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# Security and Acceptance of Web Based Marketing Information System among Microfinance Banks in Nairobi Region, Kenya

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**Abstract**

Information system (IS) acceptance has been the subject of much research in the past two decades. Researchers have concentrated their efforts on identifying the conditions or factors that could facilitate the acceptance of information system (IS) into microfinance banks. The purpose of this paper is to find out if there is a significant relationship between security and acceptance of web based marketing information system (MKIs) among micro- finance banks in Nairobi Region, Kenya. It also tends to provide deeper understanding on the current security and acceptance level of web based MKIS. Anonymous and self-administered questionnaires were distributed to 383 respondents. A total of 370 usable responses were received, resulting in a response rate of 96.6% which was considered satisfactory for subsequent analysis. Due to the quantitative nature of the study, the results are analysed with statistical measures. The results indicated that Security was influential determinant of acceptance with t= 2.0541, β= 0.120, p< 0.01 at 1% significant level though most respondents indicated that the current security level of the system was low. Theoretical contributions and practical implications of the findings are discussed and suggestions for future research are presented.

**Keywords:** Security, Web based Marketing information system, Acceptance, Micro-finance Banks.

## Introduction

Information system (IS) acceptance has been the subject of much research in the past two decades (Lai and Li, 2004). Researchers have concentrated their efforts on identifying the conditions or factors that could facilitate the integration of information system (IS) into business (Legris, Ingham and Collerette, 2002).

Web based Marketing information systems (MKIS) enable marketing and sales managers to identify, interpret, and react to competitive signals (Montgomery and Weinberg, 2002; Prabhu and Stewart, 2005) and are key elements leading to efficient marketing strategies and sales promotion strategies. As a global concept, marketing information can best be understood by its categorization into marketing research and marketing intelligence. Both activities aim at

collecting and providing information to management for the purpose of better and timelier decision- making. The marketing information system is a set of procedures and sources used to obtain everyday information about pertinent developments in the marketing environment (Kotler, 2002). Therefore, marketing information systems provide a continuous flow of information about very diverse market events that might affect the company's competitive position.

Marketing information is important particularly as the economy continues to emphasize services as a primary source of value. Services are heavily information dependent. Information is rapidly becoming a service in its own right. Indeed, the revolution in information technology (IT) has propelled "information" to the position of the most critical factor in wealth creation (Braun and Holick, 2006). However, it is the advent of the Internet, and especially the browser-based World Wide Web, which has ignited a revolution in Marketing Information Systems (MkISs) (Harmon, 2003).

Furthermore, in today's knowledge-based society, development of good information can provide a company with a jump on its competitors, provided that it is able to develop, deploy, and manage powerful new marketing information systems that are capable of converting knowledge rapidly into customer value (Lagoutte, 2006). This can only be achieved when the marketing function is developed and scaled up on "Internet time" with best-of-class decision support solutions for sales force automation, marketing intelligence, marketing research, logistics, communications, and product development.

Indeed, the acceptance of web based MKIs have prompted many microfinance institutions to rethink their IT strategies in order to stay competitive. Customers today are demanding much more from microfinance services. They want new levels of convenience and flexibility (Birch and Young, 2007; Lagoutte, 2006) on top of powerful and easy to use marketing management tools and products and services that traditional marketing system could not offer.
During 1980's, web based marketing was introduced but its growth across the globe took place in the 90's. Europe has been and still is the leader in web based marketing technology and usage (Schneider, 2003). Web based marketing information systems is changing the face of marketing in Europe. Since 2000 web has become established as a mainstream consumer media channel, and across the continent marketing budgets have now followed audience- although the pace and scale varies greatly between countries (Digital Strategy Consulting, 2006).

Microfinance institutions (MFIs) in the United States, such as ACCION USA and KIVA, have explored the potential of internet to connect retail investors to microfinance borrowers and entrepreneurs across the world; they have accepted Web based marketing information system as a tool for marketing their products and services. They also envision a world where all people - even in the most remote areas of the globe - hold the power to create opportunity for themselves and others (Economist Intelligence Unit, 2010).

In Brazil, Crediamigo; microfinance arm of Banco do Nordeste, was the first to accept and introduce web based marketing information system as its marketing tool, and its impact growth and expansion was great. It managed to expand very fast in terms of customer base with 174 branches covering 1,955 cities in Brazil. It financed 77% of all the rural and industrial loans in the country's Northeast region. The Brazilian federal government controls 90% of Crediamigo shares with the remainder in private hands. Crediamigo microfinance became very popular because of acceptance of internet marketing by use of web based marketing information system. It provided maximum loans of $1,400 and mostly pushed small loans lasting 3 to 18 months. These average $375 and come with a steep 35% interest rate (Matthew, 2008).

