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# Knowledge Conversion and its Influence on Sustainability of Sugar Companies in Kenya

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***Abstract:*** *Knowledge conversion is the art of transforming knowledge from abstract form of symbolized codes into concrete product reality through re-aligning theoretical knowledge, skills and experiences by firms into production to attain sustainability. Being true that firms that have ventured into knowledge conversion in production have emerged superior in attaining sustainable growth, the scenario in Kenyan sugar companies looks rather disappointing. The companies' consistently declining performance puts them in perpetual indebtedness, making them casualty for privatization with others going into receivership; during which time, the domestic sugar supplies deficit caused spontaneous increase in imports from 4000 tonnes in 1984 to 249,336 tonnes in 2001. The general objective of this study was to explore the influence of Knowledge conversion on sustainability of sugar companies in Kenya. The study further delimited itself to the use of descriptive design and a sample of 250 managers of only state owned sugar corporations. The outcome of this study is aimed at supporting theory and practice, enhance performance and sustainability of sugar companies and enable the government to assist sugar companies to improve in their KMPs' in order to induce performance, growth and sustainability of sugar sub sector in Kenya. The study established that Knowledge conversion r= .537, n=250,p< 0.05 has a significant correlation to sustainability of sugar companies in Kenya. ANOVA Table 4.21 shows that knowledge conversion has [ F(1,248)=100.706, p=<.05)] implying that it is predictor of sustainability and that increase in implementation of knowledge conversion programs leads to corresponding increase in sustainability. A regression analysis table 4.20, shows Knowledge conversion is capable of influencing sustainability by 28.9% ($R^2$ = .286). The study concludes that Knowledge conversion has significant influence to sustainability and the companies' needs to improve on their knowledge conversion policies aimed at developing new products to achieve growth and sustainability. The study recommends that the government should subsidize the operations of sugar to enhance their knowledge conversion programs aimed at improving performance and sustainability. The study recommends further research on influence of KMPs' with intermediation of government policy on sustainability of private and state owned sugar companies in Kenya.*

***Key word****; Knowledge conversion and sustainability.*

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## I. Introduction

**Background to the Study**

According to PPI,(2008) America and the rest of the world transformed greatly by the end of the 20th century in their industrialization growth because of knowledge management practices - new of knowledge economy. Webber (2000) asserted that the nations' drift from traditional economies predominated by fluid mixture of capital, labour and land did not make their growth possible without adoption of knowledge asset resources. And that knowledge management practices(KMPs') such as conversion, application , sharing and creation are bottom-line in organizational competitiveness and growth (Lin & Tseng, 2005. KMPs' therefore prepares individual for success and organization for successful outcomes. In developed and developing countries such as Italy, Pakistan and Malaysia, the study of Knowledge Management (KM) amongst multinational and pharmaceutical companies indicated that it had relationship with improved performance (Rizwan& Mohamud,2012). KM (conversion) is thus critical component of sustainable competitive advantage and is capable of giving a firm long term benefits ( Darroch & Mc Naughton, 2002; Alavi & Leidener, 2001).

In Norway, studies by Dingsoryr (2002) on KM also reveal that KMPs' are capable of influencing performance and growth and should therefore help corporate management to cut down on organization layers, increase flexibility of enterprise and contribute to sharing infrastructure(Huosong Xia, Kuanqu, Du & Shuquin, Cui, 2003). Huosong xia et al.,(2003) also pointed out that KM may also help in reducing time wastage required to capture correct information or make decisions, reduce production costs, improve success rate and potentially reduce research and development costs and product development cycle time. In addition, they indicated that good KM can also help the organization in identifying cultural and behavioral changes that are prerequisite to

the implementation of incentives and practices that foster improved changes. According to Scaruffi (2003) Knowledge management can influence man to develop flexible behavior in understanding and adjusting to the world around him as well as transforming it to suit his needs

Importantly, in Nigeria, IFAD (2007) efficient knowledge management practices transformed agriculture and industry and reduced poverty amongst the poor Rural Nigerians; whole in China, India, Mesopotamia and Egypt KMPs' especially Knowledge acquisition and utilization enabled the countries to improve their ecosystems, and reduced their impact on their civilization (Jean, 2010 and for Kenya with diminishing hopes for improving competitive growth and sustainability calls for research into the influence of KMPs' on sustainability of sugar companies in Kenya. The study was carried out in companies in western Kenya, and Nyanza sugar belts including; Mumias; Miwani, chemelil and muhuroni, Muhoroni, Chemelil, Mumias, Nzoia, and South Nyanza (SONY). These companies received both financial and technical support from the government following the implementation of Sessional Paper No.10 of 1965 (Odek *et al.*, 2003) to achieve the country's self-sufficiency in sugar with surplus for export in a globally competitive market, create employment opportunities and facilitate the growth of subsidiary industries through the forward linkage effects, promote economic development of rural areas and promote import substitution initiative to save the country from the loss of foreign exchange (Odek *et al*.,).

**Statement of the Problem**

Knowledge asset is considered as the epicenter of fast developing economies and its efficient knowledge management practices (KMPs') are significant in attracting firms' sustainability worldwide (Acier, 2006). However, for over six decades since it was introduced in management in 1959 (Drucker, 1959; Kellogg, 1986) and by Sugar companies to enhance their performance and sustainability the firms have realized dismaying results. Even as the companies continue to receive financial and technical support from the government and many other key players such as Kenya Sugar Board (KSB), Sugar Development Authority (SDA) and Consulting Agencies to enhance their performance and achieve sustainable growth but still face myriad financial challenges. Forcing a number of companies such as Miwani under full receivership, Muhoroni under partial receivership in 2010 while Nzoia, Chemelil and Sony shortlisted for privatization. The country has gone into massive sugar imports from COMESA region and other sugar producing countries such as Brazil, UK and Mexico (KSB, 2007); a situation which diminishes her hopes and dreams for growth and sustainability. While studies conducted in Italy, Pakistan and Malaysia amongst multinational and pharmaceutical companies indicate that KMP's had relationship with improved performance (Rizwan & Mohamud, 2012), others done in Norway by Dingsoryr (2002) also reveal that KM is capable of influencing performance and growth. While studies conducted in Italy, Pakistan and Malaysia amongst multinational and pharmaceutical companies indicate that KMP's had relationship with improved performance (Rizwan & Mohamud, 2012), others done in Norway by Dingsoryr (2002) also reveal that KM is capable of influencing performance and growth. The question of sustainability thus remains unanswered as these studies did not however reveal that KMPs' could lead to organizational sustainability. In particular, these studies were on multinational and pharmaceutical corporations and little research seem to have been done in sugar companies in Kenya focusing on the relationship between KMP's and organizational sustainability. It is on the basis of the forgoing claims that this study was purposed to explore the influence of Knowledge conversion on Sustainability of Sugar companies in Kenya using descriptive survey.

**General Objective of the Study**

The general intention of this study was to establish the influence of knowledge conversion on sustainability of state owned Sugar Companies in Kenya.

**Research Hypothesis**

$H0_4$: Knowledge conversion has no statistical significant influence on sustainability of sugar companies in Kenya.

## II. Literature Review

**Theoretical Framework**

The theoretical framework refers to theories that researcher chooses to explain research problem or inform the study (Blumberg, Cooper and Scindler, 2014). The theory associated to this study are Human Capital Theory and intellectual capital theory.

**Human Capital Theory**

Human capital means knowledge, skills and capability of individual employees that permits their provisions of solution to customers (Tapsell,1998). The theory was coined by an American economist, Theodore W. Schultz in 1960. It states that an institutional growth is dependent on an aggregate knowledge and skills in its

workforce. The theory is relevant to this study since it points out at an organization, capability anchored on its human capital. It implies therefore that for an institution to grow and become sustainable must invest heavily in KMPs' (knowledge acquisition, Sharing, conversion and application). Grant (1991) also argues from resource based point of view that the source of a firm's competitive advantage lies in its human capital and their knowledge and not how it positions itself in the market. Schultz and Grant's perspectives are unrealistic because the firms' aggregate knowledge assets and its position in the market are complementary and vital to its performance, economic, ecological and social sustainability. This theory argues that knowledge is a crucial source of innovation and strategic re-newal whether it is from brainstorming or research laboratories or day dreaming at office, re-engineering new processes, improving personal skills or developing new sales lead ( Bontis, 1996 ).

