

Management Support in Adoption of Computer Integrated Model in Financial Forecasting

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Abstract Management Support is crucial to survival and success of organizations where managers are decision makers of the adoption of Computer Integrated Model (CIM) that is intended to contribute to the performance or effectiveness of the adopting organizations. Management support is the attitude and commitment of managers towards CIM technology adoption. This paper sought to establish the extent to which management support readiness determines adoption of CIM in financial forecasting of Small and Medium enterprises in Kisumu East District. This study was guided by a conceptual framework which indicated determinants of adopting CIM in financial forecasting. The study adopted descriptive survey methodology with both quantitative and qualitative approaches to source and analyze data. The finding established that managerial support readiness is key in adopting Computer Integration Model in financial forecasting amongst other determinant factors of adoption of CIM.

Key words Management Support Readiness, Computer Integrated Model, Financial Forecasting, Small-Medium Enterprises

DOI: 10.6007/IJARAFMS/v4-i2/837

URL: <http://dx.doi.org/10.6007/IJARAFMS/v4-i2/837>

1. Introduction

Computer Integrated Model Technology adoption is increasingly being hailed as the Transformative engine that creates and shapes new economies of today's networked world. The growth and survival of business is linked both to creation of new products and services and to the adoption of novel ways of doing business while constantly improving the internal processes, procedures, policies and business models (Damanpour & Shneider, 2006). French (1996) asserts that it is an essential aspect of management of any SME's to integrate Computer Model Technology to enhance reliable judgment, intuition and awareness of financial trends of production schedules, raw materials requirements plans and sales quotas as prior to forecasts may result in increased costs for a firm thus elude costs rationalization which is very essential for the survival of any SME. Therefore the determinants of adoption of the CIM on financial forecasting in SME's remain a concern of the SME's.

European countries like Britain, France, Germany, Spain and Asian Tigers such as Korea, Taiwan, Singapore and Japan transformed from traditional financial forecasting to advance Computer Integrated Model (Hong & Zhu, 2006). This enabled these countries to improve trade efficiently around the globe and integrate developing countries in the global economy, with regard to the number of employees 99.8% of all European (EU, 2006).

The revolution in Information Technology adoption in financial forecasting has changed the nature of business in developed countries (Elliot, 1992). In China and Malaysia CIM has created competitive advantage for SME's and the emergence has made possible voluminous cross-border transactions to be carried out. The SME's has advanced financial information readily available for better decision making and production of

relevant, accurate, reliable, and timely information. The CIM adoption in financial forecasting has propelled the SMEs success in this global economy era SMEs have played a vital role in contributing significantly in terms of employment and income distribution in many developed countries (Brecht & Martin, 1996).

Kamil (1991) avers that in South Africa CIM in financial forecasting are the implication of change drivers for SME's and management control systems such as organizational capacity, Top Management Innovations, managerial effectiveness, nature of production, degree of routine and change of production technology.

Kenya's vision 2030 which is currently the countries development blue print envisaged the use of CIM technology to transform Kenya into a newly industrializing, middle income providing a high quality of life to all citizens by the year 2030. United Nations Trade Aid Development (1999) emphasized that Kenya does not have Integrated Innovation Strategy plan to guide CIM adoption and that its innovation policy framework is a patchwork of several policies which are not entirely connected and also limited by perseverance of the entire Kenyan economy. United Nations Development Program (2001) confirmed that Kenya has not only branched out into newer technology areas without proper innovation strategy plan but has also diffused old technology to larger parts of its population, Kenya is ranked 68 out of 72 on the acro-technology index.

Firms must use the technology in order to respond to ever-changing market requirements and consistently maintain and embrace continuous improvements to be competitive. According to Gagnon and Toulouse (1996) management support hasn't been studied that often, though managers are usually the key decision makers of the adoption of CIM that is intended to contribute to the performance or effectiveness of the adopting organization. Management support is the attitude and commitments of managers towards CIM technology adoption.

