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INFORMATION TECHNOLOGY SKILLS AND FIRM PERFORMANCE OF KENYA TEA PRODUCERS COMPANIES

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ABSTRACT

The study sought to examine the influence of information technology skills on performance of Tea Producers companies in Kenya. The study reviewed theoretical and empirical literature relevant to the role of Information Technology skills on performance of Tea Producers companies in Kenya. The conceptual framework was discussed to show the relationship between Information Technology skills and firm performance (dependent variable). The philosophy that guided the research is positivism philosophy. This philosophy involves the use of existing theories to develop hypothesis to be tested during the research process. This allowed the study to come up with various assumptions. The study used cross-sectional survey design to establish the role of Information Technology strategic alignment on performance of Tea Producers companies in Kenya. The study also used both qualitative and quantitative mixed methods. The target population was tea producers' companies who are EATTA members from Kenya. This is because it is likely that the players have relevant and accurate information needed in this study. The study considered all 29 tea producers' members of the East Africa Tea Trade Association (EATTA). Respondents' population comprised of six top managers from each organization translating to 174 top managers. The sample size was 121 top managers. They were targeted because top managers of organizations mostly handle strategic management issues. Purposive sampling technique was used to select respondents. The study mainly relied on primary data. The study used a questionnaire with diverse set of questions for the respondent to answer. A pilot study was carried out in order to ascertain the validity and reliability of the questionnaire. The study concludes that information technology skills have a positive and statistically significant influence on performance of Tea Producers companies in Kenya. Findings revealed that cross-training, encouraging innovation and providing employment opportunities influences performance of Tea Producers companies in Kenya. This implies that a unit improvement in information technology skills would lead to improvement in performance of Tea Producers companies in Kenya. Based on the findings, this study recommends that the management of tea Producer companies should formulate and implement effect employee training programs to improve their IT skills.

Key Words: Information Technology skills, Performance of Tea Producers Companies

Background of the Study

Information technology has become a strategic weapon in the fast-changing environment of business. IT-business strategic alignment is the fit between IT strategy and business strategy in organizations (Henderson, 1999). Strategic alignment helps organizations use their IT resources effectively to support their business strategies, thus enables them to maximize the impact of their IT investments, integrate IT and business processes, and increase competitiveness, revenue growth, and profitability (Henderson, 1999; Alter, 2005; Pearlman & Baker, 2005; Byrd et al, 2006; Coltman, 2015). However, despite the importance and potential benefits of the alignment, the number of organizations that successfully achieve such alignment is shown to be considerably small (Hinkelmann & Pasquini, 2014).

An organizational ability to maintain a competitive advantage is determined by the capacity to acquire and deploy resources which are coherent with the organization's competitive needs (Parto, Sofian, & Saat, 2016). Beffers (2018) posited that firms could improve their performance through alignment with the business environment and internal alignment with both resources and infrastructure. Therefore, strategic alignment is critical for organizational effectiveness and efficient resource use. According to Benbya, Nan, Tanriverdi, and Yoo (2020), a tight integration between IT and business strategies result in reduced strategic flexibility and inability to react effectively to environmental changes. Schallmo and Brecht (2016), found that some companies fall into an "alignment trap" where seemingly high levels of IT-business alignment did not lead to organizational effectiveness and enhanced performance.

Early motivation for alignment emerged from a focus on strategic business planning and long-range IT planning in the early 1980s (Beffers & de Waal, 2018). From a business perspective, planning was characterized as a top-down and a bottom-up process, and departmental (e.g., IT) plans were created in support of corporate strategies (Liang, Chiu, Wu, & Straub, 2011). From an IT perspective, decisions on hardware and software have such long-term implications that tying them to current and future plans of the organizational unit is a practical necessity. Alignment between Information and Communications Technology (ICT) and business is an indicator of high performing organizations (Wu et al., 2015).

Information technology (IT) skills refer to a set of competencies and knowledge areas that individuals possess to effectively work with, manage, and contribute to various aspects of information technology. These skills cover a broad range of technical and non-technical abilities required to navigate the complex and dynamic field of IT. Technical IT skills may include programming, database management, networking, cybersecurity, system administration, and proficiency in specific software and tools. Non-technical skills often encompass project management, problem-solving, communication, teamwork, and adaptability, which are essential for IT professionals to effectively collaborate, innovate, and address the challenges presented in the ever-evolving landscape of technology (Belalcázar Villamar, Díaz, & Molinari, 2016)

Information technology (IT) skills are crucial in today's rapidly evolving digital landscape, playing a pivotal role in shaping the modern workforce. Proficiency in programming languages such as Python, Java, and C++ is fundamental for software development, enabling IT professionals to create innovative solutions and applications. Database management skills, encompassing knowledge of SQL and data modeling, are essential for efficiently organizing and retrieving information. Networking skills are vital for designing, implementing, and maintaining robust communication infrastructures, ensuring seamless connectivity and data transfer. Cybersecurity expertise is in high demand to protect sensitive information from cyber threats, requiring a deep understanding of encryption, firewalls, and risk assessment. Cloud computing skills, including

familiarity with platforms like AWS, Azure, and Google Cloud, enable organizations to leverage scalable and flexible resources (Coltman, *et al*, 2015).

