoretical model of the Competing Value Framework (CVF) and Sustainable competitive advantage (SCA) was measured using VIRO framework. Sample of 380 respondents were taken for this study using purposive sampling. Analysis was carried out in AMOS. From this study of knowledge management towards sustainable competitive advantage all outcomes show that knowledge management with its five steps process; knowledge creation, knowledge Organization, Knowledge Storing, Knowledge Dissemination and Knowledge application has significant effect on attaining sustainable competitive advantage in FMCG sector of Pakistan. In this regard results of CFA and SEM were also found supportive. Organizations should allocate resources towards knowledge management as it is a key to enhance the performance of organization in the form of sustainable competitive advantage. Organizations' systems must be planned in a way that inspires employees for efficient utilization of other resources, which means constant improvement of their knowledge and capabilities.

Keywords: Knowledge Management (KM), Sustainable Competitive Advantage (SCA), Confirmatory Factor Analysis (CFA)

1. Introduction

The concept of knowledge management has attained significant attention in modern organizational research (Gharakhani & Mousakhani, 2012; Heisig et al., 2016). Several organizations have begun to get concerned about a challenge that enforced them to consider new methods and practice that can benefit them to be competitive (Chua & Goh, 2008). This condition has hoisted the requirement for effectual results from the different programs that engage knowledge management in diverse organizations. Knowledge management process are thoughtful management procedures for generating, storage, distribution and by means of knowledge with academic lessons and good performances to care individuals, squads and firms. Latif et al. (2020).

Competitive advantage of knowledge resources is reflected in recent amount of attentions towards knowledge management. Managing knowledge is significant in all types of businesses, yet its active use is dominant in-service sector (Ali, 2016; Lin, 2013; Taherparvar et al., 2014). Use of technology has increased manifolds resulting in large amount of information and knowledge. Thus, making it essential to have an effective capability to manage the available knowledge for successful operations (Ali & Ahmad, 2006; Ali, 2016; Zaim et al., 2015). According to economic survey of Pakistan, service sector is measured as one of the prime pillars of its economy as its share has reached to 60.23 percent in FY 2018. Wholesale and retail trade are the largest subsector of services. This sub-sector sustained the growth of 7.5 percent as it did last year.

Evolving markets of Asia have had a substantial effect on the development of FMCG sector. About a third of Nestlé and P&G's worldwide sales growth between 2014 and 2018 came from emerging Asia. Evolving market consumers make up less than one-third of global revenue for the 15 largest FMCG MNCs. Consumer expenditure in these markets is anticipated to grow about three times as rapidly as that in developed economies. By 2020 such expenditure is expected to reach US\$6 trillion and account for approximately half of total consumer expenditure. Likewise, in Pakistan, consumer product market has expanded in recent years (*The Pakistan Economist*). Pakistan's FMCG market is a speedily growing market and each year it is growing with a double-digit ratio. From decades, the FMCG industry has enjoyed indubitable success. But FMCG sector has lost sizable steam. Top-line growth, has fell in most sub segments. According to economic profit the household-products area, has fallen from the sixth highly profit-generating industry at the beginning of the century to the tenth. Food products also fell from 21st to 32nd position. Between year 2012 to 2015, the FMCG industry earned revenue at 2.5. In 2016, it was roughly at Rs. 450 Billion. According to Planet Retail estimates Pakistan's prevailing retail market (Down news), which is forecasted to increase 8.2% a year between 2016-2021 as regular disposable income has folded since 2010. Such growth in Pakistan's retail industry is critical to sustaining its competitiveness related to other Asian giants.

National firms frequently have a benefit over their global opponents, as they are nearer to their customers and well familiar with their purchasing preferences and behaviors. Whereas MNCs have to work hard to confirm their brands stay relevant by customizing their products, local companies such as those in Pakistan have that knowledge made into their FMCG products.

Among the uncertain economic state consumer product businesses are enhancing their growth. Even though consumer confidence has increased but rising inflation rates with rising urbanization in the local landscape, durables' demand, furnishing and telecommunications has arisen as exponential growth stories. These internal challenges are making FMCG firms alert to sustain their competitive advantage in the industry. In this regard firms are required to use their tangible and intangible resources in an efficient way. Over the years focus has been shifted from tangible to intangible resources more that includes knowledge about customers and firms processes and skills of employees which requires the utilization of knowledge to accelerate the economic growth, to form eloquent relation with the businesses, and to find new technologies by generating new ideas that can help to sustain competitive

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advantage for the firm. Hence the study intends to examine that how knowledge management helps firms to sustain their competitive advantage.

1.1. Classification of Knowledge

Knowledge management mainly defines two types of knowledge namely explicit and tacit. Explicit knowledge can be articulated and easy to share in the form of data, scientific formulae, manuals, universal principles and can be communicated through methodical and formal way. This type of knowledge is of the utmost popularity. There exists another form of knowledge that is tacit and requires a great deal effort to turn out to be visible. It is more informal and is difficult to articulate and share with others. This knowledge remains cloistered for the individuals and is reflective of personal conducts and experiences of the individuals.