In a study on local level of CIM technology adoption in Kenya as means of crucial survival of organizations through improved efficiency and productivity faced challenges in adoption by SME's in Kenya. The adoption of CIM technology on financial forecasting by SME's is still low in

Kenya, however, collectively, SME's are perceived as the engine of growth in Kenya and failure in adoption poses a formidable risk of survival and competing in the ever-changing business market. Consequently non adoption results in low production inefficiency and bloated costs of production of goods and services and therefore adoption of CIM technology by SME's in financial forecasting will help Kenya improve production, rationalization of cost and facilitate innovation by SME's in line with the countries' new development blue print which envisages that through CIM technology will transform Kenya into a prosperous globally competitive middle income by the year 2030 (UNDP, 2001). It is against this background that the study sought to examine the determinants of CIM technology adoption in financial forecasting with specific focus on SME's in Kisumu East District. The study was carried out in Kenya's Nyanza Province, Kisumu East District where there was a concentration of SME's and transition zone to other East African countries. It is also the first Millennium City in the world.

Failure to adopt leads to low productivity, poor quality and mediocre performance by SMEs which is a threat to survival and success in addition failure to adopt denies SMEs information such as price changes, market trends and customer behaviors to survive and grow (Chenhall & Morns, 1986).

2. Literature Review

2.1. Computer Integration Adoption amongst SMEs

Computer Integration Model is increasingly being hailed as the transformative engine that creates and shapes new economies of today's networked world. The growth and survival of businesses is linked both to the creation of new products and services and to the adoption of novel ways of doing business while constantly improving the internal processes, procedures, policies and business models (Damanpour & Schneider, 2006). With its hallmark enterprise-wide information sharing capabilities, CIM has gained popularity as the most rewarding information system of the 21st century paradoxically, the popularity of CIM does not seem solely to stem from its potential and promised benefits, but also partly comes from its notoriety for being complex to implement and various instances of its failed implementations (Davenport, 2000).

2.2. Managerial Support in Adoption of CIM in Financial Forecasting

Innovation has become not only the domain of a few enterprises but the key to survival and success of the many. Firms must use technology in order to respond adequately to market demand and maintain or improve their competitiveness. However the adoption of CIM technology can be driven by the intent to take advantage of existing opportunities (Gagnon & Toulouse 1996).

Few determinants have been studied concerning CIM adoption in organizations. However, management hasn't been studied that often, though managers are usually the key decision makers the adoption of CIM is generally intended to contribute to the performances or effectiveness of the adopting organization (Damanpour, 1991), thus this makes the role of managers even more critical. Additionally, the CIM is a means of changing an organization, whether response to changes in its internal or external environment or a pre-emptive action taken to influence an environment (Damanpour, 1991). Today's business environment are facing significant pressure to make their operational, tactical and strategic processes more efficient and effective, and CIM technology has become attractive means of improving these processes (Premkumar, Ramamurthy & Nilikanta, 1994).

Kamil (1991) avers that major and SME's are expected to use CIM technology to alter existing industry structures, and business processes, to improve company information, redefine their information with clients, leverage global resources and pioneer new business model. CIM may be attributed to enhanced informational and interactive inter-organizational relationships and the emergence of new network cooperative opportunities (Hoffman, Novak & Chatterjee, 1995). According to Pantano and Hodgson (2002) the primary adoption decision is based on perceptions of the organizational leaders and managers. Besides the decision-making, managers and their attitudes and beliefs affect the whole organization. Additionally managerial efforts and commitment is a determinant to the CIM technology adoption. Thus the management of an organization is a key influencer on the duration of the adoption process. Managerial influence is usually discussed as top managerial support for the CIM adoption (Ruppel & Howard, 1998).