Over the years, scientific and technological advances have been achieved via various innovative approaches put forward across the globe, which in turn translated into more productive economic activity. This is due to the application of advances in technology, in conjunction with and innovative approaches to the creation and delivery of goods and services (Porter & Kramer, 2019). Information technology often entails large capital investments in organizations (Almajali & Dahalin, 2011; Berghout & Tan, 2013; Renaud, Walsh, & Kalika, 2016). Both UNESCO and the World Bank actively encourage and assist governments in applying IT to their various public agencies (Kapur, Lewis, & Webb, 2011). For example, the UNESCO Institute of Information Technologies in Education (IITE) supports the reinforcement of national capacities in ICT policy development for the education of people with disabilities (Kotsik, Tokareva, Boutin, & Chinien, 2009).

The Ministry of Work and Pensions in United Kingdom (UK) has wasted more than two billion pounds by abandoning three major projects since 2000 and the net cost of a gun registry in Canadian government is 500 times the original estimate, with IT representing over 25 per cent of that cost (Zehry, Halder, & Theodosiou, 2011). According to the UK's Daily Mail (2020), the UK's National Health Service (NHS) project was financed to digitize patient records in addition to linking all of the different parts of the NHS but was deemed a failure. It cost approximately £20.1 billion, the largest IT project failure of its kind in the world. Likewise, the Australian Federal Government invested heavily in IT/IS with programs such as Networking the Nation (AU$77 million), Building on IT Strengths (AU$2.9 billion), and Backing Australia's Ability (AU$464 million) (ALIA, 2003). Overall, Australian organizations spent AU$20 billion on IT services in 2003 (Gartner 2004).

The tea (Camelia sinensis) history in Kenya can be traced back to 1903 when G.W. L, Caine, a European settler introduced the first seedlings from India and planted them in Limuru near Nairobi (Tea Board of Kenya, 2012). The commercial cultivation of tea began in 1924 and remained exclusive activities of the colonialists until 1956 when African farmers were allowed to start growing tea. The producers of the Kenyan tea are the small-scale farmers and large-scale producers mainly the Multinationals. The small-scale producers are all managed Kenya Tea Development Agency (KTDA) which is the management agency of the small-scale farmers. Small-scale farmers' account for about 60% of Kenya's total tea production and about 6% of global tea production (Omari, 2015).

Kenyan tea is manufactured as black CTC (Cut, Tear and Curl). The processed tea is both in primary and secondary grades. The primary grades include Broken Pekoe 1 (BP1), Pekoe Fanning 1 (PF1), Pekoe Dust (PD) and Dust 1 (D1) while the secondary grades are Fanning 1 (F1), Dust (D) and Broken Mixed Fanning (BMF) (KTDA, 2014). KTDA oversees the collection, processing and selling of processed tea both locally and internationally as well as facilitation of small–scale farmers payments. Large-scale producers of Kenyan tea include Brooke Bond, George Williamson, Eastern Produce and African Highlands. Unlike small-scale farmers, large-scale growers are responsible for processing and marketing of their own crop (Mbui, 2016).

The Kenyan tea industry over-relies on external markets, which faces global competition from other countries that produce black CTC tea. The external markets experience depressed world tea prices, over supply of tea due to declining demand, restrictions imposed by regional and global trading agreements and changing consumer tastes and preferences (Lenore & Geffen, 2012). Kenyan tea is mainly traded through auction by the East African Tea Trade Association (EATTA) which was established in 1957 to facilitate tea auctions for the country (National Tea Policy, March 2014). EATTA is the apex body representing the Tea Industry in Africa. The membership comprises of tea producers, buyers, brokers, warehousemen and packers and it is the largest black CTC auction centre in the world (Mudibo, 2014). The tea industry contributes 4% of Kenya's

Gross Domestic Product (GDP) and 10% of Agricultural Gross Domestic Product (Tea Board of Kenya, 2018).

In 2009, as demonstrated by the Tea Board of Kenya; Kenya was the highest tea exporter at 25.4%, hence earning highest foreign exchange. The government of Kenya lists tea industry as one of the pillars of realizing the government's Vision 2030. Kenya's tea annual production is approximately three hundred and fifty thousand tons, which is 10% of the total world tea production (Tea Board of Kenya, 2019). The main market destinations for Kenyan tea are Pakistan, Egypt, United Kingdom, Sudan and Afghanistan among others accounting for about 71% of the total export volume. The rest of the tea is exported to over 60 market destinations world-wide. The domestic market is limited and accounts for only about 5% of total production (Tea Directorate, 2020). Kenyan tea lacks visibility in the global market as it is sold as a blend and not as an original tea. This makes the traceability of the Kenyan Tea in the International Markets unnoticeable making it lose the competitiveness in the global market (KTDA, 2019).

Omari (2015) indicated that although Kenya is the 3rd largest producer of black CTC tea it leads in exportation too an indication that local consumption is low compared to China, India and Sri Lanka. This over-reliance on foreign markets affects Kenya's export performance. About 95 percent of the tea produced in Kenya is exported. This adds up to over 50 countries importing Kenyan tea. Kenya's major markets for tea include Pakistan, Egypt, United Kingdom, Afghanistan, Sudan, Russia Federation, Tunisia, Libya and Yemen. Smallholders grow over 60 percent of Kenyan tea. The second largest share comes from estates owned by multinational corporations, and locally owned estates make up the remainder. Over 84% of Kenya tea is sold through the Mombasa auction, which is the second largest tea auction in the world. Brokers offer teas at the auction on behalf of the producers. Buyers who export the tea bought, bid against themselves with the highest bidders buying the whole lot bid for, resulting in direct feedback of market prices to factories and farmers.