Tacit knowledge has two dimensions; one is *technical* that is the skills or crafts generally recognized as “know-how” it usually comes after years of experience. Another is *cognitive* consisting of opinions, discernments, sentiments and rational models so rooted in human beings that are usually taken for granted. Nonaka & Takeuchi (1995) contended that human knowledge is formed and extended by social contact between tacit and explicit knowledge. This social exchange is the basis of “Knowledge conversion”. Thus, implicit and explicit forms of knowledge interact and swap with each other in creative actions of individuals.

Founded on the work of Nonaka & Takeuchi (1995), the subsequent four processes have been identified that are used by organizations for knowledge conversion:

1. *Socialization*: sharing of experiences through judgment sharing and replication through seminars, workshops, consultations and similar events.
2. *Capture*: the transformation of tacit knowledge into explicit form.
3. *Dissemination*: the duplicating and distributing explicit knowledge
4. *Internalization*: procedure of experiencing knowledge by an explicit source where an individual can link his/her current experiences with his/her past experiences.

Knowledge management is concerned with the stern issues of organizational adoption, endurance and competence influenced by the environmental change (Arshad et al., 2022). Important sections of knowledge management contain such organizational procedure wherein information and data received through the support of technologies are shared through the innovative and inventive capacities of man to get an output bearing benefits of the both.

It is believed by the academicians and researchers that effective knowledge is the righteous way to creation of opulence. Knowledge is among the utmost considerable asset for the accomplishment of an organization (Alshekaili & Boerhannoeddin, 2011) and knowledge management has gradually become a stimulating subject for the growth of organizations. The researchers consider that knowledge management is the administration of organizational knowledge and pays contemplation on case management, knowledge base, data storeroom, data quarrying, idea and prominence on the formation of organizational knowledge management structure (Amidon, 2006; Yazhoul & Jian, 2013).

Knowledge management is a multifaceted process by various factors inducing its execution. There are many enablers of knowledge management including; people, corporate culture (Adnan et al., 2023; Mahmood et al., 2023), rewards, leadership (Arshad et al., 2022), information technology etc. These factors should be stout in an organization, as they not only produce knowledge but prompt persons to share their knowledge and skills with others (Yeh, Lai & Ho, 2006). Organizational culture is important in creating conducive environment for learning in this way the learning culture organization creates an atmosphere where knowledge and skills achievement not solely viewed as an important obligation of all employees, but members of organizations also support and encourage this by interaction (Khan, Hussain, et al., 2019; Mahmood et al., 2023).

Hence, the study is intended to examine the connection amid organizational culture and knowledge management process capabilities. It is also focused to give a general picture of the knowledge management process of private universities of Pakistan. The goal of this research is also to shed light on different components of organizational culture during knowledge management process. The study intends to investigate the effect of knowledge management on sustainable competitive advantage of FMCG firms in Pakistan and to suggest policy makers in FMCG sector about the successful implementation of KM in FMCG industry.

1.2. Significance of Study

The study is significant to managers of FMCG sector to get comprehensive information about the sector and to study how to utilize knowledge management to attain sustainable competitive advantage. The study would help researchers to understand the concept of KM. The study is significant for researchers as it adds value to the literature regarding knowledge management and sustainable competitive advantage.

2. Literature Review

2.1. Knowledge Management

Knowledge is a crucial factor that helps organizations to make ingenious products and services when applied successfully. In terms of epistemology, knowledge and knowing are respectively defined as social sciences and psychology. For successfully implementing the knowledge management process, the most important is knowledge acquisition that is the capability of an organization to obtain new knowledge internally and externally for addressing problems, invention and acquisition of competitive advantage (Gold et al., 2001; Haas & Hansen, 2005; Nonaka, 1994). One of the substantial results of knowledge acquisition is new knowledge generation that is considered as a vigorous source for each organization as its results in innovation and subsequent competitive edge (Tseng, 2014; Zaid, 2012). Knowledge application is the ability of an organization to knowledge implementation sources (Khan, Ali, et al., 2019), that are created from knowledge acquisition procedure, where required to acquire the desired results (Gold et al., 2001; Lee

& Choi, 2003; Singh et al., 2006; Zack et al., 2009; Zaied et al., 2012). Generating new knowledge is of no use until it is successfully applied for creating positive organizational outcomes. (Nghah et al., 2016).

In well alleged organizations, when people are appointed, the managers exploit the skills and knowledge of these people and use it to the benefit of effective management. Organizations are now focusing their attention on this facet in a more organized and proper way.