Empirical study conducted by Sanna Taalikka at Lappeenranta University of Technology, Finland, found out that management support readiness had straight effect on the CIM adoption in financial forecasting of SMEs in Finland which was further supported by a study done by Beatly 1998; Cooper and Zmud, 1990) who found out that top management support is for the success of CIM adoption in financial forecasting and that lack of top executive support, technology adoption cannot be achieved.

The adoption of CIM technology in an organization depends on the general receptivity towards change held by the organization's members (Dewar and Dutton 1986), and the managerial attitudes naturally influence the general attitude towards change. Svimez (2003) has indicated that open, promotive and resourceful organizations encourage CIM adoption, thus more open the organization the sooner CIM are adopted. Stonehouse and Pemberton (2002) referred organizational attitudes as general policies and strategies of an organization toward its environments, like technology sensitivity, resistance to change, attitude toward risk and openness to external information.

According to Stonehouse and Pemberton (2002), the more technically sensitive the organization is, the more successful the CIM in an organization will be. The resistance toward technological change is assumed to be negatively associated with the success of CIM in organizations. These organizations that are reluctant to accept technological changes are less likely to encourage its members to use new technologies. The openness towards external information facilitates CIM adoption and its success, because the way the members of organizations are able to receive information about CIM and their effective usage. In general an open and innovative organization with positive attitude towards change is more likely to adopt CIM aggressively and realize greater implementation success (Larson, 1997).

CIM adoption is conceived as a process that includes activities that lead to a decision to adopt as well as activities that facilitate putting an innovation to use and continuing to use. The manager's favorable attitude toward change leads to an internal climate conducive toward the CIM. Managerial support for innovation is especially required in the implementation stage when coordination and conflict resolution among individuals and units are essential (Damanpour, 1991). Top management may have its own suppositions related to innovation and according to Dewar and Dutton (1986), they might be conservative, preferring to use standard methods and procedures no matter what the nature of the problem, or they may encourage change.

The effect of managerial attitudes towards change depends on whether the management maintains the power to make adoption decision (Dewar & Dutton 1986). Zmud (1984) suggests that managerial attitudes

have stronger influence on technical innovations than on administrative innovations. Drury and Farhoomand (1996) found that management attitudes have been major barriers in the adoption, and the further the adoption process has progressed the more critical the managerial attitudes are to the adoption process.

Dong (2001) divides the managerial commitment in the top management commitment to resources and top management commitment to change management. Commitment to resources describes the extent to which management is determined to provide enough financial and technological resources to ensure smooth completion of implementation (Dong, 2001). Management commitment of resources is one positive signal about top management's concern. The commitment to change management is additionally highlighted by Dong (2001) and defined as the extent to which top management engages in promoting organizational receptivity of IT innovation by training, by formal presentations and by establishing communication channels with targeted users. Commitment to change management reduces uncertainties around technical changes and organizational transformation.

According to Zmud (1984), CIM adoption requires reallocation of organizational resources, and this is not possible without the support of management. Mchowan and Durkin (2002) argued that acquiring and utilizing CIM involves an investment and allocation of key resources such as time, money and effort which arguably might be better utilized in the pursuit of opportunities with more immediate and tangible promises. This is here considered to lead to the extent of managerial commitment, reflecting the manager's willingness to allocate resources in the adoption process.

Poon and Swatman (1999) found that management often operates as a product champion in the implementation of CIM issues, and it has been reported that the role of product champion is important for implementation of new solutions. Management operating as a champion describes the high commitment on management in the adoption process, at least in case of small companies. As in almost all innovative endeavors in the firm, top management support is extremely important.

Beatty, Shim and Jones (2001) defined management support in the case of CIM technologies, because they transform existing organizational procedures and impact relationships with trading partners. Blake (1994) studied teleworking, and suggests that top management commitment is important for supporting the cultural changes required in management style, managing for results, changes in work practices and the need for information technologies and communications support. Ruppel and Howard (1998) found that top management support was one of the facilitators in the adoption of telework in organizations.

