
Factors Affecting Adaptation of Information Technology in Purchasing and Supplies Function: (A Study of Kenya Power and Lighting Company)

William Mwangi

Department of Business Administration, Chuka University, Chuka, Kenya

Email address:

www.mwangi@gmail.com

To cite this article:

William Mwangi. Factors Affecting Adaptation of Information Technology in Purchasing and Supplies Function: (A Study of Kenya Power and Lighting Company). *Science Journal of Business and Management*. Vol. 3, No. 6, 2015, pp. 242-250. doi: 10.11648/j.sjbm.20150306.15

Abstract: Information technology (IT) is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise. The study objective was to determine effect of cost, technical capacity, organization culture and availability of ICT systems on adaptation of information technology in purchasing and supplies function. The study used a descriptive research design and data was collected through the use of the questionnaires. The target population was 1000 respondents from all categories of respondents were selected using simple random sampling, the sample size was 100 respondents. Data was analyzed and presented using tables and figures. The effect of cost was indicated by majority of respondents who were 94% answered Yes as compared to 6% who answered No. The effect of technical capacity was indicated by majority of respondents who were 88% answered Yes as compared to 12% who answered No. The effect of organization culture was indicated by minority of respondents who were 93% answered Yes as compared to 6% who answered No. Organizations should put measures in place to ensure they cut cost of adapting information technology. The organization should train employees on adaptation of IT in the organization which should be a continuous process. The organization culture should be flexible to ensure adaptation of information technology in purchasing and supplies function. The organizations should consider developing inbuilt IT systems in the organization.

Keywords: E-procurement, Organization Culture, Electronic Data Interchange, Procurement

1. Introduction

Kenya Power (KP) is a limited liability company which transmits, distributes and retails electricity to customers throughout Kenya. KPLC is a public company listed in the Nairobi Stock Exchange (NSE). The company is a national electric utility company, managing electric metering, licensing, billing, emergency electricity service and customer relations. KPLC headquarters are at Stima Plaza, Kolobot Road in Parklands, Nairobi; it operates many offices throughout Kenya. Kenya power also has a training school which is based at Thika Road opposite Utalii college which offers many courses on electrical, electronic, installation, overhead line construction and technicians with a big library which houses all material covers electrical and electronic courses and other two libraries for technical and executive purposes. Kenya Power and Lighting Cooperation (abbreviated as KPLC) enjoys market monopoly in Kenya

and generates billions of shillings in revenue annually as evidence by high annual turn overs. However, KPLC has come under criticisms for frequent rolling blackouts, faulty technology and widespread impunity. KPLC has also been under scrutiny for lacking an electronic billing system and for failing to combat electricity theft in Kenyan slums. The mission is Powering people for better lives. The vision is to provide world-class power that delights our customers. The core values, customer First, one team, passion, integrity and excellence.

In the modern competitive business environment, organizations need to embrace information communications technology in order to remain competitive. E-procurement is among the Supply-side activities that have been identified as a key area where information systems enabled innovations are likely to yield significant benefits for organizations (Aviv, 2007). The success of any e-procurement application will depend on a variety of factors. Some organizations implement e-procurement technologies and they succeed

whereas others fail in the same. This diverse nature of the outcomes in adoption of e-procurement systems has attracted a number of researchers who want to understand the reasons for this diversity (Caldwell, Roerich & Davies, 2009). A number of researchers have conducted studies on e-procurement. For instance Christopher (2012), conducted a study on the critical factors that influence e-procurement adoption success in the public sector. The study concluded that if e-Procurement initiatives in the public sector are to assist the development of e-Procurement across the information economy, there should be wider discussion and agreement on what constitutes the relevant CSFs and how the achievement of success can be assessed. Another study was carried out by David & Berry (2008) on e-procurement adoption by European firms. It was established that there are indeed country differences with respect to e-procurement adoption, and that firms from countries with a low uncertainty avoidance such as Germany and the UK are the early adopters of e-procurement, while countries that are less reluctant to change such as Spain and France have lower adoption rates. Levin & Tadelis (2010) also carried out a study on the adoption of regulation-based e-procurement in the Eastern Cape provincial administration. The study found that measurable benefits of supply chain management have not yet been realized due to general limited understanding of how supply chain management concept works within government environment.