Many scholars (Alavi & Leidner 2001; Pentland 1995) recognize organizations as “knowledge systems”, comprising of five components of knowledge process:

- i. *Knowledge Creation*: creating new content or substituting prevailing content inside the organization’s tacit and explicit knowledge.
- ii. *Knowledge Organization*: Identifying valuable knowledge coming from different sources and evaluating it that can be used later on to improve organization performance.
- iii. *Knowledge Storage*: also recognized as organizational memory. It is the storage and reclamation of organization knowledge.
- iv. *Knowledge Transfer*: knowledge transfers amongst individuals, from persons to groups, amongst groups, and by the group to the organization.
- v. *Knowledge Application*: This comprises the application of knowledge in diverse situations.

The successful completion of knowledge management depends upon engaging workers in various parts of the above KM processes (Alavi & Leidner, 2001) and at all aspect, they may be antagonized with certain KM complications for instance, junior employees might face problems in creating new knowledge that would be acceptable to their peers and seniors and stowing that knowledge in a form easily reachable and re-contextualizable by others. As knowledge recipients, they would require to recontextualize the knowledge produced by others, frequently with modest sustenance or training, and then apply it in their own situation. Henceforth, there comes the role of management of the organization to identify and provide solution to knowledge management issues.

2.2. Sustainable Competitive Advantage

Traditionally the idea of “competitive advantage” is explained in relation of the resources and features of an organization that allows them to perform best in comparison from other competitors in the similar industry (Porter, 1985; Chaharbaghi & Lynch, 1999). SCA create some barricades that make firm’s performance imitation hard. Hani & Al-Hawary (2009). Competitive advantage occurs when a specific organization repetitively do better than other companies in the similar industry if its earnings are more than the rival's returns. Competitive advantage emerges from capability of the firm to make value for its consumers that will surpass the cost of its creation.

According to Barney (1991), for an organization competitive advantage occurs when it is applying a value generating strategy different from the strategies of its opponents. Many other authors (Peteraf & Barney; (2003); Besanko et al. (2000); Barney & Hesterly, (2009), Ghemawat & Rivkin, (2001) have regarded competitive advantage as a condition when an organization earns a higher level of earnings than its competitors or becomes able to generate larger economic value which is the variance amid the apparent benefits gained by the buyers and the economic cost to the company and at some places it is defined as competitive advantage when firm is earning higher financial and economic profits than average rate of profit in the industry over the long run. Competitive advantage may emerge as sustainable and momentary (Barney & Hesterly, 2009). High revenues are the common outcome of competitive advantage. But competition is regularly engrossed from high profits, that is the reason competitive advantage is only impermanent for many organizations. SCA is not reliant on capital and corporeal resources as it was. Now it is on relying on knowledgeable capital (Halawi et al., 2005).

Barney (1991) established the VRIN framework that describes firms’ resources requirement to own in order to qualify to achieve competitive advantage. It can be established that an organization is having SCA when other firms cannot duplicate the strategy’s benefits for themselves. (Barney, 1991). Later on, Barney (1995) and Barney & Clark (2007) defined sustainable competitive advantage as; the resources, core competencies, and capabilities of an organization can be immensely diverse and permanent. It all be contingent on the four actual indicators: (V) value, (R) rareness, (I) inability to be replicated and (O) organized to impede and utilize their value. Wu (2010) also estranged resources in two sets, VRIN and nonVRIN, and determined that clusters are positively associated to competitive advantage in less instable situations, but in high instability environments, only VRIN resources have impact on competitive advantage. Firm’s feat in utilizing their resources to fulfill the customers’ demands in contrast to their competitors is how it measures competitive advantage Stevenson (2009).

2.3. Knowledge Management and Sustainable Competitive Advantage

Knowledge management has remained a chief stimulus of competitive advantage. Deed & Hill (1996) contends that firms with effective knowledge acquisition will be able to produce and sustain a competitive advantage in the knowledge-based economy. Along with factors of production access to proprietary knowledge is difficult for others to replicate. (Prusak & Matson, (2006). On an essential foundation KM is the process of generating value using organization’s incorporeal assets and is founded on central capabilities and skills advanced by individuals and the organization over time which leads towards attaining competitive advantage. Another study of Raduan et al., (2009) concludes that there is a positive relation amongst unique edge and organizational success. Change in organization process significantly envisages its competitive advantage. Similarly, Henderso & Cockburn (1994) suggest that the capability to amalgamate knowledge athwart and inside the borders of the firm is an important factor of diverse competence. In the knowledge economy, knowledge is recognized as the major source of wealth production, and managing knowledge effectively and efficiently is considered to be a key success factor to gain sustainable competitive advantage for organizations. (Zaim H, Keceli Y, Jaradat A, Kastrati S.,2018;19).