The theory of Human Capital was reviewed in the study of intellectual capital by the Economics Institute of Washington DC, that broadens its worth beyond an institution or a firm to the nations that "the economic value of the nations depends more on employees skills, knowledge and business problem aptitude than it does upon the market value of the firms commercial output" (Di Steffano and Kalbaugh, 1999). This theory also justifies KMPs' as one of the main contributors to organizations' competitive advantage which is fine but fails to authenticate its effect on firms' sustained growth. It did not also focus on effects of diminishing marginal utility, quality of firm's tangible assets and the role of government policy and politics on corporate performance and organizational sustainability. The theory is relevant to the study of KMPs' since it relates positively with objectives; i) knowledge application and iii) knowledge conversion.

**Intellectual Capital theory**

According to Dzinkowski (2000) Intellectual Capital Theory (ICT) describes a stock of capital knowledge based equity which a company possesses that may be end result of Knowledge transformation process or knowledge itself that is capable of transforming into intellectual property of the firm." Intellectual capital thus may be broken down into three areas, human capital, structural capital and customer capital. Human capital is comprised of knowhow, competence, skills and capability of human members of the firm. Structural capital is comprised of the capability that is developed to meet market requirements such as patents and trademarks, process improvements methodologies to improve effectiveness and profitability of the firm while Customer capital on the other hand includes communication between external and internal entities of the organization such as customer loyalty, good will and stakeholder's relationships. According to Edvison & Malome (1997), the above three variable capital components correlate to deliver value to customers making organizations to cut competitive edge and built value platform that makes it sustainable.
The value platform may be illustrated as follows:

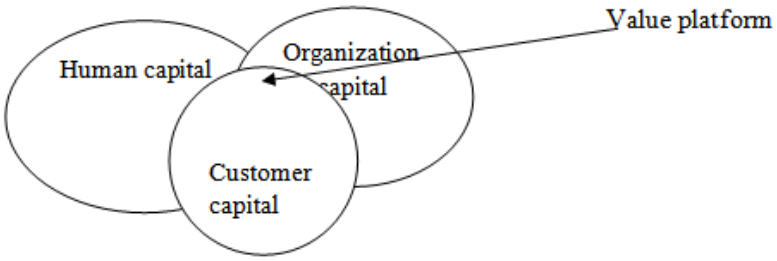



**Figure 2.2**: Value Platform Model
Capital (1997)

Value platform articulates that the intersection of the three capitals creates value that is fundamental to corporate sustainability. From the forgoing theory, it's worth noting that the benefits of investing in KMPs' are intuitive and should be authentic to proactive managers that are attempting to compete in the 21st century and beyond since it brings benefits to individuals, organizations and Community of practice as follows:- For individual Employees, KMPs' helps workers in enhancing their job performance, saving of time through better decision making and problem solving, enable individual workers build a sense of community bond within the organization.

Knowledge acquisition helps to keep employees professionally relevant and up to date and provide employees with challenges and opportunities.

Ovaska *et al* (2009) asserts that for Community of Practice, the sharing of companies' knowledge assets serves as a foundation for collaboration which is significant in developing professional skills, promoting peer to peer mentoring through knowledge strategy, facilitates effective networking, collaboration and development of a corporate culture. According to KPMG (2000) for Organizations, embracing appropriate

KMPs' helps to drive strategies that enhance problem solving diffuses desirable corporate culture and best practices and improves knowledge that is embedded in product or services. KMPs' (Knowledge creation, sharing, application and conversion) may help organizations in innovation, improving customer service and commercialization of new products. Knowledge sharing facilitates cross fertilization of ideas and increases efficiency in application which leads to innovation. Importantly, the theory is also relevant in that provides insight that effective KMPs' thus relating positively to objectives; ii) on knowledge sharing and iii) knowledge application and iv) conversion may improves an organizations' responses to market challenges (KPMG, 2000; Taminian, Smit & Delanse, 2009), the attainment of customer capital that makes it to remain competitive and drives it towards sustainable growth. In addition, Lu, Wang, Tung & Lin (2010) asserted that firms facing stiff competition within their remote environments should increase their value creation processes through intellectual capital because it is an important factor for sustaining competitive advantage in the market. The relevance of ICT lies in its recognition to sum of firms' knowledge which is a key factor in production in quality. The theory also considers Customer capital which is an important element of performance and sustainability. Capturing Customer capital also results from corporate social responsibility necessitated by provision of high quality products which as consequent leads to high revenue which makes corporate sustainability feasible.

Therefore for an organization to achieve sustainability, it has also to direct its KMPs' towards society through social responsibilities and improving its environment controls. According Capital (1997), if a firm which does not have efficient KMPs' will not position itself to the market, will lack competitiveness, compromise its survivability. The theory is relevant to this study since it points out that an organization capability anchored on its human capital, market capital and organization structures. The fact that organizations structure capital is regulated by government policies, makes the theory relevant to the study of KMPs'.

**Conceptual Framework**

This is a diagrammatical representation showing the existing relationships between the study variables(Young, 2009).