Statement of the Problem

According to Gerow et al. (2015); Luftman & Ben-Zvi (2018); Orozco et al. (2019), strategic alignment enables an organization to realize value from the heavy Information Technology investments and dedicate critical IT resources to the core areas which in turn helps in addressing business challenges and improve business value (Chau et al., 2020). Nonetheless, research, which has been carried on manufacturing and producer companies in Kenya, indicate that the firms did fully implement Information Technology, but their performance did not increase with a high margin (Ellis, 2019 and K'Aol, 2018). External factors have been cited. Such factors include markets and infrastructure (Johnson, 2014; Akoten et al., 2006 and Ellis, 2019).

This has been done despite the known fact that businesses operate within external and internal environments. Internal domains of the business environment have not been exhaustively examined. The least investigated aspects of this internal are how dynamics of information technology strategic alignment such as communications, IT Governance, Value, Partnership, Technology Scope, and Skills have been used to develop and improve organizational performance, hence a problem for continued research (Chou et al., 2015; Yayla & Hu, 2019; Tallon & Kraemer, 2017; Croteau et al., 2017).

The Production firms in Kenya have been recording a decline in performance over the past two decades (Mwangi, 2020). While the tea industry was the second largest GDP contributor in the country, in the year 2000, it is now ranked third. Moreover, the share of the sector to the GDP has seen a declining trend. The Tea sector in Kenya, contributed on average 60% of the foreign exchange earnings up to the year 2018 when its contribution dropped to 25% (Machuki, 2019). Despite the considerably large investments in IT by production firms, only a few studies on this topic have revealed the desired positive impact (Schwarz, Kalika, Kefi, & Schwarz, 2010; Wong, Ngan, Chan, & Chong, 2012). Due to this fact, and due to the recent global economic recessions,

there is an increased pressure by senior management to reduce IT spending and to simultaneously increase the business value from IT (Coleman & Chatfield, 2011). A majority of productivity indicators point to a stagnating productivity growth or even a productivity slowdown at the aggregate level (DeJager, 2015; Almajali & Dahalin, 2011). The tea industry contributes 4% of Kenya's Gross Domestic Product (GDP) and 15% of Agricultural Gross Domestic Product (Tea Board of Kenya, 2022). This study seeks to establish the role of Information Technology skills on performance of Tea Producers companies in Kenya

General Objective

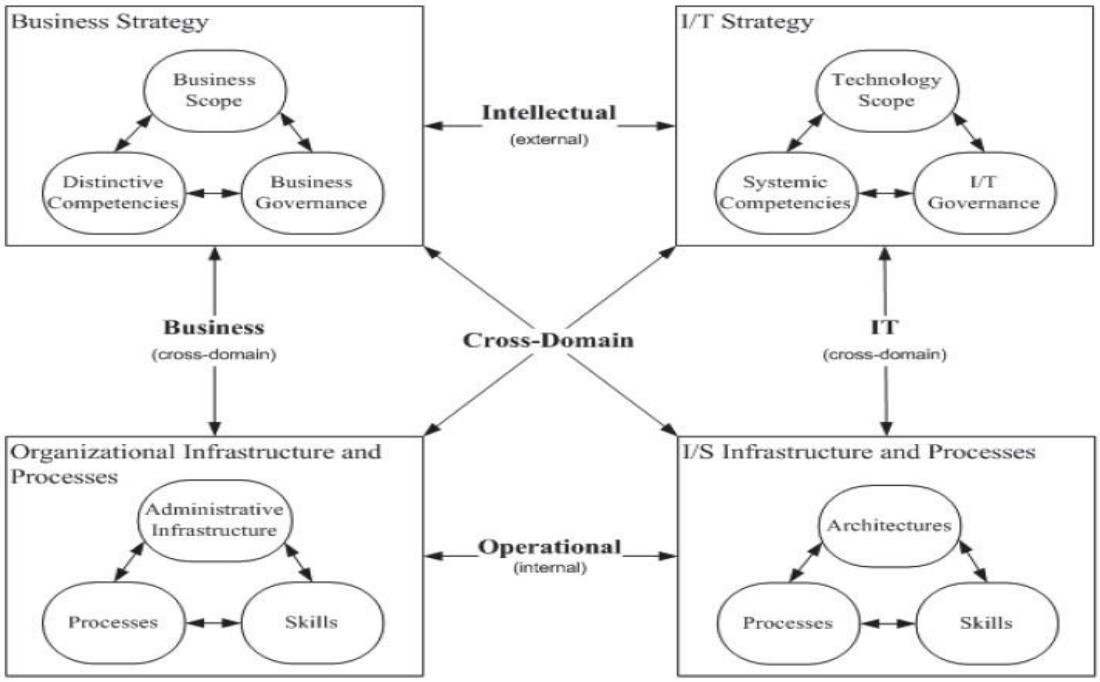
To examine the role of Information Technology skills on performance of Tea Producers companies in Kenya

Theoretical Framework

Strategic Alignment Model

Henderson and Venkatraman developed the SAM in 1993. It is a holistic framework that envisions organizations and their IT as having internal (infrastructure and operations) and external (strategy) components. Internal domain encompasses alignment between business and IT infrastructures, while external domain encompasses alignment between business and IT strategies. Henderson and Venkatraman (1993) also defined the cross-domain link, which encompasses the relationships between IT strategy and business infrastructure and vice versa. This creates six types of IT-business alignment. Intellectual alignment refers to the link between business and IT strategies (external link) and denotes the degree to which the mission, objectives, and plans contained in the business strategy are shared and supported by the IS strategy" (Chan et al. 2006). Operational alignment refers to the link between organizational and IT infrastructures and operations and denotes integration between organizational policies, procedures, and systems with IT architectures and processes (Henderson & Venkatraman, 1999). Finally, cross-domain alignment focuses on "the degree of fit and integration among business strategy, IT strategy, business infrastructure, and IT infrastructure" (Chan & Reich 2007). It recognizes "multivariate relationships" between all four components of business and IT dimensions (Henderson & Venkatraman, 1999).