In Peru, marketing of microfinance sector is highly developed, they use phone-based systems with voice prompts are being used to provide marketing and financial services in rural areas. Peru was ranked first, ahead of the Philippines, Bolivia, Ghana and Pakistan, in the 2010 edition of the Economist Intelligence Unit's in terms of Information Technology usage in microfinance (Economist Intelligence Unit, 2010).

Web based marketing information has become popular all over as mentioned before and the benefits they stand to gain through its acceptance, Kenya is not left out. To begin from web based marketing information system but there seemed to be low acceptance. Few microfinance banks like; Equity Bank, K-rep Development agency, Faulu Kenya and Pride Kenya have accepted it because of many advantages that come with it like; availability all through the day and night (24/7) when needed, real time communication between microfinance and clients, efficiency, user friendliness, security of customers' personal data is enhanced, Marketing microfinance through web based MKIs is also inexpensive when examining the ratio of cost to the reach of the target audience. Micro-finance banks can reach a wide audience for a small fraction of traditional advertising budgets, web based marketers also have the advantage of measuring statistics easily and inexpensively; almost all aspects of an Internet marketing campaign can be traced, measured, and tested (Han and Mills, 2006).

However, several microfinance institutions in Nairobi, Kenya are slow to adopt web based MKIs in spite of these advantages; it is suspected that microfinance institutions are skeptical about adopting web based MKIs perhaps because of the security of the microfinance sensitive data and their clients' personal data being leaked within the web as a result of the system's acceptance and usage. This suspicion is supported by a report by their regulatory body; Association of Microfinance Institutions in Kenya (AMFIK) for 2012. According to AMFIK (2012), Internet technology is rapidly changing the way marketing services are being designed and delivered, unfortunately, microfinance institutions in Nairobi region, Kenya are reluctant to introduce web-based marketing information systems to improve their relationship with their clients, enhance their operations and to reduce costs. These systems remain largely unnoticed even by the customers, and are certainly underused in spite of their availability.

It is against this background that this study will be conducted to determine the nature of relationship that exists between security and acceptance of internet- based marketing

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information systems among micro- finance institutions in Nairobi Region, Kenya. The study will also assess the levels of security and acceptance of web-based MKIS by users.

**Research Objectives**

i. To assess level of data security available in web based marketing information system among Microfinance Institutions in Nairobi region, Kenya.
ii. To determine if there is any relationship between security and acceptance of web based marketing information system among Microfinance Institutions in Nairobi region, Kenya.

**Null Hypothesis**

There is no significant relationship between data security and acceptance of web based Marketing information system among Microfinance Institutions in Nairobi region, Kenya.

**Literature Review**

Godwin (2001) reported that privacy and security concerns were found to be a major barrier to Internet marketing. This concern has been extended to the web based marketing information system. Security has been widely recognized as one of the main obstacles to the acceptance of electronic banking (Aladwani, 2001), and privacy issues have proven important barriers to the use of online services (Wu, 2008). White and Nteli (2004) reported that the level of increase of web based marketing information system usage for marketing purposes has not changed in the UK because of the continuing consumer fear about security. In a study about the acceptance of web based marketing information system, Sathye (1999) reported that privacy and security were found to be significant obstacles to the acceptance of online marketing in Australia.

Security is defined as a threat which creates "circumstances, condition, or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosure, modification of data, denial of service and/or fraud, waste and abuse" (Kalakota and Whinston 1997). Security threats usually occur at the network level (the server), the communication channel or the user's personal computer (the client). In the context of Internet banking, security threats can either be through network, or data transaction & transmission attacks or through unauthorized access to the account by means of false authentication (Yousafzai, Pallister and Foxall 2003).

A study by Everett (2008) on security of web based information found that Web based information systems are increasingly becoming a viable choice for organizations' workflow that span multiple organizations. Until recently, Web technology has not been terribly secure. However, by utilizing appropriate encryption algorithms, digital signatures and access control (role based/ multilevel Security). Web based information Management Systems can be made secure. Since these systems include many subsystems (Operating System, Database

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System) and may involve multiple Organizations, complete security solutions are enormously complex.

Security in microfinance settings is of considerable importance to customers, microfinance, and regulators. Security breaches of internet transmissions and databases enable the unauthorized use of consumers' confidential information (e.g., name, address, password, social security and credit card numbers) and often result in identity theft (Mauricio, Anthony, and, David, 2010). Prior research acknowledges the risks to consumer information privacy and of information misuse in the microfinance setting.

In reality, the prospect of security losses and information misuse in microfinance settings may offset any convenience, time, and/or financial savings afforded to consumers. The fact that a typical online transaction entails third-party access to personal financial data may be a source of worry for some customers. Though procedures may have been changed to allow customers to pay remotely, little thought has been given to measuring the effectiveness of these changes (Anita., Zhao, Nicole , Stuart and Philippa, 2010) and security breaches are occurring at a growing rate (Bedi and Banati, 2006). For example, the sophistication of phishing and harming scams has increased and affects more unsuspecting web surfers each year. Online users are unwilling to risk their confidential information, including credit card details (Anita, etal.,2010). Moreover, banks, credit agencies, and payment processors continue to suffer losses of consumers' confidential personal information ( Bedi and Banati, 2006).