For the sustainability debate knowledge management is essential and its significance is echoed over the part of human and communal capital in the for bringing sustainability growth into practice. (Sigma Guidelines, 2003) Knowledge management encourages unceasing enhancement, enables novelty in methods and products, holds individuals as draftsmen at the center of the knowledge creation process. Stewart (1997) contends that an “organization’s capability to transform is significantly dependent on the knowledge of its workers, business methods and customer dealings. The role of knowledge management as a foundation of competitive advantage have been discussed by many authors i.e Kululanga & McCaffer (2001), Egbu (2004) and Carrillo et al. (2000) claimed that knowledge management and organizational learning are recognized by the bigger organizations as significant. The struggle for various organizations is that the application of knowledge management has frequently been ad hoc short of a roadmap to follow.

According to Barney (1992, 1995) resources and skills comprise monetary, corporeal, human and organizational resources. Monetary resources contain liability, retained earnings, etc. Corporeal resources comprise machineries, industrial plants and structures. Human resources relate to the skills, knowledge capability for risk-taking tendency and knowledge of individuals related to the company, whereas, organizational resources are history, networks, structure and reward policies (Barney, 1992, 1995).

The idea of KM is entrenched in the organization’s RBV (Donate & de Pablo, 2015, Barney, 1991) and the KBV (Kogut & Zander, 1992, Grant, 1996). Conferring RBV, the basis of competitiveness for any organization is its strategic assets (Amit & Schoemaker, 1993), and the knowledge-based view contemplates knowledge as the foremost resource of the organization. Knowledge can come from the resources like operational systems, know how, local abilities, and activities involved in solving day to day business issues and problems in the firm (Ramadani et al., 2017). To create value firms can exploit the knowledge capital through appropriate KM (Zack et al., 2009). Researcher and practitioners consider KM as an important determinant of implementation and formulation of organizational strategy (Dayan et al., 2017).

There is ambiguity about the way that firms deal with the competitive atmosphere today due to fluctuations that occur quickly in the setting. The foremost objective of any organization to deal with these vicissitudes is sustainability. Likewise, organizations who produce new knowledge are incessantly contending with each other to progress, hand out and translate knowledge into processes which converts equally KM into a sustainable resource. (Mahdi, Almsafir, & Yao, 2011; Nonaka & Takeuchi, 1995; Bolisani & Bratianu, 2017).

The Knowledge management process includes gaining, forming, distributing, and consuming knowledge those are vital strategic competences for creating and preserving competitive advantage (Zack, 1999). Value of human resources is necessary, but not enough condition for acquisition of competitive advantage. If characteristics of resources in the firms are same like their competitors, then these features cannot form the foundation for competitive advantage for any business. Precisely, resources’ rarity refers to how many competitors have the knowledge and abilities that characterize the employees of specific firm. Currently rarity, is typically related with the companies that originate regularly and are pioneers in the industry. The rarity involves the course of developing and distributing the tacit knowledge in the firm. (Laursen, Foss 2003). This knowledge is founded on the experience and specific relationships amongst the workers in the firm and it contains level of employees’ innovation and creativity

An organization which holds intellectual capitals can grasp the best way to generate their traditional resources better than their contenders. The feat of an organization is reliant on the producing skills which can accept change and then acquire rapidly. Leitch & Rosen (2001) advised that firm with finest selection criteria, training program for workers, and the payment system can have a benefit over its opponents. But each action can be simply imitated and as such it can only be a momentary source for competitive advantage. The real task is to advance human resources management system that permits conduct of all actions of human resource management, as they then develop a valued resource, extremely to imitate by competitors. The study of human resources for organizations is built on the knowledge and skills of employees those are complementary with remaining resources and when reward system is organized in such a way that it encourages workers to practice their knowledge and abilities. The study emphasizes the role of knowledge management in ratifying firm’s sustainability and presents a framework that how the KM implementation helps in attaining the sustainable competitive advantage.

H1: Knowledge management has significant effect in attaining sustainable competitive advantage

2.3.1. Knowledge Acquisition

Knowledge acquisition is a competence that increases a firm’s absorptive capability to recognize and acquire peripheral information critical for the processes (Zahra & George, 2002). So, organization must advance the knowledge acquisition process by repeatedly filling their knowledge reserve for competitiveness (Harrison & Leitch, 2000; Kovacic et al., 2006). Capacity to rapidly develop new knowledge is hard for outsiders to duplicate (Lubit, 2001) as several marketplaces are pretty drenched with information several organizations endeavoring to core capabilities so as to attain SCA (Gupta & McDaniel, 2002). Henceforth, the knowledge created outwardly serves as the firm’s competitive advantage. The attained Information and knowledge will be combined with the prevailing knowledge to produce new knowledge in the form of new processes. (Aranda & Molina-Fernandez, 2002; Holsapple, 2003).