3. Objective

To establish the extent to which Managerial Support determine adoption of Computer Integration Model in financial forecasting of Small and Medium Enterprises in Kisumu East District.

4. Research Hypothesis

In an attempt to achieve the objective, the research was guided by the alternative hypothesis that:

H1: There is a significant relationship between Managerial Support and adoption of Computer Integration Model in financial forecasting of Small and Medium Enterprises in Kisumu East District. Hypothesis testing using Chi-square predetermined alpha level of significance (0.05) and a degree of freedom ($df = 1$).

5. Conceptual Framework

This study was guided by the following conceptual framework (figure 1):

This conceptual framework indicates the determinants of adopting Computer Integration Model in financial forecasting. It views system support readiness, managerial support readiness, firm size/capital resources, operational efficiency and financial readiness as determinants of adoption of Computer Integration Model in financial forecasting; however these relationships may be influenced by government policies, globalization dynamics, economic factors, political factors and environmental factors.

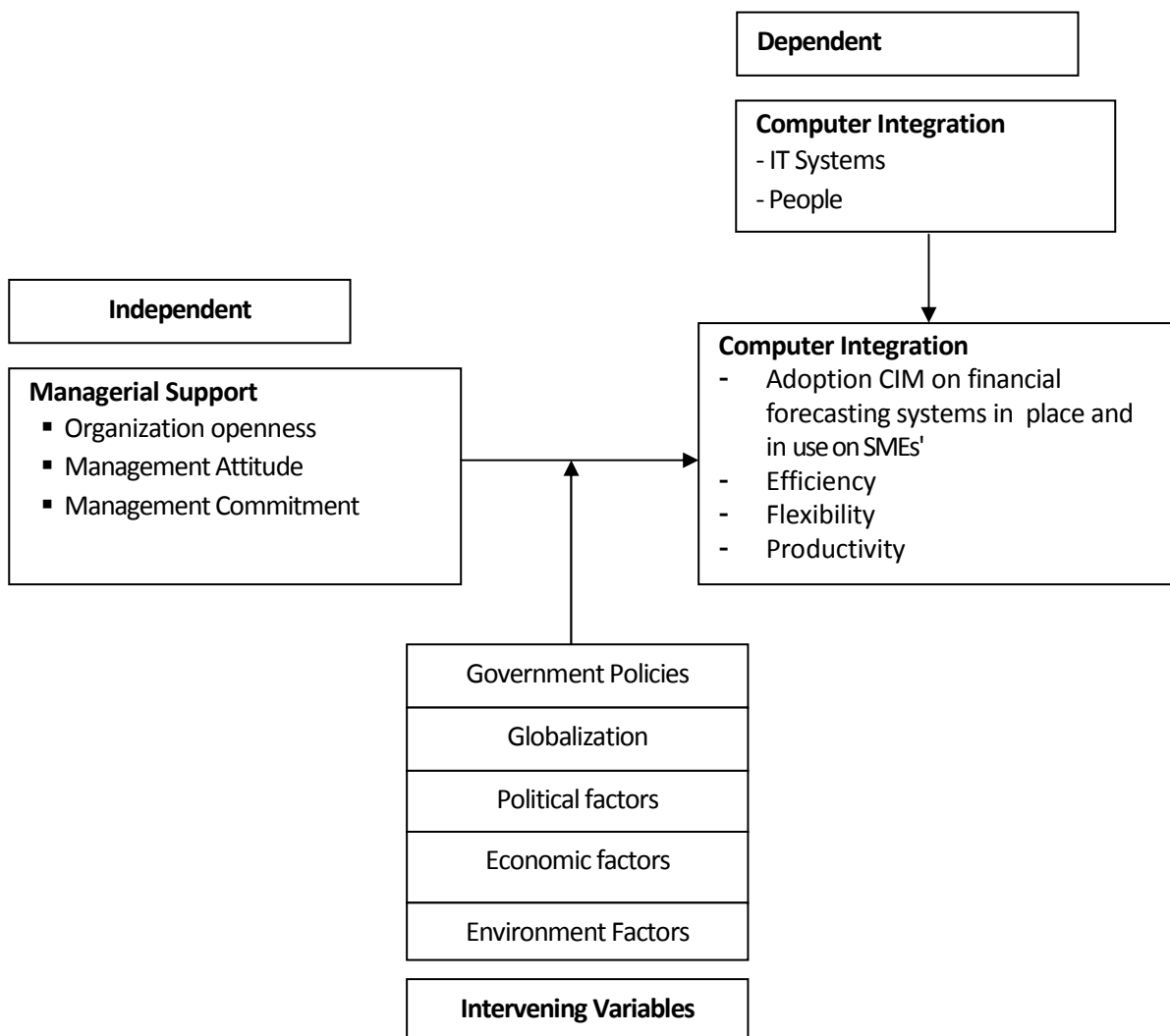


Figure 1.

6. Methodology

6.1. Research Design

The study used descriptive survey design which describes the state of affairs as it exists. The descriptive design is appropriate because it is not restricted only to fact findings, but may often result in the formulation of important principles of knowledge and solution to significant problems. They are not only a collection of data but involve measurement, classification, analysis, comparison and interpretation of data.

6.2. Target Population

The study was conducted among 1,564 SMEs as the target population. With a sample size of 310 selected through random sampling in Kisumu East District as indicated in the Municipality of Kisumu, revenue office record as per table below:

Table 1. Distribution of Respondents in the Sample

Category	Number of SMEs (N)	Sample Size (n)
Hotels	850	168
Shops	390	77
Garments	160	32

Category	Number of SMEs (N)	Sample Size (n)
Money Transfer	95	19
Service Stations	24	5
Courier Services	24	5
Advocates	21	4
TOTAL	1564	310

N = population size
 S = Sample size
 Therefore the sample size was 310

6.3. Sampling Techniques

The study used stratified random sampling procedures to divide the population into homogeneous subgroups. The samples were divided according to the type of business they operate. By the use of simple random method, a sample of 310 consisting of Hotels 168, Shop 77, Garments 32, Money transfer 19, Service stations 5 and Courier services 5 were selected.

6.4. Data collection and Analysis Techniques

Data was collected through the use of questionnaires and interview Schedules. Quantitative data were analyzed by the use of Pearson's (r) product moment correlation coefficient with the aid of Statistical Package for Social Sciences (SPSS) to look at the relationships of variables interrelatedness as indicated in the conceptual framework then presented in form of frequencies and percentage tables. Qualitative data were transcribed, organized into various relevant themes and reported as they arrive. Hypothesis testing used chi-square test (χ^2) to compare variance to hypothesized population in a two tailed test, the chi-square value tested the null hypothesis

viz, $H_0, \sigma^2_S = \sigma^2_p$ worked out as under

$$\chi^2 = \frac{\sigma^2_S}{\sigma^2_p} (n-1)$$

Where σ^2_S = variance of the sample

σ^2_p = variance of the population

(n - 1) = degree of freedom, n being the number of items in the sample.

Then by comparing the calculated value of χ^2 with its table value for (n-1) degrees of freedom at (0.05) significant level, we may either accept H_0 or reject it. If the calculated value of χ^2 is equal to or less than the table value, the null hypothesis is accepted or otherwise null hypothesis is rejected (Kothari, 2008).