Information technology (IT) is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise (Baily, 2008). The term is commonly used as a synonym for computers and computer networks, but it also encompasses other information distribution technologies such as television and telephones. Several industries are associated with information technology, including computer hardware, software, electronics, semiconductors, internet, telecom equipment, e-commerce and computer services. Recent development in technologies enables the organization to avail information easily in their premises. These technologies are helpful to coordinates the activities to manage the supply chain. The cost of information is decreased due to the increasing rate of technologies (Aviv, 2007).

In Kenya, there are some organizations that have successfully embraced the use of e procurement technology. For instance Nation Media group through their digital platform commonly known as N-Soko enables their clients to purchase products online (Lyons, 2012). Menon (2010), conducted an investigation of selected strategy variables on firm's performance. The study focused on supply chain management in large private manufacturing firms in Kenya. It was established that most of the SCM strategies of large manufacturing firms in Kenya are not owned by individual firms but also other organizations within the SC that provide the required linkages towards the overall corporate performance of the manufacturing industry. The studies above indicate that there are country-specific differences in

the adoption of e-procurement. It is on the basis of these differences that the study seeks to examine the adoption of e-procurement among manufacturing firms in Kenya.

Objectives of the Study

The main objective of the study was to investigate the factors affecting adaptation of information technology in purchasing and supplies function. The study was guided by the following specific objectives;

- i. To establish the effects of cost on adaptation of information technology in purchasing and supplies function.
- ii. To identify the effect of technical capacity on adaptation of information technology in purchasing and supplies function.
- iii. To establish the effect of organization culture on adaptation of information technology in purchasing and supplies function.
- iv. To identify how Availability of ICT Systems affects adaptation of information technology in purchasing and supplies function.

2. Literature Review

2.1. Cost Theory

According to Avgerou (2002), the cost-of-production theory of value is the theory that the price of an object or condition is determined by the sum of the cost of the resources that went into making it. The cost can comprise any of the factors of production (including labor, capital, or land) and taxation. The theory makes the most sense under assumptions of constant returns to scale and the existence of just one non-produced factor of production. These are the assumptions of the so-called non-substitution theorem. Under these assumptions, the long-run price of a commodity is equal to the sum of the cost of the inputs into that commodity, including interest charges. Inspired by facts from the private sector construction industry, we develop a model that explains many of the stylized facts about procurement contracts. The buyer in our model incurs a cost of providing a comprehensive design, and is faced with a trade-off between providing incentives and reducing ex post transaction costs due to costly renegotiation. We show that cost plus contracts are preferred to fixed price contracts when a project is more complex (Braga, 2003). Historically, the best-known proponent of such theories is probably Adam Smith. Piero Sraffa, in his introduction to the first volume of the "Collected Works of David Ricardo", referred to Smith's "adding-up" theory. Smith contrasted natural prices with market price. Smith theorized that market prices would tend toward natural prices, where outputs would stand at what he characterized as the "level of effectual demand". At this level, Smith's natural prices of commodities are the sum of the natural rates of wages, profits, and rent that must be paid for inputs into production.

2.2. Resource Based Theory

The "Resource-Based View of the Firm" has emerged over

the last fifteen years as one of the dominant perspectives used in strategic management. It addresses the fundamental research question of strategic management: Why it is that some firms persistently outperform others? Resource-Based Theory provides a considered overview of this theory, including the latest developments, from one of the key thinkers in its development. In broad terms it offers an alternative to Michael Porter's approach, focusing more on the competences and capabilities of the firm, rather than its positioning in its chosen markets. Priem and Butler (2001), has long been recognized as one of the leading contributor to the resource-based theory literature. In this book he has collaborated with Rugman and Verbeke, (2002), to produce the first book to examine the theory in a holistic and in-depth manner. The authors explore not only the applications of the theory in research, teaching, and practice, but also its early roots in traditional economic theory, development and proliferation in the 1990s, and later influence on management thinking (Makadok, 2001).

The essence of enterprise strategy is in finding the appropriate relationship between internal and external environment. Precisely, strategy can be defined as "the match an enterprise makes between its internal resources and skills, on one side, and the opportunities and risks created by its external environment, on the other side (Rugman and Verbeke, 2002). During the 1980s the basis for strategy formulation represented external factors, opportunities and threats. However, in the new economy it is suggested that strategy is formulated by respecting internal factors, first, and then external ones. The resource-based theory is one of a few theories, which consider sources and effects of competitive advantage. Besides the resource-based theory, competitiveness is the focus of the following theories or approaches: competitive industry's structure, competitiveness based on distinctive capabilities and knowledge-based competitiveness. Though mentioned theories are presented as separate, they are very similar and the differences between them arise from a different view and definition of resources and capabilities, and from different significance of some resources and capabilities for some authors and for the specific period and industry (Caldwell, Roehrich & Davies, 2009).