H1a: Knowledge acquisition has significant effect in attaining sustainable competitive advantage

2.3.2. Knowledge Organization

Hibbard & Carrillo (1998) advised in a study that collecting all prevailing knowledge deprived of knowing its payoffs would be costly and useless. As all knowledge is not related to the corporate endeavors, and all applicable knowledge is not formed equal (Lubit, 2001), some procedures must rationally occur to examine unnecessary and disrupting knowledge such that which is valuable and appropriate to attain realistic outcomes remains. It is anticipated that the filtering activities support in the formation

of competitive advantage. The knowledge filtration process must be linked with the organization's vision, mission, and main goals, so as to offer real crucial basis by which the administration can effectively assess knowledge. (Hibbard & Carrillo, 1998). A staff deficient of vision can totally oversee the probable value of accessible knowledge. This cannot constrain efficiency of knowledge management, but also compress organizational learning (Gogan, 1998). Mullin (1996) endorses developing cross-divisional assessment teams to regulate which knowledge is valued in its space. A team selected for knowledge assessment seems to be a suitable mechanism for transmission knowledge collected from outside of the company knowing both the wide-ranging strategic objectives and understanding of core processes inside the firm, in order to use judgement in assessing new knowledge inputs. Supplementary, Hibbard & Carrillo (1998) acclaimed an amalgamation of human and technical resources to regulate what explicit knowledge to manage.

H1b: Knowledge organization has significant effect in attaining sustainable competitive advantage

2.3.3. Knowledge Storing

If knowledge is obtainable to the company that has been cautiously analyzed for its strategic utility, the organization gets profits by evolving mechanisms for organizing and storing knowledge. It is assumed that the methods involved in formation support the conception of competitive advantage. Database management can offer the proper construction for storing knowledge. Knowledge codification can facilitate the knowledge exchange, supporting autonomous and so often can bring innovations in the future which could be the basis for sustainable competitive advantage (Parikh, 2001; Senge, 1994). Similarly, Tidd (2000) proposes that effective knowledge management is reliant on effective document management.

H1c: Knowledge storing has significant effect in attaining sustainable competitive advantage

2.3.4. Knowledge Dissemination

Knowledge that can effortlessly be transmitted inside the firm is probable to become available to competitors (Winter, 1987; Zander & Kogut, 1995), hence depriving it of its use as a planned asset. Thus, the features of knowledge, that hamper instinctive transference externally, will be a basis of SCA, and will converse it a strategic character, even though this may be an obstacle to internal transfer. Knowledge transfer comprises of diverse applications dependent on the features of transferred knowledge. Numerous authors examined the technological transference and product innovations (Kogut & Zander, 1992, 1993; Zander & Kogut, 1995), whereas, others focused the transfer of organizational practices (Kostova, 1999; Szulanski, 1996). The aim of knowledge transference is to enable the movements of knowledge inside the firm or amongst cooperating firms. Knowledge transfer inside the firm may have diverse inferences for firm's competitiveness dependent on the features of transferred knowledge. Hence, tactical knowledge may produce competitive advantages arising from the type of the knowledge itself.

H1d: Knowledge dissemination has significant effect in attaining sustainable competitive advantage

2.3.5. Knowledge Application

Demsetz (1991) contends that the knowledge application that produce goods and services needs carrying along diverse parts of specific knowledge. So, the incorporation of individuals' specialized knowledge to complete a productive task needs an organizational ability, known as knowledge application (Grant, 1996). Pfeffer & Sutton (2000) claim that competitive advantage is not guaranteed with acquisition of best knowledge, but mostly rely on its best use. For the businesses without the last phase of applying knowledge in real activity, rest prior stages of knowledge management are useless. Knowledge application to technologies and processes is expected to help in creating a competitive advantage (Parikh, 2001). This learning is hard and frequently ignored by firms, but it is imperative to keep the source of knowledge (Parikh, 2001). This round of knowledge application and review supports to diminish the gap among the ownership of theoretic knowledge and its real application and in maintaining its position in the market.

H1e: Knowledge application has significant effect in attaining sustainable competitive advantage