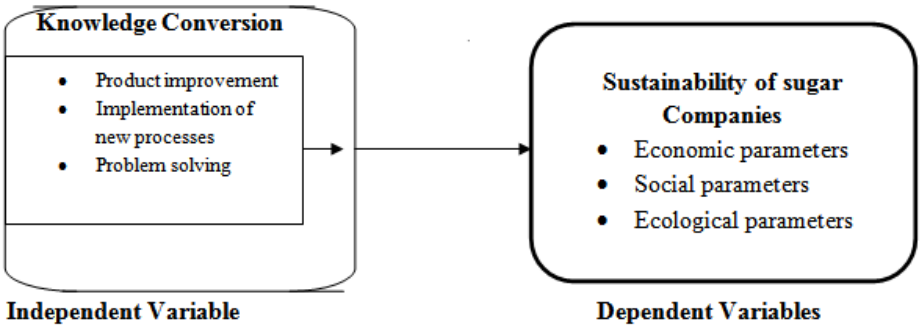


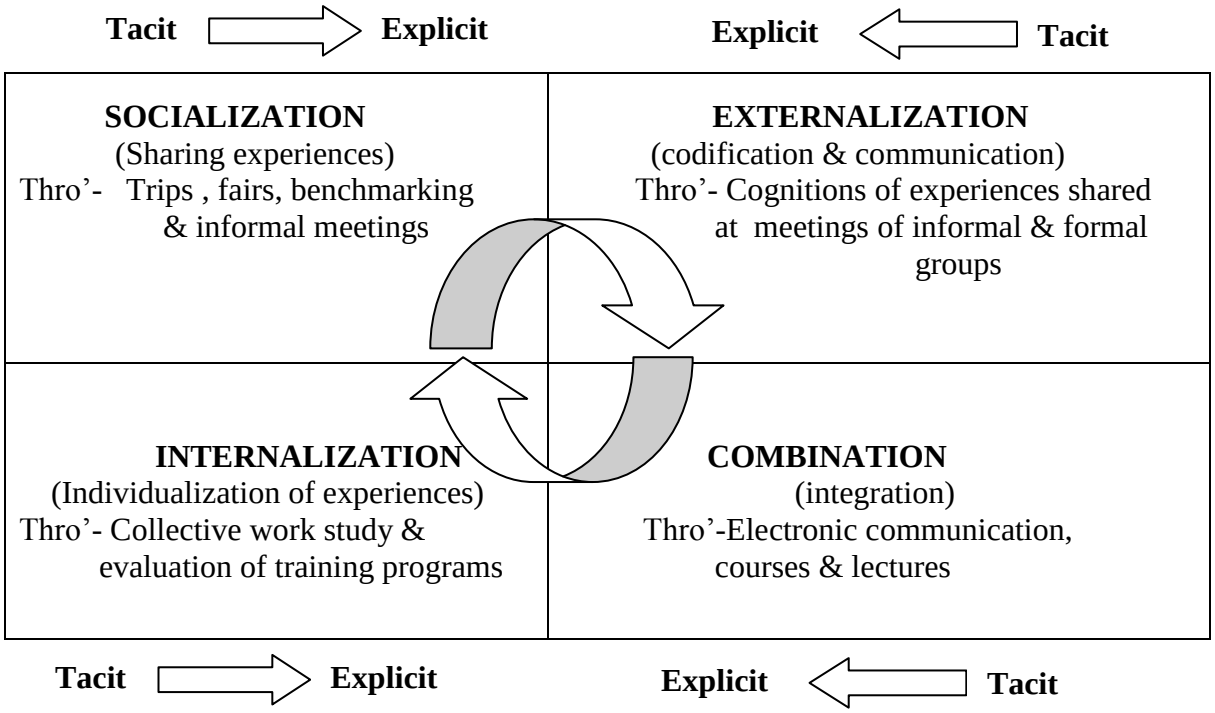

**Figure 2.2**: Conceptual Framework

Fig.2.2 illustrates the relationship between KMPs' as independent variables and Sustainability of sugar companies on the other hand as dependent variables. It shows the influence of independent variables on sustainability of sugar companies. It also illustrates that knowledge conversion may lead to sustainability measured by institutional diversification, corporate social responsibility.

**Empirical Review**

**Knowledge Conversion**

Knowledge conversion is process of translating knowledge from its explicit (abstract) into a more concrete (tacit) knowledge that can be realigned to provide solution to problems facing an organization. It is also defined as a social process through which individuals with varied information and experiences interacts to create new knowledge that increases quality of tacit knowledge, Sanchez & Palacios' (2005). Nonaka (1991);Nonaka & Takeuchi (1997) defines Knowledge conversion as a spiral effect involving transformation of knowledge from explicit to tacit and re- transformation from tacit to explicit. They developed Knowledge conversion model which includes socialization, externalization, combination and internalization (SECI)




**Source**: Nonaka, (2000)
**Fig.2.3**: Knowledge Conversion Model.

Knowledge combination is an aspect of conversion that brings together (integrating) wide range of knowledge processes through creation, coding, sharing and utilization (Grant & Grant, 2008). According to Nonaka *et al* (2000) it enables an organization to collect explicit knowledge from varied sources, combine and edit before disseminating them to employees for application. Aurum *et al* (2008) argued that integration helps to bring all the human, physical resources, processes and technology together to make an organization gain sustainable competitiveness. And for this to happen, employees who are willing to share their tacit experiences must be supported by management (Peresca *et al.*, 2010).

Similarly, socialization concerns itself with the conversion of existing tacit knowledge into new Tacit knowledge through shared experiences which are facilitated by employees' social interactions in an organization. On this, Nonaka & Takeuchi (1995) argues that socialization is influenced by organization culture and that shared experiences during customer- employees' and customer-management interactions are pivotal in developing knowledge of improving products and customer services in an industry.

Externalization on the other hand is an aspect of knowledge conversion that help an organization in setting its rules and policies for attaining its goals (Nonaka *et al*., (2000). Its' through externalization that an organization authenticates the processes of articulating tacit into explicit knowledge, through documentation of reports that becomes reference in implementation of new concepts in innovation.

Internalization aspect of conversion helps an organization to re-cycle explicit knowledge into tacit knowledge indicating high level o employees' apprehension of concepts. It helps an organization in the management of knowledge to speed knowledge sharing and application by practicing (Nonaka & Takeuchi, 1995).

Montoya- Weiss (2006) authenticated the consensus that understanding conversion model may help organizations to provide solutions to their problems and perform their tasks and actions correctly. Becerra-Fernandez (2003) posited in a similar fashion that that knowledge conversion can build the capacity of an organization to implement newly acquired skills and experiences to improve its performances and undertakings in innovation. Nonaka & Krogh (2009) pointed out that knowledge conversion is basic to an organization since it's capable of helping it to provide solutions to its problems as the employees socialize, externalize, internalize and integrate knowledge. It is common knowledge that organizations problems are problems of performance, growth and sustainability, implying that conversion may provide a firms performance and sustainability problems.

Scholars such as Choi & Lee, (2002); Sabherwal & Sabherwal, (2005) acknowledged that knowledge conversion has fundamental bearing on organization performance. The argument on performance was also supported by Gasik (2011), Yusoff & Dandi (2010) who asserted that the knowledge conversion practices are

capable of giving firms competitiveness. On the same argument, Grunert & Hildabrandt (2004) posited that firms' knowledge and capability must be modeled in a manner that befits their goals in order to achieve their performance targets and consequently sustainability. Stephen & Muthe (2015) in their study conducted using cross sectional survey in the banking sector posited that knowledge conversion and knowledge application have positive influence on performance, which is bottom line in organizational sustainability. Tseng, (2010) asserted that knowledge conversion makes it necessary for a firm to concretize the abstractness of knowledge by converting explicit knowledge through socialization into tacit for individual application. He insinuates that knowledge cannot conveniently be utilized unless its processed through conversion to suit the users need. On the same vein, Lee & Suh (2003) supported Tsengs' argument that gathered knowledge from varied sources must be converted into required form to ease effective application. From these arguments, it is understood that acquired knowledge must be stored and utilised to improve firms' performance by facilitating problem solving, planning and decision making but only if its converted (Takeuchi & Nonaka, 2004).

Kikoski & Kikoski, (2001) having acknowledged the existence of tacit and explicit, further justifies that explicit knowledge is that knowledge that can be coded, verbalized, processed, transfused and stored in journals, mass media and books - can be shared inform of data and translated into formulae such as business patent. On the other hand Tacit knowledge is personal and hard to formulae but can be put inform of procedures, actions and values- it is the knowledge we are unconscious about and can't be corded nor communicated. However, the duo says that it is acquired by sharing experiences, observation and imitation. According to Scarborough (2003) asserts innovation is driven by knowledge conversion since it results from integration of tacit and explicit. He concludes that innovation can influence a firm's competitive advantage.

Tacit knowledge is therefore bottom line in innovation and capable of positively influencing a firms improved performance through collaborative sharing of experiences by its staff in and outside wither firms to enhance knowledge diffusion (Cavusgil *et al.,* 2003). Hall & Handriani (2002) asserted that for a firm to realize and maintain its level of innovation, performance and growth it has as well control loss of its explicit knowledge through staff turnover. This is argued by Cook & Cook (2004) and Hall & Sapsed (2005) that can be achieved by firms that maintain higher level of knowledge conversion through favorable human resource policies, performance management and implementing motivational reward systems. It is worth noting that since company sustainability amongst other factors is influenced by innovation which depends on tacit knowledge, then sustainability also depends indirectly on the level of knowledge conversion-from explicit to tacit (Van Baalen *et al*.,, 2005). Since studies conducted in Europe in financial sectors have justified the competence of Knowledge conversion in positively influencing performance (Yeh, Lai & Ho, 2006). On the other hand Grunest & Hildbradt (2004) validated the resource based theory following their empirical justifications that KMPs'-sharing, creation and application are fundamental in making the organization stronger and successful in gaining competitive advantage, there only exist few such studies that link knowledge conversion to organizational sustainability hence justifying further the need for this study especially in sugar manufacturing companies in Kenya.