Figure 2.1 Strategic Alignment Model



SAM was named the "jewel in the crown" from the theoretical developments of IT-business alignment in the 1990s (MacDonald & Yapp. 1994). The major theoretical contribution of SAM is that it was the first one to look at the IT-business alignment as a continuous, dynamic process involving different variables (Gerow et al., 2015). Studies showed that SAM constructs manage to accurately predict alignment and that SAM is empirically testable (Avison et al., 2004; Cooper et al., 2000; Gerow et al., 2015). In a meta-analysis of studies applying SAM framework, Gerow et al. (2015) found that all alignment constructs predict better performance although to different degrees. This suggests that SAM has both theoretical and practical viability in measuring IT-business alignment and measuring its effect on organizational performance.

Henderson and Venkatraman (1993) posited that the definition of strategic alignment consists of two dimensions that are represented in the two concepts; the "Strategic Fit" & "Functional Integration". The "Strategic Fit" represents the vertical relationship of the strategic alignment framework, and the "Functional Integration" represents the horizontal relationship of the strategic alignment framework developed by Henderson and Venkatraman (Henderson and Venkatraman, 1993). Strategic Fit identifies the need to manage choices that both position the enterprise in an external marketplace and decide how to best structure internal arrangements of the enterprise to execute this market-positioning strategy. Those choices that position the enterprise in a market are referred to a business strategy, and those choices that determine the internal structure of the enterprise as an organizational infrastructure & processes (Belalcázar Villamar et al., 2016).

Performance of the enterprise is defined by the extent to which the choices consist of these two strategies are consistent, and as business strategies change, organizational processes are required to keep pace (Goepp & Avila, 2015). Similarly, for the IT strategy and it's IS/IT infrastructure & processes as the with business strategy, the vertical choices between IT strategy and it's IS/IT infrastructure and processes are required to be consistent (Tafti, Abdolvand, & Harandi, 2019). Using IT resources properly to enhance these vertical choices provides the opportunity for strategic advantages to the firm (Henderson and Venkatraman, 1991 & 1993; Luftman et al. 1993).

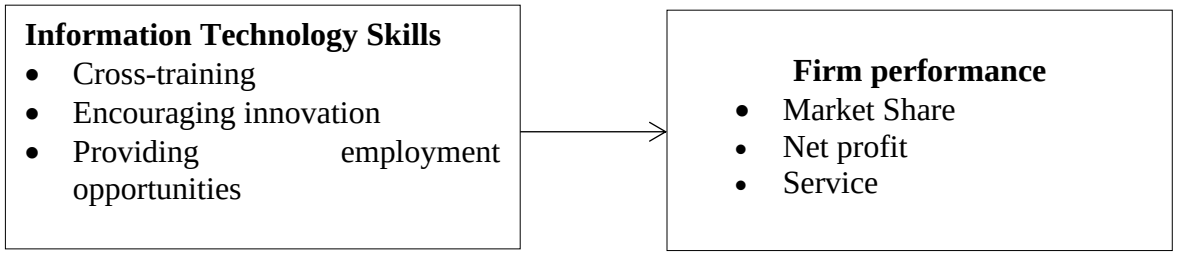
A conceptual framework to identify the concept of strategic fit has been proposed by Henderson and Venkatraman (1993), that included six distinct perspectives of the concept fit in strategic management, which has been identified and described to map fit as (a) moderation, (b) mediation, (c) matching, (d) gestalts, (e) profile deviation, and (f) covariation. Each of these interpretations has its theoretical and analytical implications. The proposed framework by Henderson and Venkatraman (1993), categorizes each perspective along three dimensions: the degree of specificity of the functional form of fit, the number of variables in the equation, and the presence or absence of a criteria variable. These six perspectives have been classified in two classificatory schemes that are represented in 'bivariate fit' and 'systems fit' where the bivariate fit scheme includes moderation, mediation and match, and systems fit scheme includes covariance, profile deviation, and gestalts (Bhattacharya, 2018).

Four different perspectives of business-IT strategic alignment have been identified that address the cross-domain relationships or to recognize the multivariate relationships that occur when strategic fit and functional integration in the SAM model is assessed simultaneously (Wetering, Mikalef, & Pateli, 2017). These four strategic perspectives are the strategy execution perspective, the technology potential perspective, competitive potential perspective, the service level perspective. These perspectives are classified in two categories that includes business strategy as the driver that includes strategy execution perspective and the technology potential perspective; and the second category is IT strategy as the enabler that includes the competitive potential perspective and the service level perspective (Henderson and Venkatraman, 1991 & 1993; Luftman et al 1993). Each perspective consists of three components, which shows an interplay among three key domains shaping what would appear as a triangle. The components in that triangle are anchor, pivot, and area of impact. The anchor represents the strongest area of the business. It directs the change that business goes through based on the perspective. The pivot represents the weak area that subjects

to change through the re-alignment. The area of impact represents the area that will be directly affected through the changes made in the pivot area through realignment (Henderson and Venkatraman 1991; Luftman et al. 1993; Coleman & Papp, 2006).