2.4. Research Framework

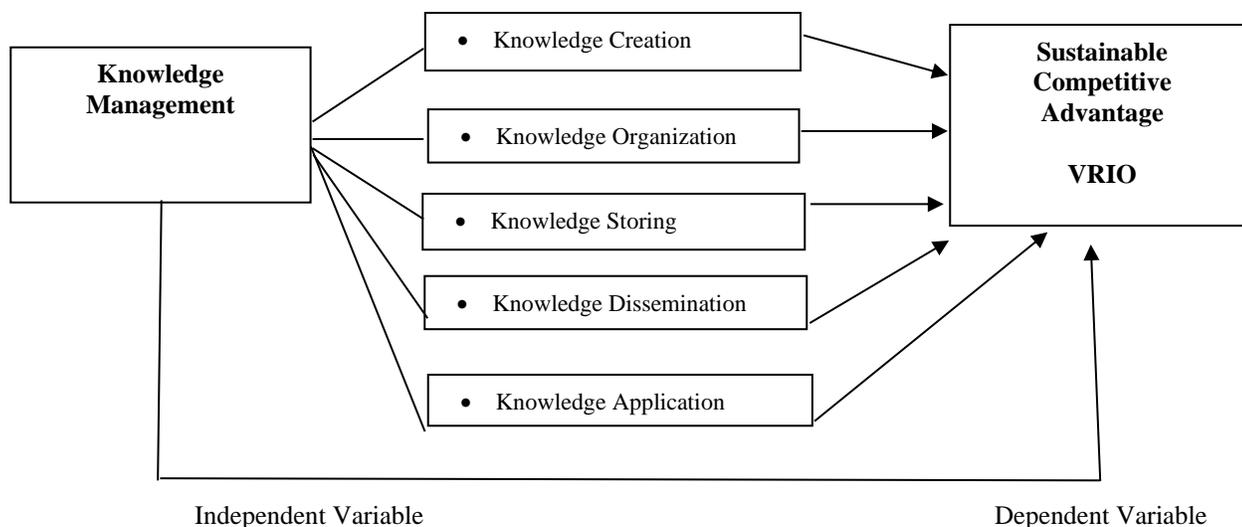


Figure 1: Theoretical Framework

3. Research Methodology

This study is carried out under positivist paradigm, as it is grounded on existing literature and measures cause and effect relationship. The study follows deductive approach where hypotheses were drawn with the help of prevailing theory. A quantitative cross-sectional survey design is considered for the present research study, as it is an appropriate design for research studies done under positivist worldview using deductive approach.

There are total 21 FMCGs firms listed in Karachi Stock Exchange under food and personal care category. The participants were selected from FMCG sector to gain understating of their knowledge management activities and impact of knowledge management on their sustainable competitive advantage. Purposive sampling has been used to take data from the respondents. The sample of 380 has been considered for the study consisting strategic and managerial level employees comprising Directors, Assistant directors, managers and assistant managers of FMCG companies of Pakistan. Total According to Ume Sekaran (2003), sample of 380 is justified at confidence interval of 0.95 if population exceeds 5000. Total 450 questionnaires were circulated, out of which 380 were returned with complete responses. Hence the response rate is 84 percent.

A closed-ended questionnaire is used as research instrument in current study using 5-points likert scale. Knowledge management was measured by means of the Knowledge Management Assessment Instrument (KMAI) a valid tool which is evinced through efficacious outcomes of previous studies mentioned in literature review. To measure sustainable comparative advantage questionnaire based on VRIO framework has been adapted from studies of Bock & Kim (2002) and Daft (2001).

4. Data Analysis

4.1. Reliability Analysis

Table 1: Reliability Statistics

Constructs	Cronbach's Alpha	N of Items
SCA	0.860	10
Knowledge Management	0.821	20
CK	0.841	4
OK	0.716	4
SK	0.882	4
DK	0.757	4
AK	0.804	4

Table 1 shows the reliability statistics. Reliability for all constructs is calculated through Cronbach Alpha. It is a diagnostic measure that estimates the internal consistency of the entire scale. The internal consistency aids to determine if an instrument is consistent amongst its items in a construct. (Gliner & Morgan, 2000).

Ten items were used for the construct of sustainable competitive advantage (SCA). The reliability of this construct is 0.86 which is significantly high. For knowledge management construct twenty items were used for the construct of organizational culture which was taken from the Knowledge Management Assessment Instrument (KMAI). The reliability of this construct is 0.821 which is significant. For constructs of KM process all five processes; CK, OK, SK, DK and AK have reliability value greater than 0.7. Cronbach's alpha values more than .70 is considered reliable for the internal consistency of the instruments (Kline, 2011).

4.2. Demographics of Respondents

Table 2. Demographic Profile of Respondents

		Frequency	Percentage (%)
Gender	Male	283	74.5
	Female	97	25.5
Age	24-35 years	53	13.9
	36 to 45 years	243	63.9
	46 to 60 years	75	19.7
	Above 60 years	9	2.4
Qualification	Undergraduate	25	6.6
	Graduate	155	40.7
	Postgraduate	200	52.6
Experience	2-4 years	205	53.9
	5-7 years	72	18.9
	8-10 years	70	18.42
	More than 10 years	33	26.31
Designation	Assistant Manger	126	33.2
	Manager	164	43.2
	Assistant Director	84	22.1
	Director	6	1.6

Table 2 shows the demographic profile of respondents. 74.5 percent respondents were male whereas 25.5 percent were female respondents. Majority of the employees were aged between 36 to 45 years. Smallest age group is of above 60 years comprising of 2.4 percent of the total population. Above table also shows the experience of the employees who were part of the research work. More than 50 percent employees have 2-4 years' experience and majority of them are managers.

4.3. Correlation Matrix

To measure the strength of the association between two variables, correlation test is used. The correlation is known as the Pearson's correlation value. The independent variable for the study which is knowledge management has weak positive correlation value 0.481 with the dependent variable of the study which is sustainable competitive advantage (table 3). Similarly, individually all constructs of KM are found having weak and moderate positive correlation with sustainable competitive advantage as the values range between 0.211 to .458.