**Sustainability**

According to Bruntland Commission of 1987, WCED (1987), World Bank (2005), Kuckartz & Wagner (2010) Sustainability means "meeting the demands of the present society without compromising ability of future generations to satisfy their own needs by responding to current economic and social environmental challenges". The purpose of sustainability is to improve economic, environmental and social performance of companies (Bos Brouwers, 2010) to enhance their survivability and make them self-supporting. A sustainable company is one that offers product and services that fulfil the societal needs while considering its ecological, social and economic impacts on earths' inhabitants and without compromising the needs of its future generations (Azapagic & Perdan,2000; Welford, 2000). DETR (2000) further argued that sustainability is all about ensuring better quality life for every one now and for generations to come through social progress while meeting people's needs, protecting environment, ensuring prudent use of natural resources and maintaining stable economic growth and empowerment. Roy (2003) argued that the essence of sustainable development is determined by the people and is attributed to changes of people's attitudes and habits. Sustainable development often includes social, environmental and economic variables often referred to as Tipple bottom line (TBL) parameters. DETR (2000) posited that sustainable development is about ensuring better quality life to society now and in future through social progress(development of infrastructure, heath and sanitation, environmental protection (tree planting and protection of biodiversity, ensuring effective use of natural and waste resources) and maintaining stable level of economic growth and employment). According to Hennicke (2000) organizational sustainability could be measured using economic, social and ecological parameters the achievement which anchors on firms prudent KMPs' and a country's political good will.

The bottom line of sustainable development is to develop capacity to help the poor to maintain and improve their natural capital (natural resources) while developing their human capital (human resources) and

manmade capital (investment infrastructure, social capital, cultural bases and political systems) that makes society function (Cellisr & Jean- Louis, 2004). Precisely sustainability issues are focused on making organizations self-reliant in their social, economic and ecological growth and developments.

**Critique of the Existing Literature relevant to the study**

Scholars such as Gold *et al.,* (2001), Lee & Choi (2000) in their contributions following the study of KM indicated that KM is an important driver to organization effectiveness and by extension performance but were not specific that the same could lead to sustainability. This is because not every level of performance may lead to sustainability. While Choi (2000) was applauded for his findings that KMPs' could cause innovation and consequent organizational growth and performance on which he concurs with Rizwan & Mohamud (2012) they were adamant to its influence on sustainability. Mills & Smiths' (2011) study also revealed direct relationship between KM and Performance but were silent on specific knowledge Management practices that have greater influence on performance and the extent at which the same could bring the firms sustainable growth. Jean (2010) indicated that efficient KMPs' could lead to improvement in ecosystem which is an aspect of sustainability but like many other scholars, didn't consider intervening factors that may undermine the efficacy of KMPs' like government policies on the companies market capital. Other scholars Beatrice & Smith (2010), Bowman & Tones (2010) in their studies also indicated that KMPs' could instill quality in an Organizations' human capital to enable a firm gain competitive advantage but ignored to capture the fact that the same could cause profitability which is an indicator of economic sustainability.

Rizwan & Mohamud (2012) draws attention of researchers by reporting positive relationship between KMPs' and performance from his survey study that was conducted in developed countries in multinational corporations. However, like their colleagues they didn't point out explicitly specific sustainability parameters. Tussler (1998) pointed out that efficient knowledge management (application and sharing) could lead to innovation with positive economic implications to firms.

However he didn't justify what the situation could be like in the wake of firms' facing interventions of government policies that could put sustainability at stake. Kim (2011) from his case study of KM of Public organizations in Virginias' 23 Local CPS departments failed to acknowledge that KMPs' could influence performance. His findings contradicted Radwan *et al* (2012) report of survey study of Pharmaceutical firms in Jordan that Knowledge sharing had positive influence to innovation and profitability. However, no-matter the contradictions and irony, these results were of survey and case studies which limited the scope of their findings to warrant general applicability. It is therefore important to note that sustainability is only possible when firms have no bottlenecks emanating from economics, infrastructure, culture, human capital and government policies.

Eliot (1996) tried to argue that effective KMPs' could result into product innovation and profitability but didn't consider the intervening effects of factors that affect market dynamics such as governments' policies (pricing and liberalization) as the same could demean the value of firms' innovative processes, profitability and compromise its sustainability. Finally, these studies mainly concerned themselves in the medical and engineering enterprises. Very little interest had been shown in the manufacturing sectors especially sugar companies. However having efficient KMPs' per'see without the absolute inclusivity of all possible constraints on practices- creation, sharing, application and conversion, it may lead a firm to performance and growth in the short run but not usher in diverse corporate sustainability.

**Research gaps**

Related studies had been conducted in developed countries such as Italy, and Pakistan by Rizwan and Mohamud (2012) and in Malaysia amongst multinationals Pharmaceutical and engineering companies established that there was relationship between KMPs' and performance. Rizwan and Mohamud (2012) confirmed in their studies of KMPs' amongst Multinational firms that there was significant association between KMPs' with performance. These studies however were conducted in developed countries and in particular in Multinational based medical and engineering firms implying that similar studies had not been widely conducted in developing countries especially in manufacturing based enterprise such as sugar companies with national outlook and different perspectives in operation and structure.

Doo *et al* (2005) also indicated that many firms lacked understanding of how to develop KMPs' and strategies that are capable of driving the firms to innovation and sustainability implying the need for widespread studies to bring awareness of the importance of knowledge of KMPs', especially knowledge conversion spark off sustainability of firms that are urgently demanding. These previous studies linked KMPs' influence to firm's economic sustainability but were blatantly silent on whether the practices such as knowledge conversion could have spontaneously impact sustainability. It implies however that inadequate empirical justification exists between Knowledge conversion and sustainability which is the urgency for this study. Although the previous researchers obtained empirical support using case studies (Zaim, 2007) and normative survey indicated positive relationship, their findings could not be generalized to a wider population. It is also due to this reason that this

study purposed for general application considers descriptive survey design to be appropriate. Furthermore, no previous studies had captured government policies moderating influence on the relationship between knowledge conversion and organizational sustainability especially in sugar companies. Finally, elsewhere in the world, researchers had centered their interest on relationship between KMPs' and the firms' economic sustainability and very little if any, had been made to link KMPs'especially knowledge conversion to corporate sustainability. This proposed study on influence of knowledge conversion on sustainability of sugar companies in Kenya intends to fill these gaps.

## III. Research Methodology

**Introduction**

This chapter discusses the detailed process of research problem solving and logical rationale of each stage involved as Kothari (2014) puts it. Such includes research design, target population, sampling frame, sampling techniques, Data collection instruments, procedure, Pilot study and data processing and analysis.

**Research Design**

This study used Descriptive Survey design to collect data from all the functional state owned sugar companies in Kenya. Design is often chosen and used in research process to provide a basis upon which the study is configured and in which all aspects of research are linked to provide meaning (Kothari, 2008; Laurel, 2011). This choice of descriptive design allowed the collection of data by interviewing of respondents and administering of questionnaires to a sample of individuals (Orodho, 2003), analyzing and interpreting to provide answers to research problem. Also, the suitability of descriptive survey in an extensive study of this kind is its economy in terms of time and cost in research process (Osoo & Onen, 2005) and the fact that it will provide answers to research questions in order to determine current position of given situation in respect to one or more variables (Cohen, Manion & Marrison, (2011) further justifies its choice in this study.

**Target Population**

Target population of study is what Sekaran & Bougie (2010) defined as the entire group of people, events or things with common observable characteristic that researcher is interested in and wishes to investigate. The study targeted 1200 managers from all the state owned sugar companies such as Nzoia, Mumias, Sony, Chemelil and Muhuroni sugar companies that spread across western and Nyanza regions of Kenya

**Sample and Sampling Technique**

**Sample size**

From the staff of 1,200 managers within the sample frame, the study considered a sample of 300 respondents was arrived at using Yamane (1967) formulae at 95 % level of confidence with 0.5 margin of error as given by;

$$n = N/1+N*(e)^2$$

Where: N - population sample; n - sample size; e - level of precision 0.05 (confidence)

The sample was therefore distributed as below;

**Table 3.2: Population Sample, Managerial Staff and Sample Size distribution.**

| Sugar Companies | Sample Population | Managerial Sample | Staff Size (n) |
|---|---|---|---|
| Mumias | 1860 | 300 | 60 |
| Sony | 1700 | 280 | 60 |
| Muhoroni* | 800 | 180 | 60 |
| Nzoia | 1685 | 270 | 60 |
| Chemelil | 795 | 180 | 60 |
| Miwani ** | - | - - | |
| **Total** | **6840** | **1200** | **300** |

**Source:** Companies HR Depts., ( 2016)

* Partial receivership ** Full receivership.