2.3. *Game Theory*

According to Camerer & Colin (2003), game theory is behind the scenes in many familiar situations: for example, a poker game where the next call, raise or draw move is contingent on how the player expects opponents might respond. A few of the theory's concepts, such as the "winner's curse" or the "prisoner's dilemma," have found their way into popular discourse. One glaring example of winner's curse comes from the telecom industry. In an auction for wireless spectrum, incumbent telcos bid up prices far beyond the value their business could support. The unlucky winners suffered for years afterwards from heavy debt loads and low return on capital. The prisoner's dilemma illustrates the equilibrium concept at the core of the theory. Two people imprisoned for the same crime are interrogated

separately; they can either confess or remain silent. Because of the way the consequence depends on the other player's action, apparent self-interest leads each player to confess. This is the equilibrium outcome, even though both players would have ended up better off with a different strategy (Skyrms, 2004).

Transaction models such as e-auctions or online marketplaces have expanded buyers' toolkits. Some of the most sophisticated tools come from game theory. Although their source is an established body of academic literature, the research findings are not being applied to full effect in business. One reason the theory has such potential is the way it models conflicting and cooperating goals that vie for influence in transaction negotiations. Where academic research regards these as abstract "behavioral permutations," buyers and sellers feel the actual cut and thrust (Camerer & Colin, 2003). Sourcing managers who understand game theory gain deeper insights into the interests and objectives of participants. How can they bridge the gap from theory to practice, and which findings are most applicable? This paper explains the applications of game theory – basics of the approach/principles, practical real-life instances where the theory plays out in sourcing events, and some ground rules buyers can follow to enhance leverage of this concept in day-to-day buying (Skyrms, 2004).

2.4. *Empirical Review*

Over the last 40 years, while private and public sector organizations have been utilizing Information Technology (IT) systems to streamline and automate their purchasing and other processes, it is only in the past decade that e-Procurement systems have attracted attention (Baily, 2008). While there is debate about how recently e-Procurement has emerged. Caldwell, Roehrich and Davies (2009), there is no doubt that the use of the Internet in e-Procurement provides several advantages over earlier inter-organizational tools. For example, Electronic Data Interchange has been providing automated purchasing transactions between buyers and their suppliers since it was launched in the 1960s (Christopher, 2012). Enterprise Resource Planning (ERP) followed in the 1970s, and then came the commercial use of the Internet in 1980s. It was only in the 1990s that the World Wide Web - the multimedia capability of the Internet - became widely enabled and provided the essential resource for the automation of procurement (Aviv, 2007). According to Emiliani, Stec, Grasso, (2005), there are three types of e-Procurement Systems: Buyer e-Procurement Systems, Seller e-Procurement Systems and Online Intermediaries. This paper is focused predominantly on Buyer e-Procurement Systems, which typically demonstrate one of two systems philosophies in regard to e-Procurement: Enterprise Portal and Enterprise Application. While various e-Marketplaces have been launched based on the Enterprise Portal philosophy, the implementation of e-Procurement systems usually consists of two technologies within the Enterprise Application philosophy: a workflow system integrated with an e-Procurement application that supports requisition to

payment; and the electronic catalogue that lists suppliers' items and prices over the Internet (Hale, 2011). Within these two philosophies, there are again two different approaches that the public sector agencies have used for implementation of e-Procurement: an end-to-end e-Procurement solution (the "big bang" approach), and the incremental implementation (Hilbig, Benjamin & Zettler, 2009).

2.4.1. Cost

According to Armistead (2012), cost is the value of money that has been used up to implement information technology in purchasing and supplies. The cost may be one of acquisition, in which case the amount of money expended to acquire it is counted as cost. In this case, money is the input that is gone in order to acquire the thing. Costs of transaction as incurred to acquire information technology in purchasing and supplies over and above the price paid. Aviv (2007). sees costs as the monetary value of expenditures for supplies, services, labor, products, equipment and other items purchased for use by a business or other accounting entity. It is the amount denoted on invoices as the price and recorded in bookkeeping records as an expense or asset cost basis. Hulme (2012) sees opportunity cost, also referred to as economic cost as the value of the best alternative that was not chosen in order to pursue the current endeavor that is, what could have been accomplished with the resources expended in the undertaking (Kumpe, 2008).