7. Results and Discussions

Managerial support Readiness to adopt CIM in financial forecasting of SMEs is the preparedness of the management to support and commit resources in the use of CIM technology to respond adequately to market demand and maintain or improve organizational competitiveness since the support of the management is very important for SMEs in adoption. This theme proved unavoidable in answering research objective which sought to establish the extent to which managerial support readiness determined adoption of CIM in financial forecasting of SMEs. To achieve this objective, the respondents were asked to state if managerial support readiness determines adoption of CIM amongst SMEs. Their responses were presented in table as follows:

Table 2. Respondent of Managerial Support Readiness Adoption Rate

Types of SMEs	Adopted		Not adopted		Total
	Frequency	Percentage	Frequency	Percentage	
Hotels	45	29	108	71	153
Shops	33	43	44	57	77

Types of SMEs	Adopted		Not adopted		Total
	Frequency	Percentage	Frequency	Percentage	
Garments	9	28	23	72	32
Money Transfer	13	68.4	6	31.6	19
Service Stations	5	100	-	-	5
Courier Services	3	60	2	40	5
Advocates	2	50	2	50	4
TOTAL	110	37.3	185	62.7	295

Out of 295 respondents who took part in the study, 185(62.7%) were not adopted due to managerial support readiness, 110(36.9%) agreed that managerial support readiness determined adoption of CIM in financial forecasting amongst SMEs. This indicated that majority of SMEs disagree that managerial support readiness determined adoption of CIM in financial forecasting amongst SMEs. The findings are incongruent with previous studies conducted by Beatly, (1998) that asserted that managerial support readiness provides innovation that has become the domain of SMEs but key to survival and success of many SMEs.

7.1. Managerial Support Readiness on adoption CIM in financial forecasting

This objective sought to establish the influence of managerial support readiness in determining adoption of CIM in financial forecasting amongst SMEs. To achieve this objective, the respondents were asked if managerial support readiness determined adoption of CIM in financial forecasting amongst SMEs. Their responses were presented in the table as follows:

Table 3. Managerial Support Readiness on adoption CIM in financial forecasting

Types of SMEs	Yes		No		Total
	Frequency	Percentage	Frequency	Percentage	
Hotels	122	79.7	31	20.3	153
Shops	62	80.5	15	19.5	77
Garments	22	69.8	10	30.2	32
Money Transfer	15	79	4	21	19
Service Stations	5	100	-	-	5
Courier Services	4	80	1	20	5
Advocates	3	75	1	25	4
TOTAL	233	78.9	62	21.1	295

Out of 295 respondents who participated in the study, 233 (78.9%) agreed that managerial support readiness determined adoption of CIM in financial forecasting amongst SMEs, 62 (21.1%) said that managerial support readiness has no bearing to CIM adoption in financial forecasting amongst SMEs. The findings support the previous literature review of the study conducted in New Delhi India An Exploratory Study of Small Business Internet Commerce Issues by Poon and Swatman (1999) found out that management support often operates as a product champion in the implementation of CIM adoption, and it had been reports that the role of product champion is important for adoption of new solutions.

Management operates as a champion describes the high commitment on management in the adoption process, at least in case of SMEs. A point supported by Beatly *et al.* (2001), that in almost all innovative endeavors in SMEs, top managerial support is extremely important. Therefore the reviews support the findings of the study that managerial support readiness determines adoption of CIM amongst SMEs.

7.2. Hypothesis testing

The alternative hypothesis H1 was stated that, there is significant relationship between Managerial Support readiness and adoption of Computer Integration Model in Financial forecasting on Small and medium Enterprises in Kisumu East District, while null hypothesis Ho was stated that, there is no significant relationship between Managerial Support readiness and adoption of Computer Integration Model in Financial

forecasting on Small and medium Enterprises in Kisumu East District. In order to test this hypothesis chi - square test for dependence between Managerial Support readiness and adoption of Computer Integration Model in financial forecasting was computed. Table presents a cross tabulation between adoption of managerial support and adoption of CIM.

Table 4. Managerial Support Adoption of CIM Cross tabulation

Types of SMEs		Adoption of CIM				Total
		Not adopted		Adopted		
		Frequency	Percentage	Frequency	Percentage	
Managerial Support	Available	11	22	39	78	50
	Not	191	78	54	22	245
TOTAL		202	68	93	32	295

Out of 50 SMEs who participated, 11 (22%) among had not adopted managerial support, 39 (78%) had adopted managerial support. Out of 245 who participated 191 (78%) SMEs had not adopted managerial support in their organizations, 54 (22%) among them had adopted managerial support. Table presented a chi - square test of the relationship between managerial support and adoption of CIM.