**Sampling Technique**

The study adopted non probability sampling approach and in particular purposive random sampling technique. This sampling technique was chosen because its cost and timesaving in data gathering (Oso & Onen, 2005).

**Data Collection Instruments**.

The instruments are means which aided the researcher in data gathering. The study used questionnaires and interview guide to collect data. Questionnaires facilitated researches in gathering and analysis of

quantitative data (Schwab, 2005) and were structured in a 5 Likert scales. However, qualitative data were collected using interview schedule. According to Robison (2002) such interview questions could have wording modi8fied ton suit level of respondents.

**Data Collection Procedure**

The researcher ensured that administration of research instruments complied with ethical principles requiring keeping the identity of respondents in anonymity and putting to use gathered data to its predetermined academic purpose (Gatara,2010; Hoyle *et al.,* 2002). Guided by the same principles, the researcher ensured that informed consent of the were received from respondents after providing them with the pertinent information about the study and in particular, its purpose. In particular, the researcher received authorization from the companies where he was to conduct the study and also research permit from National Commission of Science, Technology and Innovation (NACOSTI). The researcher also ensured that respondents participated freely in the study without coercion and were made free from any physical and mental injuries as their rights and dignity were respected (Hennik *et al.,* 2001).

**3.7: Pilot Study**

The researcher made pre-visit to companies that were intended for the study before a full scale study was carried out. This was to make it possible for the researcher to pre-test the instruments to ensure that they were suitable so that they justify the claims on what they were able to measure (Saunders *et al.,* 2008). Piloting also enables the researcher to re-align the instruments to study objectives so that their outcome could answer the research questions. Mugenda and Mugenda (2005) also portend that a pilot study is a small scale preliminary study conducted in order to evaluate feasibility in an attempt to improve upon the study design prior to performance of a full scale one. In these 25 respondents (Cooper & Schindler, 2010) were engaged in the study comprised managerial employees who were not used in the final study. In order to improve reliability of questionnaire, the corrected items that were either ambiguous or displayed difficulty in being understood by the respondents were corrected or replaced altogether.

**Reliability of Research Instruments**

Reliability is the degree of consistency that the instrument or procedure demonstrates (Best And Kahn, 1993). According to Kerlinger (1986), reliability is the absence of errors of measurement or the accuracy of measuring instrument. It is also said to be the consistency of a research instrument in producing the expected results when applied repeatedly under the same circumstances.

**Table 3.3 Internal Consistence: Cronbach's Alpha Results for the Questionnaire**

| Scale | No. Items | Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items |
|---|---|---|---|
| **Knowledge Conversion** | 9 | .795 | .733 |
| **Sustainability of sugar companies** | **5** | .730 | .643 |

**Source**: SPSS output (2016)

To ensure reliability, the instruments were pilot tested during pre-visits and this permitted necessary modifications on the instruments. For this study, test-retest of the items gave Cronbach alpha coefficient (r) value of above 0.795 which was based on average of inter-correlation (Kumar , 2011) as shown in Table 3.3; was well above 0.70 ( Orodho, 2008; and Field, 2009), is high enough to authenticate the instruments' reliability and suitability. Therefore, these findings show that the questionnaires were generally suitable for data collection; because they adequately measured the constructs for which they were intended to measure. The results of the SPSS are as attached in the appendices.

**Validity of Research Instruments**

Validity is the extent to which the instruments are expected to measure the content, probe issues and produce results they are expected to generate. Using Content Validity Index (CVI) formula the numbers of questions rated as relevant were divided by the total number of items in the questionnaire and this gave a CVI of 0.765 which was above 0.7 which is the acceptable minimal threshold adequate validity according to Hair *et al.,* (1998), it was concluded that the instruments were of adequate validity levels.

**Data Processing and Analysis**

This study used both quantitative and qualitative approaches involving both descriptive and inferential statistics in analyzing data.This study used correlation analysis to justify the findings in a more pragmatic sense, and test hypotheses (Hunt, 2003). Pearson's Coefficient correlation technique was used in the analysis due to its ability to test the hypotheses on the nature of influence of independent variable on dependent variable (Cooper & Schindler, 2003; Kothari,2008). Further, it also helped in determining the relationship between the variables at the time of study. The following regression model was thus developed and adopted to regress dependent variables against the independent variables, intervening variables against independent variables (Baron & Kenny,1986) to determine their effect on dependent variable and hence make prediction on the future of the organization.

**Model Specification**

The intervening regression equation used to test data is expressed as shown below:

**Model 1:**

It is a regression of the dependent variable and the independent variables

$P_j = a + \beta_1 X_1 ij + \varepsilon$…….. (1)

Where: P = Organizational Sustainability j

X = KMPs measured by ($KA_j$; $KS_j$, $KApp_j$, $KCon_j$ and $IC_j$) in which

$KA_j$ = Knowledge acquisition $_j$

$KS_J$ = Knowledge sharing $_j$

$KApp_j$= Knowledge application $_j$

$KCon_j$=Knowledge Conversion

$IC_j$ = KMPs' implementation

i and j represent the variables and organizations sustainability respectively

ε= error term

$\beta_1$ = regression co-efficient

## IV. Research Findings And Discussion

**Demographic Information of the Respondents**

**Questionnaire Response Rate**

**Table 4.4: Summary of Rate of Response**

| Respondents | Questionnaires administered | Questionnaires returned | Response rate (%) |
|---|---|---|---|
| 1200 | 300 | 250 | 83.3 |

**Source**: Survey data (2016)

Out of 300 questionnaires administered to the employees 250 of them were returned which translated to 83.3% response rate. According to Oso and Onen (2011) an acceptable response rate for survey questionnaires administered personally by the researcher is achieved when the questionnaire return rate is at least 80%.

**Respondents' by Gender Distribution**

**Table 4.5: Respondents by gender**

| Gender | Frequency | Percentage |
|---|---|---|
| Male | 230 | 92.0 |
| Female | 20 | 8.0 |
| Total | 250 | 100.0 |

**Source**: Survey data (2016)

Table 4.2 reveal that 250 respondents involved in the study were comprised of 230 (92%) males and 20 (8.0%) females. There was less than 30% representation of female gender in managerial staff of sugar companies. The demographic structure reveal poor gender representation in managerial appointments since it does not reflect affirmative action rule of female representation in public organizations.

**Respondents by Age**

**Table 4.6 Distribution of Age of the Respondents**

| Age (Years) | Frequency | F (%) | Cumulative % |
|---|---|---|---|
| 24-34 | 75 | 30.0 | 30.0 |
| 35-45 | 113 | 45.2 | 75.2 |

| | | | |
|---|---|---|---|
| 46-56 | 57 | 22.8 | 98.0 |
| > 56 | 5 | 2.0 | 100.0 |
| Total | 250 | 100.0 | |

**Source**: Survey data (2016)

It is evident from theTable that a significant proportion of 113 (45.2%), of the employees of the state owned sugar companies in Kenya are in the age group of 35-45. Only 5 (2.0%) and 75 (30.0%) were aged above 56 years and under 35 years, respectively. This implies that 180 (68%) of the managerial employees in sugar companies are of working age between 35 – 56 years and are capable of implementing KMPs' that are geared towards achieving sustainability in the sugar companies.