According to David & Berry (2008), inventory as the most valuable asset in a large number of small businesses, and it can also be one of the most difficult assets to keep under control. Theft, administrative errors, physical damage and obsolescence all eat away at inventory, squeezing profit margins and damaging bottom lines. Setting up an inventory control system can help you to maximize the value of inventory by keeping costs under control (Donald, 2009). According to Kumpe (2008), cost can be a major disadvantage of information technology in purchasing and supplies. Many large companies use information technology in purchasing and supplies, but small businesses can find it difficult to afford it. Barcode readers and other hardware can compound this problem by adding even more cost to companies. The advantage of allowing multiple employees to perform inventory-management tasks is tempered by the cost of additional barcode readers. Use of smart phones as QR code readers has been a way that smaller companies avoid the high expensive of custom hardware for inventory management (Hale, 2011).

2.4.2. Technical Capacity

Technical capacity, on organization level is a measure of what an organization, through its staff is able to do. It represents organization technical "know-how", as well as the ability to put that know-how to use (Levin & Tadelis, 2010) sees technical capacity as having special and practical knowledge in business services areas, such as the following: accountability of office and industrial equipment, major building maintenance, managing major commercial properties, fiscal management, accountability of office and industrial equipment, postal/mail services,

reproduction/replication, and fleet maintenance.

According to Lewis & Roehrich, (2009), procurement systems are not necessarily simple or easy to learn. A company's management team must dedicate a certain amount of time to learning a new system, including both software and hardware, in order to put it to use. Most purchasing and supply softwares include training manuals and other information available to users. Despite its apparent complexity, purchasing software offers a degree of stability to companies. For example, if an IT employee in charge of the system leaves the company, a replacement can be comparatively inexpensive to train compared to if the company used multiple programs to store inventory data (Levy & Razin, 2003). According to Menon (2010), among the technical problems of implementation are imperfect read-rates, unproven systems, and conflicting problems with assembling low-cost tags. RFID is more expensive than bar codes, and problems can occur when using the tags on metal objects. To reduce tag cost the size of the chip needs to be reduced. However, reductions in the size of the chip make assembly of the tags more expensive. Further, technology vendors do not have a clear idea of what RFID middleware should do. Finally, companies often lack in-house experts with the knowledge to implement RFID technology and hiring outside experts can be difficult and expensive (Lyons, 2012).

2.4.3. Organization Culture

According to Rudzki (2004), organizational culture is the behavior of humans who are part of an organization and the meanings that the people react to their actions. Culture includes the organization values, visions, norms, working language, systems, symbols, beliefs, and habits. It is also the pattern of such collective behaviors and assumptions that are taught to new organizational members as a way of perceiving, and even thinking and feeling. Organizational culture affects the way people and groups interact with each other, with clients, and with stakeholders (Sadden, 2010). The difference of cultures between Western countries where procurement systems are developed and in Kenya where e-procurement are implemented, culture is an important determinant of implementation success. Stallkamp (2005) have concluded that inventory control system design methodologies have built-in value biases reflecting the value priorities of the culture in which they are developed. Schnackenberg & Tomlinson, (2014) revealed that adapting the implementation to the prevailing cultural style was one important cause of information technology implementation failures. A company who implements information technology has to change its business processes to the information technology best practice processes. The change both impacts on the customer's organizational culture (that is the ways that things are done in the organization) and is constrained by it thus; Kenyan companies and foreign vendors should adapt information technology to fit Kenyas organization's culture to ensure information technology implementation success (Stevens, 2008). Since organizational culture is embedded in national culture of most countries in Europe, two aspects

related with organizational culture are identified to be associated with information technology implementation success: (1) Clash level of the culture embedded in the inventory control system package with the customer's organizational culture; (2) Level of collectivism in the organizational culture (Weele & Arjan, 2010) claimed that the clash between the culture embedded in the inventory control system package and current organizational culture affects the inventory control system implementation success.

2.4.4. Availability of ICT Systems

According to Yochai & Benkler (2006), information and communications technology (ICT) is often used as an extended synonym for information technology (IT), but is a more specific term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers as well as necessary enterprise software, middleware, storage, and audio-visual systems, which enable users to access, store, transmit, and manipulate information. According Stevens (2008), a vendor is a person or organization that vends or sells contingent labor. Specifically a vendor can be an independent consultant, a consulting company, or staffing company.