When the IT strategy provides the change forces in the SAM model it serves as the IT enabler applied to the domain to enable new or enhance business strategies with organizational implications. It has two cross-domain relationships that represented in competitive potential perspective and service level perspective (Henderson and Venkatraman, 1993; Luftman et al. 1993). The Strategic Alignment Model is relevant in this study because it discusses the several aspects of strategic alignment and how IT can be implemented to improve performance.

Conceptual Framework



Independent Variables **Dependent Variable**

Empirical Review

Information Technology Skills

IT Skills Development captures critical human resource activities, such as hiring, retention, training, performance feedback, innovation encouragement, career opportunities, and individual skill development. It also covers activities that promote to IT organization's readiness for change, learning, and ability to leverage new ideas. Tippins and Sohi (2003) defines IT skills and abilities to how the organization employs such technologies to control its information successfully. Whereas IT is a common word used primarily for programs, computers and telecommunications, it applies to the usage of the competence to meet the company's information requirements when applying to such technologies (Mithas et al., 2011).

IT competence has gained new urgent significance in terms of competency concerning the resources and procedures used to manage information, despite the growing value of information in the world marketplace of today (Spraakman, O'Grady, Askarany, & Akroyd, 2015). Competences are inimitable from a resource-based point of view owing to the uncommon emergence of resources that has no interest in a single market setting. The competitive advantage could be founded on this inimitability (Sabin, Alrumaih, & Impagliazzo, 2018). Therefore, organizations with higher IT skills are deemed superior in the management of the 'invisible assets' that establish market leadership (Pérez-López & Alegre, 2012). From their marketing literature (Glazer, 1991), strategy (Hinkelmann & Pasquini, 2014) and IT (Cui, Ye, Teo, & Li, 2015) they build IT competencies to allow an IT firm competent and efficient at managing information within a business. It is believed that businesses include IT-objects (e.g. applications, equipment, and IT staff) even in this understanding of the concept. Capabilities are the specific skills needed to achieve competitive leadership. They are dynamic and give the organization an ability to adapt to changing market conditions. Supporting business capabilities allows IT to respond flexibly to essential business needs (Belete & Hagos, 2020).

RESEARCH METHODOLOGY

Research Philosophy

The philosophy that guided the research is positivism philosophy. This philosophy involves the use of existing theories to develop hypothesis to be tested during the research process. This allows the study to come up with various assumptions. Kothari (2011) advised that positivism philosophy adhere to the view that only factual knowledge gained through observation including measurement is trustworthy. Further, the role of the researcher is limited to data collection and interpretation in an objective way. Saunders et al. (2009) affirms that positivism depends on quantifiable observations that lead to statistical analysis.

Research Design

According to Waiganjo (2013), the purpose of research design is to guide data collection and analysis as well as acquire answers to different questions. Research design is a plan and procedure for research that span the decisions ranging from broad postulations to detailed methods of data collection and analysis (Creswell, 2014). The study used cross-sectional survey design to establish the role of Information Technology strategic alignment on performance of Tea Producers companies in Kenya. A cross-sectional survey research design enables collection of data about a given phenomenon within a limited time horizon which can help describe incidences of events or provide an explanation of factors related to an organization or industry (Saunders, 2013; Theuri 2015).

A cross-sectional survey research design is useful in overcoming time and budget constraints (Theuri, 2015). Brusco (2012) informed that a cross-sectional survey design is cost effective per respondent in comparison to other methods as it employs easier method of data collection. The design allows the study to have a much larger sample size thus promoting the accuracy of the conclusions arrived at and data obtained. This design is appropriate because tea industry is a multi-stakeholder industry. The study also used both qualitative and quantitative mixed methods.

Target Population

A target population consists of a group of events, people or items of interest with a common recognizable trait (Kothari, 2012). The target population was tea producers' companies who are EATTA members from Kenya. This is because it is likely that the players have relevant and accurate information needed in this study. The population consists of all 29 tea producers' members of the East Africa Tea Trade Association (EATTA). Respondents' population comprised of six top managers from each organization translating to 174 top managers. The top managers were targeted because top managers of organizations mostly handle strategic management issues.

Sampling Frame

The sampling frame describes the list of all population units from which the sample is selected (Cooper & Schindler, 2003). Sampling frame is a physical representation of the target population and comprises all the units that are potential members of a sample (Kothari, 2008). Sampling frame enables the researcher to draw reasonably adequate random sample where all members of the population of interest gets an equal chance of being selected for the sample (Ng'ethe, 2013). The sampling frame for this study consisted of a list of all 29 tea producers EATTA members from Kenya shown in Appendix IV.

Sample Size

A sample is a subset of the population of interest (Mugenda & Mugenda, 2003). Respondents' population comprised of six top managers from each organization translating to 174 top managers. The top managers were targeted because top managers of organizations mostly handle strategic management issues. Sekaran and Bougie (2010), suggested that a sample size larger than 30 and less than 500 is deemed appropriate for most research. Slovin's formula (1960) was applied as illustrated:

n = N/ (1+Ne2),

Where;

n = Sample Size

N = Total Population

e = Error of Tolerance with a confidence level of 95 % (giving a margin error of 0.05)

n = 174 / (1+ 174*0.05*0.05) = 121

Hence, the sample size was 121.