**Respondents by Work Experience**

**Table 4.7 Respondents by work experience in the company**

| Years | Frequency | F (%) | Cumulative % |
|---|---|---|---|
| **0-5** | 63 | 25.2 | 25.2 |
| **6-11** | 75 | 30.0 | 55.2 |
| **12-17** | 105 | 42.0 | 97.2 |
| **>17 years** | 7 | 2.8 | 100.0 |
| **Total** | **250** | **100.0** | |

**Source**: Survey data (2016)

The findings of the study revealed 105 (42%) of the employees who took part in the survey had 12-17 years of work experience. About (3%) of industry's workforce had served for over 17 year. The survey revealed that 63 (25.2%) managers in industry had served for(0-5 years. This means that many of the employees were capable of effectively implementing improvements and quality strategies for the companies' sustainability. Similarly, some 5 (3%) of its workforce had served for over 17 years and capable of providing the perquisite technical orientation, induction and internal consultancy to the newly recruited staff that constituted 63 (25.2%) who had served for between 0 – 5 years.

**Respondents' Marital Status**

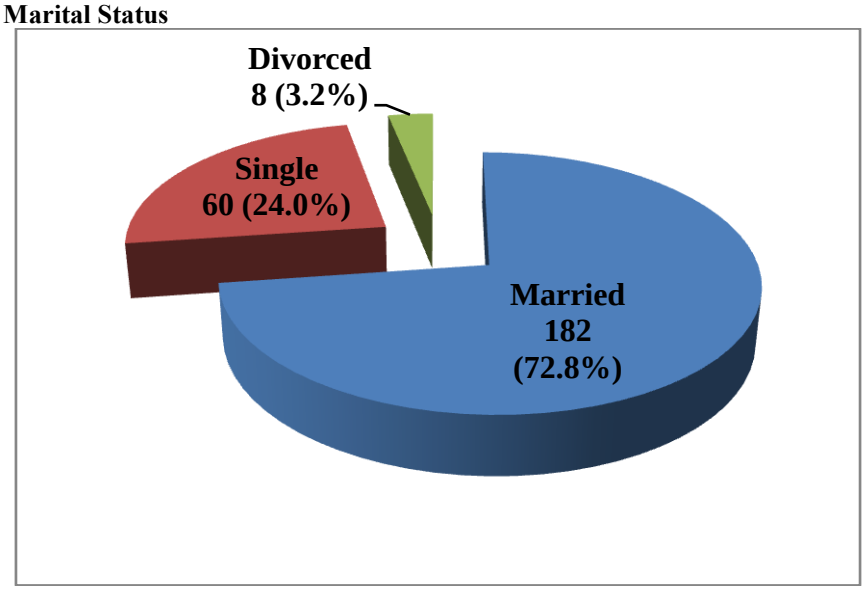



**Figure 4.5**: Respondents Marital Status

**Source**: Survey Data (2016)

The figure revealed that182 (72.8%) of the managerial employees in the sugar companies were married. Only 60(24%) and 8(3%) were single and divorced respectively.

This implied that many of the managerial staff were responsible and could be able to demonstrate commitment to the strategic goals of the organizations. Only 60 (24%) and 8(3%), who were single and divorced respectively could suffer job-family role conflicts and psychological stress.

**Respondents by Academic Qualification**

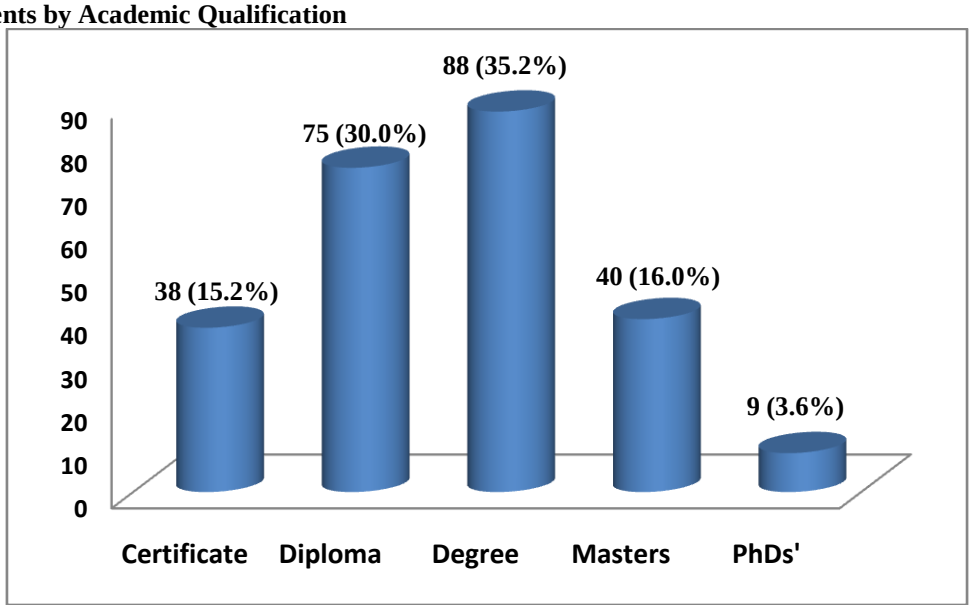



**Figure 4.6**:Distribution of Respondents' by Qualifications academic.
**Source**: Survey Data (2016)

Figure indicates that 49 (19.6%) managers were holders of Masters or PhDs' degrees; 88 (35.2%) of management team had first degrees while 75(30 %) held Diploma qualifications.

This finding implies that most of the managers had perequisite qualification for effective supervisory roles to steer the industry towards effective performance and sustainability. However, it emerged that 38 (15.2%) of the employees only had certificate academic qualifications. The implication of this finding is that the companies ought to develop skills and competencies of their junior managerial staff in sugar technology through scholarship and internship training in world leading sugar producing countries such as Brazil, South Africa and Mauritius.

**Descriptive Statistics**

**The Influence of Knowledge Conversion on Sustainability of Sugar Companies in Kenya.**

**Table 4.20 Knowledge Conversion and Sustainability (n=250)**

| Item | SA | A | N | D | SD | Mean | Std. Dev |
|---|---|---|---|---|---|---|---|
| **KCn1** | 101(40.4%) | 80(32.0%) | 21(8.4%) | 30(12.0%) | 22(8.8%) | 3.81 | 1.17 |
| **KCn2** | 90(36.0%) | 63(25.2%) | 16(6.4%) | 30(12.0%) | 41(16.4%) | 3.11 | 1.48 |
| **KCn3** | 45(18.0%) | 112(44.8%) | 25(10.0%) | 58(23.2%) | 50(20.0%) | 3.07 | 1.67 |
| **KCn4** | 80(32.0%) | 100(40.0%) | 10(4.0%) | 35(14.0%) | 29(11.6%) | 3.61 | 1.35 |
| **KCn5** | 50(20.0%) | 70(28.0%) | 20(8.0%) | 85(34.0%) | 25(10.0%) | 2.89 | 1.57 |
| **KCn6** | 82(32.8%) | 65(26.0%) | 25(10.0%) | 41(16.4%) | 39(15.6%) | 3.07 | 1.09 |
| **KCn7** | 96(38.4%) | 77(30.8%) | 14(5.6%) | 50(20.0%) | 13(5.2%) | 3.13 | 1.16 |
| Total Average Mean | | | | | | **3.24** | **1.21** |

**Key:** SA-Strongly Agree, A-Agree, N-Neutral, D-Disagree and SD-Strongly Disagree
**Source:** Survey data (2016).

The table reveals that knowledge conversion had a high mean=3.24, standard and deviation=1.21, with all the indicators rated above average influence average mean ranging between 2.89 and 3.81. The findings reveal that significant majority of 181 (72.4%) respondents held the view that knowledge conversion by socialization of the staff led to product designs and quality improvement.