Due to the lack of professional expertise and experience on developing procurement systems in-house, many companies prefer to buy off-the-shelf systems to shorten the procurement systems implementation cycle. Procurement systems software packages provide generic off-the-shelf business and software solutions to customers. More or less they can't fully meet the company's needs, especially when the business processes of the company are unique (Stevens, 2008G). To increase the chance of success, management must choose software that most closely fits its requirements. Information technology vendors use different hardware platforms, databases, and operation systems and certain Information technology packages are only compatible with some companies' databases and operation systems (Peter, 2009). Thus, companies should conduct requirements analysis first to make sure what problems need to be solved and select the inventory control system systems that most fit their requirements. The hardware then is selected according to the specific Information requirements. According to Nickerson (2006), three aspects should be cared when selecting software and hardware: (1) compatibility of software/hardware and company's needs; (2) Ease of customization.

3. Research Methodology

3.1. Research Design

A descriptive survey design was used for the purpose of this study. With such a study, information's were obtained to meet the underlying purposes and objectives of the study. This kind of design well suits the study as it presents the situation as it is and the researcher has no control over the variables. According to (Mugenda and Mugenda 2003), descriptive survey design is a scientific method which

involves observing and describing the behavior of a subject without influencing it in any way. The objective of descriptive research is to answer who, what, when, where, which, why and how of the subject under study.

3.2. Sampling Procedure and Sample Size

Stratified random sampling technique was used to obtain a sample size of respondents; this involved dividing the target population into sub groups in order to get equal representation of staff. The sampling technique was appropriate since the population is divided into subgroups depending on staff characteristics. The nature of issues investigated meant that it was important to give all the company workers an equal chance of representation and this would not have happened through random sampling only. The sample size will be 30% of the target population as shown in Table 1.

Table 1. Sample Size.

Population Category	Target Population	Sample size	Percentage
Top Level	24	8	26
Middle Level	65	19	16
Operation Level	129	38	58
Total	218	65	100

3.3. Data Collection Method

After the validity and reliability of the instruments were assessed, the researcher proceeded to the field. A permission letter to carry out the study in the area was sought from the National Council of Science and Technology. These letters helped the researcher to access the Organization, brief the head of operations on the purpose of the study and remove any important information by the managers. The researcher then sought to administer the questionnaires to the respondent and a drop and pick later method was used.

3.4. Data Analysis

The data collected from the field was then assessed and comparison made so as to select the most accurate and quality information from the feedback given by various respondents, it involved assessing and evaluating the questionnaires and other sources of both primary and secondary data. The researcher analyzed data collected quantitative and qualitatively. The Statistical Package Microsoft Excel computer software was used specifically for the purpose of analyzing the data obtained. Presentation of the results was done with the aid of frequency tables, percentages, standard deviation and mean score.

4. Empirical Results and Discussion

4.1. Response Rate

To effectively identify and analyze the respondents who participated in the study, the analysis of the response rate was carried out as shown in the Table 2.

Table 2. Response Rate.

Category	Response	Percentage
Response	90	90
Non-response	10	10
Total	100	100

Table 2 shows the relationship between the sample size and the actual number of respondents who actively participated in the study. The sample size represents the number of respondents who were issued with the questionnaires and the actual representative represents the number of respondents who filled and gave back the questionnaires. The table and figure thus shows that response rate percentage was; 90% responded and 10% did not respond.

4.2. Professional Qualification

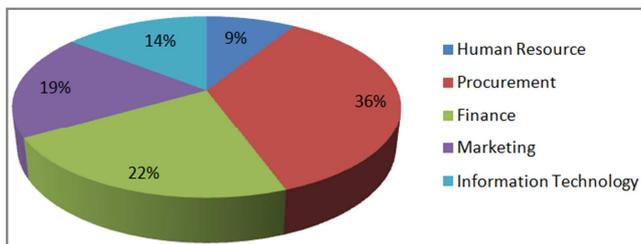


Figure 1. Professional Qualification.

Figure 1 shows that 36% of the total responses had procurement qualifications, 22% finance, 19% marketing, 14% information technology and 9% human resource management. This indicates that most respondents were knowledgeable and provided reliable information on factors affecting adaptation of information technology in purchasing and supplies function

4.3. To Establish the Effects of Cost on Adaptation of Information Technology in Purchasing and Supplies Function

Table 3. Effect of Cost on ICT.

Category	Frequency	Percentage
Yes	85	94
No	5	6
Total	90	100

Table 3 shows the effects of cost on adaptation of information technology in purchasing and supplies function. Majority of respondents who were 94% answered Yes as compared to 4% who answered No which shows that cost is a major factor in adaptation of information technology in purchasing and supplies function.