Purposive sampling technique was used to select top managers of the 29 tea producers company. According to Bryman (2012); Saunders et al. (2009), purposeful sampling is appropriate when the researcher intends to select informative.

Data Collection Instruments

The study used a questionnaire with diverse set of questions for the respondent to answer. Secondary sources also suggest problem formulations and further research directions and allows the researcher to address issues and detect gaps in existing literature regarding different segments of this research area. Secondary data included the evaluation of results of other people's primary data collection as reported in a wide variety of formats, such as company annual report, technical manuals, government and trade body publications, books and journals. This study made reference to books, articles and database under FAO (Food and Agriculture Organization of United Nations) to obtain the current and authentic data of tea production, consumption, volume and trade as well as related studies on Information Technology strategic alignment and firm performance.

Pilot Study

A pilot study was carried out in order to ascertain the validity and reliability of the questionnaire. The subjects participating in the pilot study were not included in the final study to avoid research fatigue and response biasness. Questionnaires were administered to three top managers from four (4) tea producer companies out of the 29 EATTA member companies in Kenya, giving a respondent number of twelve (12) top managers. This represents 10 % of the study sample. Kothari (2014) considered a sample size of between 10% and 20% of the sample size for the actual study to be reasonable. The Companies were randomly selected.

Data Analysis and Presentation

Data analysis process involves examining the data after collection to ensure its completeness, consistency and usability. Once data is attained through questionnaires, it was organized and prepared for analysis using Statistical Package for Social Sciences (SPSS) version 23. The statistics generated included frequencies, descriptive and inferential statistics. Microsoft excel was used to complement SPSS where necessary. Descriptive statistics in the form of means and standard deviations was computed on the Information Technology strategic alignment and performance measurement scales to provide an initial outline of the distribution of the participants' responses on these variables as well as gauging the respondents' attitudes regarding their extent of agreement or disagreement on the construct measurement items.

To draw conclusions about a population based on a regression analysis performed on sample data, testing the underlying assumptions for multiple regression analysis is significantly essential, given the complication of the relationship between variables (Hair *et al*., 2010). The study carried out normality, autocorrelation and multicollinearity tests. The test for normality was conducted to ascertain whether the data collected and used in the analysis is normally distributed. Normality test was undertaken through use of Shapiro-Wilk tests. Hair et al. (2006) stated that normality is the most basic assumption in multivariate analysis. Assumption of normality refers to the shape of the data distribution for an individual metric variable and its correspondence to the normal

distribution, the benchmark for statistical methods (Hair *et al.*, 2006). Normality in the data is often a conventional assumption in the estimation process (Bai, 2005).

Test for Autocorrelation was also carried out to establish how independent variables correlate with each other and the effect of the relationship amongst the variables. Multicollinearity was determined by the level of Variance Inflating Factor (VIF) and Tolerance.

Multiple regression model was used to test the significance of the influence of the predictor variables on the dependent variable. Valipour et al. (2012) used regression model in the study on the effect of cost leadership and product differentiation strategies on firm performance in India. Pawaskar (2009) also applied this model to test hypothesis of diversification and performance improvement in Malaysia firms. The regression results on how Information Technology communications, and IT Skills performance of tea producers was also demonstrated.

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Descriptive Statistics Analysis

Information Technology skills and Firm Performance

The first specific objective of the study was to establish the role of Information Technology skills on performance of Tea Producers companies in Kenya. The respondents were requested to indicate their level of agreement on various statements relating to information technology skills and performance of Tea Producers companies in Kenya. A 5 point Likert scale was used where 1 symbolized strongly disagree, 2 symbolized disagree, 3 symbolized neutral, 4 symbolized agree and 5 symbolized strongly agree. The results were as presented in Table 4.1.

Table 4. 1: Information Technology skills and Firm Performance

	Mean	Std. Dev.
Innovation is strongly encouraged at the functional unit, corporate level, and with business partners/alliances	3.986	0.708
Top management makes our important IT decisions across the organization with equal influence from our business partners/alliances.	3.978	0.925
Change readiness programs are in place at the corporate level and we are proactive and anticipate change.	3.962	0.821
Job transfers regularly occur for all position levels not only within the functional units but also at the organizational level.	3.938	0.809
Education and cross training are practiced across the organization, and with business partners/alliances.	3.910	0.981
Trust and confidence that exist across IT and business units in our organization, is extended to external customers and partners.	3.908	0.879
Effective programs are in place to attract and retain the best IT professionals with both technical and business skills	3.894	0.728
Our primary systems are business strategy enablers/drivers (IT is a catalyst for changes in the business strategy)	3.876	0.915
Our IT standards are defined and enforced across functional units, and with joint coordination among our strategic business partners/alliances	3.854	0.825
The components of our IT infrastructure are evolving with our business partners	3.843	0.821
Most of the time, a business or IT change is transparent across the organization and to our business partners/alliances	3.798	0.911
Our IT infrastructure is viewed as a resource to enable and drive fast response to business and technology changes	3.765	0.899
Aggregate	**3.802**	**0.865**