This consensus registered a mean=3.81 and standard deviation=1.17) influence in contributing to sustainability of sugar companies. Similarly, 180 (72.0%) of the respondents agreed that internalization of knowledge has led to re-alignment of concepts and experiences that have improved the companies innovation. In addition, 174 (69.6%) of the respondents confirmed that knowledge conversion by integration of gathered skills and experiences by staff led to the company's improved creativity and innovativeness. The findings also

reveal that 153 (61.2%) of the respondents agreed that the companies have improved on response to social responsibilities obligations due to knowledge conversion by socialization, as indicated by a mean influence rate of 3.11 with a standard deviation of 1.28. On the same vein, 147 (58.8%) the respondents agreed that Knowledge conversion led the companies marked growth and development. With 120 (48.0%) of the managerial employees strongly acknowledged contribution of knowledge conversion by externalization in companies' ecosystem control110(44.0%) respondents however, rejected any role of Knowledge conversion by externalization in ecosystem management of sugar companies in Kenya.

**Inferential Statistics**

**Hypothesis Testing –Objective 4**

**$H_0$4:** *Knowledge Conversion has no statistical significant influence on sustainability of sugar companies in Kenya.*

To investigate whether there was any statistical significant influence of knowledge conversion on sustainability of sugar companies in Kenya, the null hypothesis was tested using Pearson Product Moment Correlation Coefficient analysis of the scores computed from frequency of responses in table 4.21. n The p-value was set at .05, where the null hypothesis was rejected when the p-value was less than .05 but it was accepted when the p-value obtained was greater than .05

**Table 4.24**
**Influence of Knowledge Conversion and Sustainability**

| | | Sustainability |
|---|---|---|
| Implementation of Knowledge Conversion | Pearson Correlation | .537** |
| | Sig. (2-tailed) | .000 |
| | N | 250 |

**correlation is significant at the .05 level (2-tailed)

The table indicates (r=.537, n=250, p<.05) between implementation of knowledge conversion and sustainability of sugar companies. It means that an increase in implementation of knowledge conversion will occasion an increase in sustainability of sugar companies may result and vice-versa.

Given that the relationship was statistically significant, the hypothesis that, "*there is no statically significant influence of implementation of knowledge conversion on sustainability of sugar companies*" was rejected. It was therefore concluded that implementation of knowledge conversion as an aspect of Knowledge Management Practices has positive influence on sustainability of sugar companies in Kenya.

To further illustrate this relationship, a scatter plot was generated as shown in Figure 4.9.

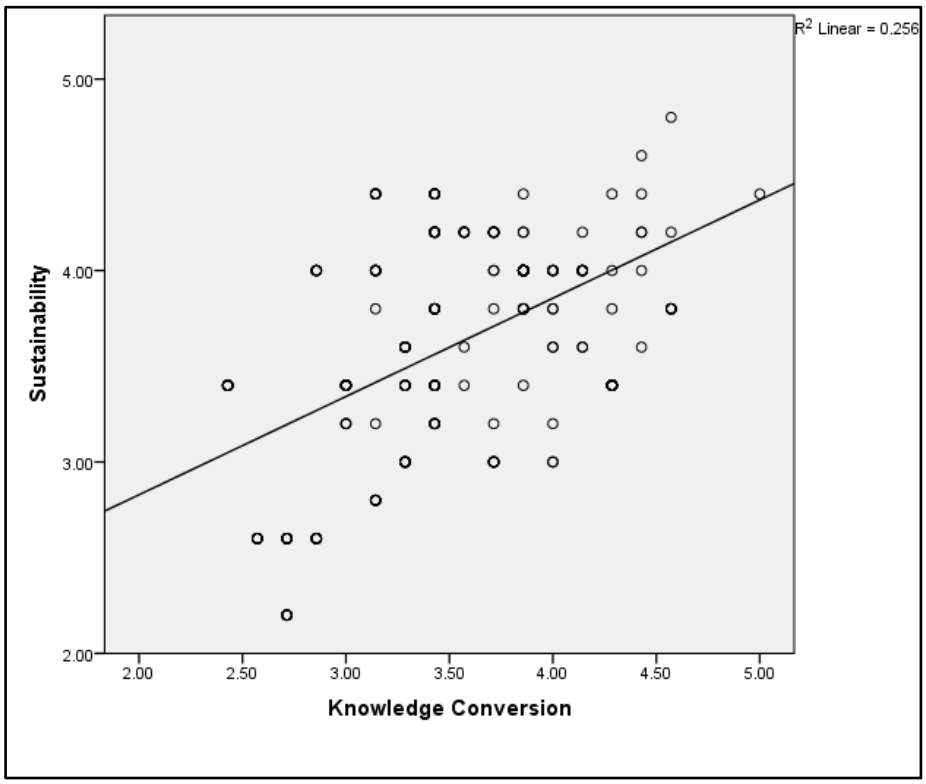



**Figure 4.9:** Knowledge Conversion and Sustainability

The pattern of dots slopes from lower left to upper right, suggesting that there is a positive correlation between the two variables. The finding reveals that there was some positive correlation between knowledge conversion and sustainability of sugar companies. However, to estimate the level of influence of implementation of knowledge conversion on sustainability of sugar industry, a coefficient of determination was calculated by use of regression analysis as shown in Table 4.22.

**Table 4.25 Model Summary on Regression Analysis of Influence Knowledge Conversion on Sustainability**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .537[a] | .289 | .286 | .5060 |

a. Predictors: (Constant), Knowledge Conversion

The table shows that for 28.9% ($R^2$ =.286).This implied that implementation of knowledge conversion accounted for 28.9% ($R^2$ =.286) of the variation in levels of sustainability of sugar companies in Kenya. However, to determine whether knowledge conversion was a significant predictor of sustainability of sugar companies, Analysis of Variance (ANOVA) was computed as shown in Table 4.23.

**Table 4.26 ANOVA –Influence of Knowledge Conversion on Sustainability**

| | Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 25.790 | 1 | 25.790 | 100.706 | .000[b] |
| | Residual | 63.510 | 248 | .256 | | |
| | Total | 89.299 | 249 | | | |

a. Dependent Variable: Sustainability
b. Predictors: (Constant), Knowledge Conversion

The table shows [F (1, 248) = 100.70, $p < .05$)] which clearly indicates that knowledge conversion was a significant predicator of sustainability of sugar. This means that knowledge conversion significantly influence sustainability. From the results it was clear that implementation of knowledge application accounts for a considerable amount of the variance in the level of sustainability of sugar companies in Kenya.

## V. Discussion on the Findings of the Study

**The Influence of Knowledge Conversion on Sustainability of Sugar Companies in Kenya.**

The fourth objective of the study was to establish influence of knowledge conversion on sustainability of sugar companies in Kenya. The views of the respondents on its influence on sustainability of sugar companies in Table 4 which evidently show that knowledge conversion had a high average score=3.24, standard deviation=1.21) influence on sustainability of sugar companies in Kenya, with all the indicators rated above average influence (average mean ranging between 2.89 and 3.81). The findings of the study show that a significant majority 181 (72.4%) of the respondents held that knowledge conversion by socialization of the companies staff led to product designs and quality improvement. This reflected the highest (mean=3.81, standard deviation=1.17) influence in contributing to sustainability of sugar companies, with a majority of the managerial employees who took part in the survey confirming that their company's growth are largely attributed to its efficient Knowledge conversion.

Similarly, nearly three quarters180 (72.0%) of the managerial employees agreed that internalization of knowledge has led to re-alignment of concept and experience that has improved their company's innovation. In addition, 174 (69.6%) of the respondents confirmed that knowledge conversion by integration of gathered skills and experiences by staff has led to the company's improved creativity and innovativeness, which by extension has translated to sustainability of sugar companies. This finding isn't in agreement with Scarborough (2003) who held that innovation is driven by knowledge conversion since it results from integration of tacit and explicit. He further pointed out that innovation can influence a firm's competitive advantage. Similarly, Cavusgil*et al.* (2003) observed that tacit knowledge is the bottom line in innovation and capable of positively influencing a firms improved performance through collaborative sharing of experiences by its staff in and outside wither firms to enhance knowledge diffusion. On the same vein, the findings of the study show that many 153 (61.2%) of the respondents agreements that their companies have generally improved on response to social responsibilities due to knowledge conversion by socialization, as indicated by a mean influence rate of 3.11 with a standard deviation of 1.28.