Table 4. Rate of Cost.

Category	Frequency	Percentage
High	50	56
Medium	20	22
Low	20	22
Total	90	100

Table 4 shows the rate of cost on adaptation of information technology in purchasing supplies function. Majority of respondents who were 56% indicated high, 22% medium and 22% low which shows that cost was a major hindrance in adaptation of IT in purchasing and supplies function. Majority of respondents indicated cost to greatly affect adaptation of information technology in purchasing and supplies function. Majority of respondents indicated that there is high cost in implementation of information technology in purchasing and supplies function. There lacked proper measures in place to address the cost of implementing IT in purchasing and supplies function. Most respondents were of the opinion that the government should remove taxation on IT systems so as to reduce cost.

4.4. To Identify the Effect of Technical Capacity on Adaptation of Information Technology (IT) in Purchasing and Supplies Function

Table 5. Effect of Technical Capacity on IT.

Category	Frequency	Percentage
Yes	80	88
No	10	12
Total	90	100

Table 5 shows the effect of technical capacity on adaptation of IT in purchasing and supplies function. The figure presents that most of the respondents who were 88% answered Yes as compared to 12% who answered No which shows that technical capacity is an important factor in the implementation of information technology.

Table 6. Whether the Organization has the Required Capacity.

Category	Frequency	Percentage
Yes	35	38
No	55	62
Total	90	100

Table 6 shows whether the organization has the required technical capacity. Majority of respondents who were 62% indicated No as compared to 38% who indicated Yes which shows that the organization lacks technical staff to facilitate IT implementation.

Table 7. Effectiveness of Technical Capacity.

Category	Frequency	Percentage
Very effective	3	3
Effective	7	8
Little effective	52	58
Not effective at all	28	31
Total	90	100

Table 7 shows the effectiveness of technical capacity on adaptation of IT in purchasing and supplies function. Majority of respondents who were 58% indicated little effective, 31% not effective at all, 8% effective, and 3% very effective which shows that technical capacity in the organization did not facilitate adaptation of IT in purchasing

and supplies function. Majority of respondents indicated technical capacity to affect adaptation of information technology in purchasing and supplies function. Majority of respondents whether the organization has the required technical capacity most respondents answered No. Most respondents indicated technical capacity to be little effective on adaptation of information technology. Majority of respondents were opinion that the organization should train employees on implementation of IT in the organization.

4.5. To Establish the Effect of Organization Culture on Adaptation of Information Technology in Purchasing and Supplies Function

Table 8. Effect of Organization Culture.

Category	Frequency	Percentage (%)
Yes	84	93
No	6	6
Total	90	100

Table 8 shows the effect of organizational culture on adaptation of IT in purchasing and supplies function, majority of respondents who were 93% answered Yes as compared to 7% who answered No which shows that organizational culture greatly affected adaptation of information technology in purchasing and supplies function. Most respondents indicated culture to affect adaptation of information technology in purchasing and supplies function. Most respondents indicated existence of challenges in the implementation of information technology in purchasing and supplies function. Most of the respondents were of the opinion that organizations should amend the organization culture to enable adaptation of IT

4.6. To Identify How Availability of ICT Systems Affects Adaptation of Information Technology in Purchasing and Supplies Function

Table 9. Effect of Availability of ICT Systems.

Category	Frequency	Percentage (%)
Yes	86	96
No	4	4
Total	90	100

Table 9 shows how availability of ICT systems affects adaptation of information technology in purchasing and supplies function. Majority of respondents who were 96% answered Yes as compared to 4% of the respondents who answered No which shows that availability was a major factor in the implementation of IT in purchasing and supplies function.

Table 10. Extent of Availability of ICT Systems.

Category	Frequency	Percentage
Very high extent	8	8
High extent	13	14
Low extent	49	54
Very low extent	20	22
Total	90	100

Table 10 shows the extent of availability of ICT systems on adaptation of information technology in purchasing and supplies function. Majority of respondents who were 54% indicated low extent, 22% very low extent, 14% high extent and 8% very high extent which shows that organizations experienced difficulties in accessing ICT systems. Majority of respondents indicated the effect of availability of inventory control systems on adaptation of information technology in purchasing and supplies function. Most respondents indicated low extent of availability of ICT systems on adaptation of IT in purchasing and supplies function. Most respondents indicated availability of ICT systems to be medium.