7.3. Chi-Square Tests

Table 5.

	Value	df	Asymp.Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	60.237(b)	1	.000		
Continuity Correction(a)	57.673	1	.000		
Likelihood Ratio	56.583	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	60.033	1	.000		
N of Valid Cases	295				

a) Computed only for a 2x2 table

From table the p - value (Exact Sig. 2-sided) of the chi - square test is 0.000 which is less than 0.05. It was therefore inferred that managerial support and adoption of CIM are dependent. The study therefore accepted the alternative hypothesis that there is a relationship through dependence between managerial support and adoption of CIM.

Our predetermined alpha level of significance (0.05), and our degree of freedom (df =1) is less than alpha level , that means null hypothesis is rejected and the study accepted the alternative hypothesis (H1) that there is relationship between managerial support and adoption of CIM. The study further sought to establish what other factors that determined adoption of CIM other than managerial systems support readiness. Availability of finances, certainty of returns on investment in CIM by SMEs, availability of skilled workers to run the CIM in SMEs in Kisumu east district, responsiveness of staff and management to the adoption of CIM, commitment of management to allocate time allocation for the purpose of adoption of CIM and managers attitude towards innovations.

Organizations attitude towards new innovation in ICT was reported by 75.47% of the SMEs that had adopted CIM in financial forecasting in their organizations to be the reason for their adoption of CIM in financial forecasting. If the manager and other staff had a positive attitude towards spearheading implementation of CIM in financial forecasting due to its benefits, then it influenced the organization to adopt CIM in financial forecasting. The finding established that if an organization believes that adoption of CIM in financial forecasting will improve their performance then they are likely to adopt it. Additionally they argue that the technically sensitive the organization is, the more successful the CIM in an organization will be. The

resistance toward technological change is assumed to be negatively associated with the success of CIM in organizations.

Responsiveness of an organization to adoption of CIM was also established to be an influencing factor in the adoption of CIM in financial forecasting among SMEs in Kisumu East District. 62.26% of the managers reported that they adopted CIM in financial forecasting in their organizations because their staff was not rigid and was responsive towards adoption of CIM in financial forecasting. Commitment to managers through adoption of time for the purpose of implementation of CIM in financial forecasting was said to be the reason behind their adoption of CIM in financial forecasting. 22.64% of the SMEs in the study said it was due to their management commitment towards the adoption of CIM in financial forecasting that they adopted CIM in financial forecasting. Availability of skilled workers to run CIM in financial forecasting was confirmed to be a factor influencing the adoption of CIM in financial forecasting. Organizations that had skilled labour to run the CIM infrastructure for financial forecasting had easily integrated CIM in financial forecasting than other organizations. Most of the SMEs in study chose not to adopt CIM in financial forecasting because they had no manpower to run it and also the process of recruiting manpower for that purpose could be time consuming and costly.

Interviewing the SME managers in the study established that though having CIM in financial forecasting can go a long way in improving the operations of the organization, they were uncertain on the amount of returns they could get from the investment in CIM. 16.98% of the organization that had integrated CIM in their organizations said that they did so because they were sure that it will improve their operations. On the same breadth, most SMEs were not slow to implement CIM in financial forecasting because they had no clear facts on the amount and sustainability of returns from investments in CIM.

8. Conclusion

The study established that managerial support readiness is a major determinant of adoption of computer integration model in financial forecasting amongst small medium enterprises in Kisumu East District, Kenya. Overwhelmingly respondents agreed that managerial support is necessary in adoption with highest rate amongst service stations. The finding was confirmed by Chi-square test of hypothesis that “managerial support determines adoption of computer integration model in financial forecasting amongst SMEs”.

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