This finding concurs with Nonaka& Krogh (2009) who had pointed out that knowledge conversion is basic to an organization since it's capable of helping it to provide solutions to its problems as the employees socialize, externalize, internalize and integrate knowledge.

It is common knowledge that organizations problems are problems of performance, growth and sustainability, implying that knowledge conversion may provide a firms performance and sustainability problems by influencing the company's profitability and growth, which are prerequisite conditions for sustainability of a firm. This implies that for affirm to perform better it has to convert its knowledge in the creation of products and ideas that are able to give it a competitive edge in the market, generate financial benefits with which it can address social responsibility initiatives such as ecosystem integrity. In support to the findings of sscholars such as Choi & Lee (2002) and Sabherwal & Sabherwal (2005) who had acknowledged that knowledge conversion has fundamental bearing on organization performance, the findings of this study has established that Knowledge conversion has made most of the companies to record marked growth and development. For example, nearly three out of five 147 (58.8%) of the managerial employees who were sampled for the study asserted that their organizations have registered remarkable growth and development, which they attributed to implementation of knowledge conversion.

This finding also concurs with Montoya-Weiss (2006) who had confirmed the consensus that understanding conversion model may help organizations to provide solutions to their problems and perform their tasks and actions correctly. On the same note, Becerra- Fernandez (2003) had also posited in a similar fashion that that knowledge conversion can build the capacity of an organization to implement newly acquired skills and experiences to improve its performances and undertakings in innovation.

On the flip flop, the managerial employees were sharply divided in opinion on knowledge conversion by externalization. For instance, although 120 (48.0%) of the managerial employees who took part in the survey held a strong opinion that knowledge conversion by externalization has led to their companies' ecosystem control, another sizeable proportion 110(44.0%) strongly rejected the assertion that knowledge conversion by externalization has led to their companies' ecosystem control.

This finding partly agrees to the views held by Nonaka *et al.,* (2000) on externalization that it is an aspect of knowledge conversion that help an organization in setting its rules and policies for attaining its goals. These scholars were of the opinion that it is through externalization that an organization authenticates the processes of articulating tacit into explicit knowledge, through documentation of reports that becomes reference in implementation of new concepts in innovation.

To establish whether there was any statistical significant influence of knowledge conversion on sustainability of sugar companies in Kenya, the null hypothesis was tested. This was done by use of a Pearson Product Moment Correlation Coefficient analysis, using the scores computed from frequency of responses in table 4.19. The finding in this table shows that there was statistically significant, moderately positive

correlation (r=.537, n=250, p<.05) between implementation of knowledge conversion and sustainability of sugar companies, with increase in implementation of knowledge conversion occasioning an increase in sustainability of sugar companies may result and vice-versa.

Given that the relationship was statistically significant, the hypothesis that, "there is no statically significant influence of implementation of knowledge conversion on sustainability of sugar companies" was rejected. It was therefore concluded that implementation of knowledge conversion as an aspect of KMPs' has positive influence on sustainability of sugar companies in Kenya.

To further illustrate this relationship, a scatter plot was generated as shown in Figure 4.5 which reveals that there was some positive correlation between knowledge conversion and sustainability of sugar companies. The pattern of dots slopes from lower left to upper right, suggesting that there is a positive correlation between the two variables. The slope of trend line reveals that there is correlation between the two variables as the scatters appear to concentrate along the trend line, meaning that the relationship was not by chance.

However, to estimate the level of influence of implementation of knowledge conversion on sustainability of sugar industry, a coefficient of determination was calculated by use of regression analysis as shown in Table 4.25.

From the Table it is evident that implementation of knowledge conversion explained for 28.9% ($R^2$ =.286) of the variation in levels of sustainability of sugar companies in Kenya. However, to determine whether knowledge conversion was a significant predictor of sustainability of sugar companies, ANOVA was computed as shown in Table 4.25 showing [F (1, 248) = 100.706, p < .05)] which confirms more vividly that knowledge conversion was a significant predicator of sustainability of sugar companies. This further indicates that knowledge conversion significantly influence sustainability. From the results it was clear that implementation of knowledge application accounts for a considerable amount of the variance in the level of sustainability of sugar companies in Kenya.

**Level of Sustainability of Sugar Companies in Kenya**

The study investigated the level of sustainability in sugar industries in Kenya since it was the dependent variable. From the findings in table 4.8 it is evident that the sugar companies in Kenya with mean=3.37 and standard deviation=0.83 have moderate sustainable growth. Some of the managerial staff whose views were taken rated indicators of sustainability between 2.87 to 3.92.It emerged that nearly two thirds 160 (64.0%) of the respondents accepted that there has been improved growth of their company over the years, which they argue was reflected in their company's ability to assist the community in maintaining and improving their natural resources.

This finding of the study concurs with DETR (2000) who had argued that sustainability is all about guaranteeing quality life through social progress while meeting people's needs, protecting environment, ensuring prudent use of natural resources and maintaining stable economic growth and empowerment. Similarly, 150 (60.0%) of respondents affirmed that their company had registered expansion of product market in the recent years. In addition to expansion of product markets, the findings of the study established that there has been product diversification in the sugar companies signifying growth of the companies, as indicated by 158 (63.2%) of the employees who took part in the survey.

Only 40 (16.0%) of the respondent did not believe that their company had registered any significant improvement. However, it was established that many of the sugar companies have made efforts to withstand competition resulting from liberalized market**.** This was confirmed by 150 (60.0%) of the managerial employees who believed that many of the sugar companies have tried to counter the effects of liberation of the sugar market. These findings are supported by Lu, Wang, Tung & Lin (2010) who believe that firms facing stiff competition ought to increase their value creation processes to attain competitive advantage.

On the contrary, some respondents believed that their company had not acquired adequate level of sustainability. For example, whereas majority of the respondents believe their company enjoy product diversification which signifying growth of the company, 70 (28.0%) of respondent disputed the assertion that their company enjoy product diversification. On the same note, 69 (26.4%) of the respondents said their company had not made enough efforts to withstand competition occasioned by the liberalization in the sugar industry. In fact, 68 (27.2%) respondents alluded that their company had not registered any expansion of product market in the recent years.

## VI. Summary, Conclusion And Recommendations

**Summary**

**Knowledge Conversion on Sustainability of Sugar Companies in Kenya.**

The findings reveals that Knowledge conversion had statistical significant, however it is moderately positive correlation (r=.537, n=250, p<.05) implying that increase in implementation of knowledge conversion

programs leads to corresponding increase in sustainability. The assertion is further confirmed by scatter plot showing scatters appearing to concentrate along the trend line disputing hypothesis that it has no statistical significant influence to sustainability since its showing positive relationship.

A regression analysis table 4.25, Knowledge conversion is capable of influencing sustainability by 28.6% ($R^2$ = .28.6) as ANOVA also shows F[ (1, 248)=100.706,p< .05) confirming it significantly influence sustainability.

**Conclusions of the study**

Knowledge conversion has significant influence to sustainability and the companies' needs to improve on their knowledge conversion strategies aimed at developing new products to achieve triple bottom line (TBL)-economic, social and ecological benefits that would fast track the sugar companies to growth and sustainability**.**

**Recommendations**

i). The government should subsidize the operations of sugar companies and in their attempts to procure modern processing technologies to enhance their knowledge conversion programs focused at product development.

ii).The Companies should encourage benchmarking to expose personnel's into vast knowledge conversion experiences as this provide unlimited source of knowledge that enhances creativity and innovativeness. The Management should ensure employees' retention programs in order to sustain level of motivation and knowledge conversion for fast growth and sustainability of the companies.

**For Further Research.**

The study suggests further research on influence of Knowledge conversion' with intermediation of government policies on sustainability of both private and state owned sugar companies in Kenya.

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