From the results, the respondents agreed that innovation is strongly encouraged at the functional unit, corporate level, and with business partners/alliances. This is supported by a mean of 3.986 (std. dv = 0.708). In addition, as shown by a mean of 3.978 (std. dv = 0.925), the respondents agreed that top management makes their important IT decisions across the organization with equal influence from their business partners/alliances. Further, the respondents agreed that change readiness programs are in place at the corporate level and we are proactive and anticipate change. This is shown by a mean of 3.962 (std. dv = 0.821). The respondents also agreed that job transfers regularly occur for all position levels not only within the functional units but also at the organizational level. This is shown by a mean of 3.938 (std. dv = 0.809). With a mean of 3.910 (std. dv = 0.981), the respondents agreed that education and cross training are practiced across the organization, and with business partners/alliances. The respondents also agreed that trust and confidence that exist across IT and business units in their organization, is extended to external customers and partners. This is shown by a mean of 3.908 (std. dv = 0.879).

From the results, the respondents agreed that effective programs are in place to attract and retain the best IT professionals with both technical and business skills. This is supported by a mean of 3.894 (std. dv = 0.728). In addition, as shown by a mean of 3.876 (std. dv = 0.915), the respondents agreed that their primary systems are business strategy enablers/drivers (IT is a catalyst for changes in the business strategy). Further, the respondents agreed that their IT standards are defined and enforced across functional units, and with joint coordination among their strategic business partners/alliances. This is shown by a mean of 3.854 (std. dv = 0.825). The respondents also agreed that the components of their IT infrastructure are evolving with their business partners. This is shown by a mean of 3.843 (std. dv = 0.821). With a mean of 3.798 (std. dv = 0.911), the respondents agreed that most of the time, a business or IT change is transparent across the organization and to their business partners/alliances. The respondents also agreed that their IT infrastructure is viewed as a resource to enable and drive fast response to business and technology changes. This is shown by a mean of 3.765 (std. dv = 0.899).

From their marketing literature (Glazer, 1991), strategy (Hinkelmann & Pasquini, 2014) and IT (Cui, Ye, Teo, & Li, 2015) they build IT competencies to allow an IT firm competent and efficient at managing information within a business. Competences are inimitable from a resource-based point of view owing to the uncommon emergence of resources that has no interest in a single market setting. The competitive advantage could be founded on this inimitability (Sabin, Alrumaih, & Impagliazzo, 2018). Therefore, organizations with higher IT skills are deemed superior in the management of the 'invisible assets' that establish market leadership (Pérez-López & Alegre, 2012).

Performance of Tea Producers Companies in Kenya

The respondents were requested to indicate their level of agreement on various statements relating to performance of Tea Producers companies in Kenya. A 5 point Likert scale was used where 1 symbolized strongly disagree, 2 symbolized disagree, 3 symbolized neutral, 4 symbolized agree and 5 symbolized strongly agree. The results were as presented in Table 4.2.

Table 4. 2: Performance of Tea Producers Companies in Kenya

	Mean	Std. Deviation
Information Technology Strategic Alignment has improved quality of service	3.996	0.865
Information Technology Strategic Alignment has Improved production efficiency	3.979	0.945
Information Technology Strategic Alignment has improve processes in the company	3.938	0.611
Information Technology Strategic Alignment has led to new Product development	3.931	0.908
Information Technology Strategic Alignment has reduced pricing of products and Cost of operation	3.893	0.865
Information Technology Strategic Alignment has led to product diversification	3.854	0.945
Information Technology Strategic Alignment has enhanced product differentiation	3.795	0.661
Information Technology Strategic Alignment has introduced new markets	3.754	0.918
Information Technology Strategic Alignment has improved Image and client loyalty	3.689	0.852
Information Technology Strategic Alignment has increased sales growth	3.654	0.915
Aggregate	**3.772**	**0.841**

From the results, the respondents agreed that information technology strategic alignment has improved quality of service. This is supported by a mean of 3.996 (std. dv = 0.865). In addition, as shown by a mean of 3.979 (std. dv = 0.945), the respondents agreed that information technology strategic alignment has Improved production efficiency. The respondents also agreed that information technology strategic alignment has improved processes in the company. This is shown by a mean of 3.938 (std. dv = 0.611). With a mean of 3.931 (std. dv = 0.908), the respondents agreed that information technology strategic alignment has led to new Product development.

From the results, the respondents agreed that information technology strategic alignment has reduced pricing of products and Cost of operation. This is supported by a mean of 3.893 (std. dv = 0.865). In addition, as shown by a mean of 3.854 (std. dv = 0.945), the respondents agreed that information technology strategic alignment has led to product diversification. The respondents also agreed that IT Strategic Alignment has enhanced product differentiation. This is shown by a mean of 3.795 (std. dv = 0.661). With a mean of 3.754 (std. dv = 0.918), the respondents agreed that IT Strategic Alignment has introduced new markets. The respondents agreed that IT Strategic Alignment has improved Image and client loyalty. This is shown by a mean of 3.689 (std. dv = 0.852). With a mean of 3.654 (std. dv = 0.915), the respondents agreed that IT Strategic Alignment has increased sales growth.

It has been argued that increasing operational effectiveness of IT in business through the right use of IT as a service and business-driven exploitation will affect the business performance of the firm (Henderson and Venkatraman, 1991 & 1993). Strategic IT alignment leads to increased profits for an organization, beyond what would be expected to be produced using only industry and strategy variables (Floyd and Woolridge, 1990; Powell, 1992; Chan et al., 1997; Cragg et al., 2002).