Table 3: Correlations

		SCA	KM
SCA	Pearson Correlation	1	.481**
	Sig. (2-tailed)		.000
	N	380	380
KM	Pearson Correlation	.481**	1
	Sig. (2-tailed)	.000	
	N	380	380

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

Table 4: Correlations

		CK	OK	SK	DK	AK	SCA
CK	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	380					
OK	Pearson Correlation	.691**	1				
	Sig. (2-tailed)	.000					
	N	380	380				
SK	Pearson Correlation	.330**	.310**	1			
	Sig. (2-tailed)	.000	.000				
	N	380	380	380			
DK	Pearson Correlation	.374**	.520**	.427**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	380	380	380	380		
AK	Pearson Correlation	.196**	.321**	.271**	.323**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	380	380	380	380	380	
SCA	Pearson Correlation	.242**	.211**	.474**	.356**	.458**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	380	380	380	380	380	380

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

4.4. Confirmatory Factor Analysis (CFA)

Factor loadings of majority of each item were larger than 0.5 and all the modification indices were covaried to enhance the significance values (Table 6). The Chi Square and DF with the goodness of fit indices i.e. CMIN/DF, CFI, TLI, and RMSEA were verified to check model fit and significance of variables. In the model chi square test was 1016.097 with $df = 387$, CMIN/DF was 2.626, TLI was 0.620, CFI was 0.660 whereas RMSEA was 0.105.

The table 6 and 7 show the convergent and discriminant validity. Validity refers to the issue that, weather the measure or scale is gauging what it is designed for (Bryman and Bell, 2015). According to Fornell & Larcker (1981) convergent validity is recognized if, all the factor loadings in the construct surpass 0.7, average variance extracted (AVE) must be more than 0.5, and the composite reliability (CR) should be more than 0.7. AVE is higher than 0.5 but 0.4 is also adequate. If AVE is smaller than 0.5, but composite reliability is more than 0.6, the convergent validity of the construct is still acceptable (Fornell & Larcker, 1981).

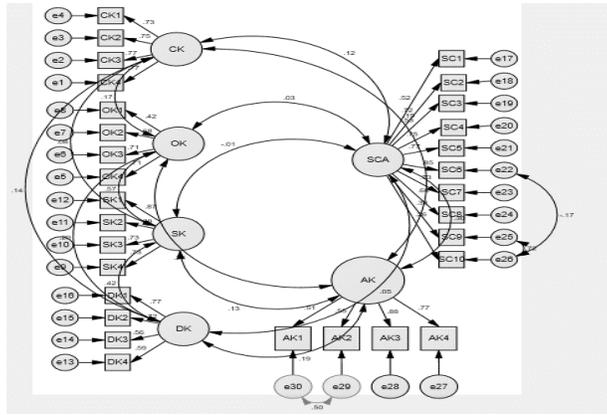


Table 5: Model Fit Summary

Measure	Achieved Fit Indices						
	X2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA
Estimate	2.626	.849	.819	.815	.860	.876	.065

Table 6: Evaluation of Measurement Model

Construct	Items	Factor Loadings	Cronbach Alpha	CR	AVE
Sustainable Competitive Advantage	SC1	.520	0.860	0.863	0.408
	SC2	.725			
	SC3	.527			
	SC4	.745			
	SC5	.767			
	SC6	.850			
	SC7	.728			
	SC8	.660			
	SC9	.333			
	SC10	.257			
Creating Knowledge	CK1	.729	0.841	0.841	0.570
	CK2	.749			
	CK3	.770			
	CK4	.769			
Organizing Knowledge	OK1	.417	0.716	0.728	0.410
	OK2	.679			
	OK3	.712			
	OK4	.706			
Storing Knowledge	SK1	.872	0.882	0.882	0.654
	SK2	.888			
	SK3	.734			
	SK4	.726			
Disseminating Knowledge	DK1	.772	0.757	0.757	0.442
	DK2	.718			
	DK3	.557			
	DK4	.590			
Applying Knowledge	AK1	.507	0.804	0.779	0.481
	AK2	.545			
	AK3	.881			
	AK4	.772			

Table 7: Discriminant Validity

Construct	CK	OK	SK	DK	AK	SCA
CK	0.755					
OK	0.170	0.640				
SK	0.076	0.574	0.809			
DK	0.136	0.286	0.418	0.665		
AK	0.194	0.252	0.129	0.193	0.694	
SCA	0.118	0.032	0.014	0.052	0.296	0.639

Table 8: Direct Path Analysis

	Estimates	Standard Error	C.R	P Value
CK > SCA	0.088	0.041	2.161	0.031
OK > SCA	-0.111	0.043	-2.598	0.009
SK > SCA	0.244	0.035	7.005	0.000
DK > SCA	0.127	0.047	2.723	0.006
AK > SCA	0.285	0.036	7.884	0.000