5. Conclusions

Majority of respondents indicated cost to greatly affected implementation of information technology in purchasing and supplies function. Cost is a major factor in adaptation of information technology in purchasing and supplies function. Cost was a major hindrance in adaptation of IT in purchasing and supplies function. Their lack measures in place to address high cost. Technical capacity greatly affected adaptation of information technology in purchasing and supplies function. Technical capacity is an important factor in the implementation of information technology. Organization lacks technical staff to facilitate IT implementation. Technical capacity in the organization did not facilitate adaptation of IT in purchasing and supplies function. Among the technical problems of implementation are imperfect read-rates, unproven systems, and conflicting problems with assembling low-cost tags. Organization culture was indicated to greatly affect adaptation of information technology in purchasing and supplies function. Organizational culture greatly affected adaptation of information technology in purchasing and supplies function. There existed challenges of adapting IT due to the organization culture. Organizational culture affects the way people and groups interact with each other, with clients, and with stakeholders. Majority of respondents indicated the availability of IT in purchasing and supplies function. Availability was a major factor in the implementation of IT in purchasing and supplies function. Organizations experienced difficulties in accessing ICT systems. There was a problem in availability of ICT systems in the organizations which made availability of implementation of information technology difficult.

Recommendations

Organizations should put measures in place to ensure they cut cost of adapting information technology. Employees should be trained at a lower cost. The organization should source for IT systems from various suppliers who offer cheaper services. The government should remove taxation on IT systems so as to reduce cost. The organization should adapt quality IT systems which should reduce the cost of adapting IT system. The organization should train employees

on adaptation of IT in the organization which should be a continuous process. The organization should outsource from the organizations who have superior technical expertise to facilitate efficient adaptation of information technology. The organization should acquire high quality IT systems so as to minimize cases of technical problems occurring. The organization culture should be flexible to ensure adaptation of information technology in purchasing and supplies function. Organizations should amend the organization culture to enable adaptation of IT. The organization culture should ensure the way people and groups interact with each other, with clients, and with stakeholders. The organization should constantly evaluate organization culture. The organizations should consider developing inbuilt IT systems in the organization. The organization should source for IT systems from various suppliers. The organization should allocate enough resources to facilitate acquisition of quality IT systems which should reduce maintenance cost. The organization should ensure that the systems in place meet the purchasing and supply function needs.