Researchers identified many positive effects of such alignment including increased operational efficiencies, innovativeness, additional competitive advantage, and ultimately, improved performance (Almajali & Dahalin, 2011; Chan, Sabherwal, &Thatcher, 2006; Henderson & Venkatraman, 1993; Kalkan et al., 2011; Raymond & Bergeron, 2008; Wagner, 2014). At the same

time, failure to achieve alignment may result in adverse outcomes such as resource waste, poorer financial performance and organizational outcomes (Alaceva & Rusu, 2015; Chen et al, 2010; Ravishankar et al, 2011).

Sabherwal and Chan (2001) found that alignment is significantly correlated with perceived business performance, although this link is complex and is dependent on the business strategy. Tallon (2003) found that while 70% of companies reduced costs or improved sales and customer service after increasing strategic alignment, 30% saw no improvement or even a decline. This was attributed to the failure of alignment to be achieved with some degree of flexibility. That is, companies locked themselves into an alignment plan (via investing in various technologies) that hindered their ability to react to change. Similarly, Palmer and Markus (2000) did not find a relationship between alignment and performance when examining the use of Quick Response technology in the retailing sector. It has been argued that these negative or unclear results are due to a lack of control variables in the analyses. Chan et al. (2006) found that factors such as industry, organizational size, and type of strategy all had an impact on the performance implications of alignment. Byrd et al. (2006) found that strategic alignment had a direct impact on performance as a moderator between IT investment and business performance. The real value in alignment was in leveraging the firm's IT investment.

Correlation Analysis

Table 4. 3: Correlation Coefficients

		Organization Performance	Information Technology Skills
Organization Performance	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	116	
Information Technology Skills	Pearson Correlation	.861**	1
	Sig. (2-tailed)	.001	
	N	116	116

Further, the results revealed that there is a very strong relationship between Information Technology skills and performance of Tea Producers companies in Kenya (r = 0.861, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the findings of (Belete and Hagos, (2020) that there is a very strong relationship between Information Technology skills and organization performance

Test for Hypothesis one

The third objective of the study was to establish the role of Information Technology skills on performance of Tea Producers companies in Kenya. The corresponding hypothesis was:

Ho_3 Information Technology skills has no significant role on the performance of Tea Producers companies in Kenya.

Table 4.4: Model Summary for Information Technology skills

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.472[a]	.223	.225	.75632

a. Predictors: (Constant), Information Technology skills

A univariate analysis was therefore conducted to test the null hypothesis. From the model summary findings in Table 4.4, the r-squared for the relationship between Information Technology skills

and performance of Tea Producers companies in Kenya was 0.223; this is an indication that at 95% confidence interval, 22.3% variation in performance of Tea Producers companies in Kenya can be attributed to changes in Information Technology skills. Therefore, Information Technology skills can be used to explain 22.3% change in performance of Tea Producers companies in Kenya. However, the remaining 77.7% variation in performance of Tea Producers companies in Kenya suggests that there are other factors other than Information Technology skills that explain performance of Tea Producers companies in Kenya

Table 4.5: ANOVA for Information Technology Skills

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.933	1	40.933	181.924	.000[b]
	Residual	25.602	114	0.225		
	Total	66.535	115			

a. Dependent Variable: Performance of Tea Producers companies in Kenya

b. Predictors: (Constant), information technology skills

The analysis of variance was used to determine whether the regression model is a good fit for the data. From the analysis of variance (ANOVA) findings in Table 4.22, the study found out that that Prob>$F_{1,131}$= 0.000 was less than the selected 0.05 level of significance. This suggests that the model as constituted was fit to predict the performance of Tea Producers companies in Kenya. Further, the F-calculated, from the table (181.294) was greater than the F-critical, from f-distribution tables (3.924) supporting the findings that information technology skills can be used to predict to performance of Tea Producers companies in Kenya.

Table 4.6: Beta Coefficients for Information Technology Skills

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.208	.046		4.522	.000
	information technology skills	.469	.094	.471	4.989	.000

a. Dependent Variable: Firm Performance

From the results in table 4.6, the following regression model was fitted.

$$Y = 0.208 + 0.469\ X_3$$

(X_3 is information technology skills)

The coefficient results showed that the constant had a coefficient of 0.208 suggesting that if information technology skills was held constant at zero, Performance of Tea Producers companies in Kenya would be at 0.208 units. In addition, results showed that information technology skills coefficient was 0.469 indicating that a unit increase in information technology skills would result in a 0.469 unit improvement in Performance of Tea Producers companies in Kenya. It was also noted that the P-value for information technology skills was 0.000 which is less than the set 0.05 significance level indicating that information technology skills was significant. Based on these results, the study rejected the null hypothesis and accepted the alternative that information technology skills has positive significant influence on Performance of Tea Producers companies in Kenya.

Conclusions

Further, the study concludes that information technology skills have a positive and statistically significant influence on performance of Tea Producers companies in Kenya. Findings revealed that cross-training, encouraging innovation and providing employment opportunities influences performance of Tea Producers companies in Kenya. This implies that a unit improvement in information technology skills would lead to improvement in performance of Tea Producers companies in Kenya.

Recommendations

The study also found that information technology skills have a positive and statistically significant influence on performance of Tea Producers companies in Kenya. This study therefore recommends that the management of Tea Producer companies should ensure their employees are well equipped with information technology skills to improve their productivity.

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