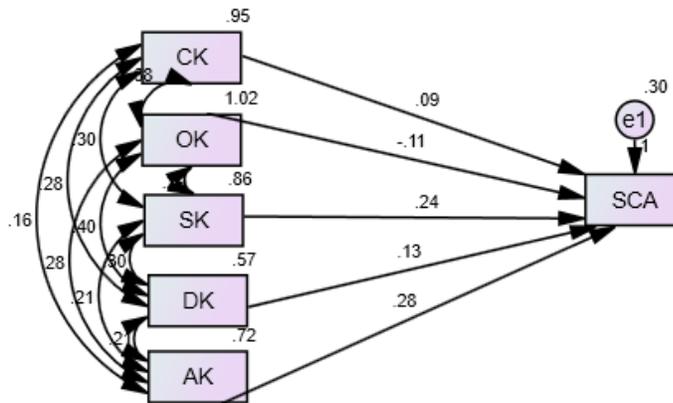


Figure 2: SEM Results (KM Process and SCA)

Table 9: Direct Path Analysis

	Estimates	Standard Error	C.R	P Value
KM > SCA	0.515	0.048	10.686	0.000

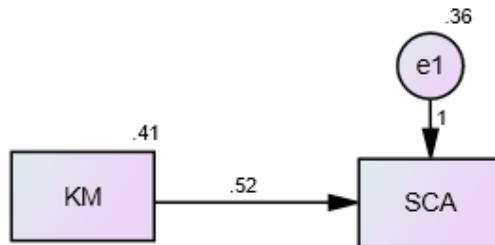


Figure 3: SEM Results (KM and SCA)

4.4. Findings

For hypothesis testing SEM analysis was carried out in AMOS. Results of path estimates are given as below. As per the standards, the paths which indicate significance value less than alpha (i.e., 0.05) would be considered as significant paths and the paths that shows the significance value greater than alpha (i.e., 0.05) would be considered as insignificant paths. It is found that all components of knowledge management have significant effect on SCA. The relationship of organizing knowledge (OK) is found negative but statistically significant. Initially the relationship of components of KM with SCA was checked. To determine the effect of KM as whole process with SCA another path was determined. It is found that knowledge management has significant positive effect on SCA.

Hence, the study confirms the hypothesis that KM significantly affects ability to sustain competitive advantage in an organization. The result is similar to the results of Kululanga & McCaffer (2001), Egbu (1999), Carrillo et al. (2000) and (Bolisani & Bratianu, 2017).

Knowledge is the core basis of competitive advantage in an organization for providing newfangled prospects to them and it permits them to solve problems. Likewise, organizations who produce new knowledge are incessantly contending with each other to progress, hand out and adapt knowledge into providing services and products which converts equally KM into a source of competitive advantage as well as sustainable resource. (Mahdi, Almsafir, & Yao, 2011; Nonaka & Takeuchi, 1995).

5. Conclusion and Recommendations

Knowledge management is an imperative subject that influenced performance of business and competition. From this study, all outcomes show that KM has a significant impact on sustaining competitive advantage in organizations. In this regard CFA results and regression results were also found significant.

The research findings would benefit knowledge management investigators as well as experts to advance an improved understanding the effective application of knowledge management procedure in FMCG sector. In formulating policies and rules and training guides, the present study may suggest essential procedures to understand the matters of knowledge management and sustainable competitive advantage.

Implementing sustainability principles not only needs active management of firm's monetary resources but also human resources. To expand governance through management of tangible and intangible assets corporate responsibility has remained a center of sustainability debate. Thus, sustainability ideologies should be linked to the business framework, addressing the issues of what is produced, how it is produced, by whom and its consequence for stakeholders. Human resources are valuable as they allow the eradication of pressures from the situation and use opportunities or the other resources in an effective manner that contributes towards SCA. Precisely, if the human resources make the business resourceful, consumer-oriented and focus on origination and quality they are considered valuable. Companies must well organize their functions to encourage their employees for efficient utilization of other resources, which means incessant improvement of their knowledge and capacities. Informal communication, authorization, transparent corporate objectives, ideas recognition, and rewards meaningfully boost employees' inspiration and obligation, that is the vital condition for consuming knowledge and abilities for the purpose of value creation.

6. Limitations and Directions for Future Research

The study utilized non probability sampling therefore results are not generalizable. Future researchers are suggested to use probability sampling to ensure the generalizability. The study has taken only FMCG sector future researchers are requested to take other sectors as well like SME sector or service sector to understand the dynamics of other sectors. Further research that could be conducted in future to strengthen this study might add a moderating variable trust, organizational learning that was missing in this study. Inclusion of a moderating variable might help researchers in having investigations in depth to explore more about this literature topic.

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