References

- [1] Armistead G.A (2012). *Changing roles of supply chain operations managers*, first edition, IFS Publications.
- [2] Avgerou, C.A (2002). *Information Systems and Global Diversity*. Oxford: Oxford University Press.
- [3] Aviv, Y.Z (2007). *On the benefits of collaborative forecasting partnerships between retailers and manufacturers*. Management Science. 53(5), 777-794.
- [4] Braga, C.A (2003). "Government in the Information Age." Paper presented at National E- Government Conference, May. Colombo, Sri Lanka.
- [5] Baily, P. J. H. (2008). *Procurement principles and management*. Harlow, England: Prentice Hall Financial Times. p. 394.
- [6] Baily, P. J. H. (2006). *Procurement principles and management*. Harlow, England: Prentice Hall Financial Times. p. 394.
- [7] Caldwell, N.D. Roehrich, J.K. and Davies, A.C. (2009). *Procuring complex performance in construction: London Heathrow Terminal 5 and a private finance initiative Hospital*. Journal of Purchasing and Supply Management 15(3):178-186.
- [8] Callon, M.A (1986). "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Briec Bay." In *Power, Action and Belief: A New Sociology of Knowledge?* ed. J. Law, 196–233. London: Routledge & Kegan Paul.
- [9] Callon, M., and J. Law. (1989). "On the Construction of Sociotechnical Networks: Content and Context Revisited." Knowledge and Society 9: 57–83.
- [10] Camerer P.K and Colin S.H (2003), *Behavioral Game Theory: Experiments in Strategic Interaction*, Russell Sage Foundation.
- [11] Christopher M.N (2012). *Logistic and supply management*, second edition Pitman publishing
- [12] David M.N Berry S.T (2008). *Copy, Rip, Burn: The Politics of Copyleft and Open Source*. London: Pluto Press. ASIN 0745324142.
- [13] Donald J.M (2009) *Supply Chain Management, Purchasing and Supply Management*; 1st Edition; Pearson Publishers.
- [14] Emiliani, D.J. Stec, L.P. Grasso, (2005), "Unintended responses to a traditional purchasing performance metric," *Supply Chain Management: An International Journal*, Vol. 10, No. 3, pp. 150-156.
- [15] Hale G.N (2011). *Performance-Based Certification: How to Design a Valid, Defensible, Cost- Effective Program*. John Wiley & Sons, Inc. ISBN 978-1-118-02724-0.
- [16] Heeks, R. B. (2002). "Information Systems and Developing Countries: Failure, Success and Local Improvisations." *Information Society* 18(2): 101–12.
- [17] Hilbig D.E, Benjamin E.J; Zettler J.Z (2009.) "Pillars of cooperation: Honesty–Humility, social value orientations, and economic behavior," *Journal of Research in Personality*, 43(3):516-9.
- [18] Hooligan J.S (2008). *Exploiting the Industrial Supply Chain*, in Mortimer; 2nd Edition; IFS Publications.
- [19] Hulme J.T (2012). "Information Governance: Sharing the IBM approach". *Business Information Review* (Sage Journals) (vol. 29 no. 2): 99–104.
- [20] Kothari, .C. R. (2004), *Research Methodology*: 1st Edition, Pitman Publisher, UK, London.
- [21] Kumpe T.H (2008). *Manufacturing: The Case for Vertical; Integration*, 2nd Edition. Harvard Business Review.
- [22] Levin, J.Z and Tadelis S.K (2010). "Contracting for Government Services: Theory and Evidence from US Cities". *Journal of Industrial Economics* 58(3): 507-541.
- [23] Lewis, M.A. and Roehrich, J.K. (2009). *Contracts, relationships and integration: Towards a model of the procurement of complex performance*. International Journal of Procurement Management, 2(2):125-142.
- [24] Levy G.H, Razin R.N (2003), "It Takes Two: An Explanation of the Democratic Peace", *Working Paper*.
- [25] Lyons K.H (2012). *Purchasing Manufacturing*; 5th Edition Macbeth; Pitman Publishers, (1981).
- [26] Lysons K.M (2006). *Purchasing Material*; 5th Edition; Pearson.
- [27] Makadok, R.S (2001), *Toward a Synthesis of the Resource-Based View and Dynamic-Capability Views of Rent Creation*. Strategic Management Journal; 22, (5), pp. 387–401.
- [28] Menon K.N (2010). *Purchasing Management*; 3rd & 4th Edition; Peak Publishers. Mugenda & Mugenda (2008), *Research Methods*: 1st Edition, Published by ACTS, Nairobi, Kenya.
- [29] Nickerson G.H (2006). *Bureaucracy and Representative Government*. Chicago, IL: Aldine Atherton.
- [30] Parmigiani, A.M (2007). "Why Do Firms both Make and Buy? An Investigation of Concurrent Sourcing". *Strategic Management Journal* 28: 285-311.
- [31] Peter B.M (2009) *Purchasing Principle & Techniques* 3rd Edition; ELBS with Pitman Publishers.

- [32] Priem, R.L., Butler, J.E. (2001), Tautology in the Resource-Based View and Implications of Externally Determined Resource Value: Further Comments. *Academy of Management Review*; 26, (1), pp. 57–66.
- [33] Roels, G., U. S. Karmarkar, S. C (2010). *Contracting for collaborative services*. *Management Science*. 56(5), 849-863.
- [34] Rudzki, R.S (2004). *The advantage of partnering well*. *Supply Chain Management Review*, 8(2), 44-51.
- [35] Rugman A.M.; Verbeke, A. (2002), Edith Penrose's Contribution to the Resource-Based Views of Strategic Management. *Strategic Management Journal*; 23, pp. 769–780.
- [36] Sadden M.N (2010) *Material Management & Purchasing*: 4th Edition; Longman publishers.
- [37] Schnackenberg, A., Tomlinson, E., (2014) *Organizational Transparency: A New Perspective on Managing Trust in Organization-Stakeholder Relationships*. *Journal of Management* DOI: 10.1177/0149206314525202.
- [38] Stallkamp, T.G (2005). *A Better Way to Do Business: Moving to Collaboration*. Wharton School Publishing, Upper Saddle River, New Jersey.
- [39] Stevens J.S (2008), *the Purchasing & Marketing Interface* 3rd Edition. Pitman Publishers. Skyrms B.N (2004), *The stag hunt and the evolution of social structure*, Cambridge University Press, ISBN 978-0-521-53392-8.
- [40] Weele S.K Arjan J.V (2010). *Purchasing and Supply Chain Management: Analysis, Strategy, Planning and Practice* (5th ed. ed.). Andover: Cengage Learning.
- [41] Yochai Benkler (2006). *The Wealth of Networks: How Social Production Transforms Markets and Freedom*. Yale University Press.