Grinter and Palen studied teens' use of Internet Messeging and SMS in marketing (Grinter and Palen, 2004), Like Hakkila and Chatfield(2004); Grinter and Palen found that the selection of the communication medium was based on privacy and security considerations (e.g., leaving no written trace) as well as convenience and availability. Specifically, Grinter and Palen showed how interviewees used the different features of IM to control access to themselves. At the same time, IM allowed users to keep a connection with their social group and to carve a private space in the household where they were unlikely to be overheard (Ito and Daisuke, 2003), Grinter and Palen asked questions about privacy as part of a broad interview about usage patterns and social context, which we believe is conductive to balanced and realistic results. Grinter and Palen noticed that different members of an outwardly "homogeneous" demographic (teens) report very different behaviors in terms of privacy, which warns against standard "common sense" assumptions about privacy expectations and preferences. A similar observation was made by (Iachello et al. 2003; Ito and Daisuke, 2003) in relation to inter-family use of mobile person finders.

## Methodology

### Research Population

The researcher targeted staff and customers of microfinance who use web based marketing information system. Anonymous and self-administered questionnaires were distributed to 383

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respondents. A total of 370 usable responses were received, resulting in a response rate of 96.6% which was considered satisfactory for subsequent analysis.

**Research Instruments**

The research method for this study is primarily a quantitative approach, and a survey instrument in the form of questionnaire was developed through data collected from previous studies on TAM, and acceptance of web based marketing information system. The main survey consists of two parts. Part one contains 7 questions on the demographic profile and in part two the Likert 5 scale closed end questions are included for answering questions. The survey questionnaire was accompanied with a covering letter, which explained the purpose of the research study and ensured confidentiality of the data gathered. The participants were explained that the research was being conducted to explore their perception of and/or acceptance of web based marketing information systems, and that the participation in the survey was voluntary. They were further informed that they have the right to withdraw from the survey study at any time and that they must be at least 20 years old to participate in the survey.

The survey questions and their relation to the hypotheses are presented in the table 1 below;

**Table 1: Questionnaire questions for hypothesis testing**

| | Variable | Survey Sample Questions |
|---|---|---|
| **Security** | **SEC1** | **Matters on security have influences in using web-based marketing information system** |
| | **SEC2** | **My microfinance provides Security level password to help authenticate the identity of the user** |
| | **SEC3** | **My microfinance ensures all their operating systems are updated with the latest security patches.** |
| | **SEC4** | **My microfinance provides Firewall Technology to prevent unauthorized intrusion** |
| | **SEC5** | **My microfinance updates its antivirus software periodically to safeguard its client data** |
| | **SEC6** | **My microfinance provides Secured communication technologies to prevent unauthorized users from reading the information** |
| | **SEC7** | **My microfinance provides the latest encryption technology to prevent unauthorized intrusion** |
| | **SEC8** | **I trust the ability of web-based MKIs to protect my privacy** |
| | **SEC9** | **My microfinance provides third party assurance to help authenticate the identity of the microfinance institution** |
| | **SEC10** | **I think the security policies of web-based MKIs are available.** |
| **Acceptance** | | |

| | |
|---|---|
| **ACP1** | **I intend to use web based MKIs in future** |
| **ACP2** | **I find using web based MKIs very interesting** |
| **ACP3** | **I find web based MKIs very interactive** |
| **ACP4** | **Web based MKIs contains help tips and frequently asked questions (FAQ)** |
| **ACP5** | **Web based MKIs contains updated information** |
| **ACP6** | **Web based MKIs is visually appealing to the users** |
| **ACP7** | **I feel safe when I release personal information through web marketing** |
| **ACP8** | **Web based MKIs is easy to use** |
| **ACP9** | **I find Web based MKIs very cumbersome to use** |
| **ACP10** | **I feel that I could trust Web based MKIs to give adequate information about microfinance institution** |

**Data Analysis Method**

In this study, descriptive statistics including simple frequencies and mean ratings were computed on the respondents' satisfaction level and acceptance level of web based MKIs. The analysis was done with a system designed for statistical analyses (SPSS).

**Analysis of Findings**

In this study, 380 questionnaires were returned out of 383 distributed, which represented a response rate of 99% of the original sample. However, among those returned questionnaire, 10 responses were discarded because two of them were returned completely blank, three respondents had put the same answers on all the Likert scale items. Two respondents mentioned that they had never used internet before (i.e. not satisfying inclusion criteria) and three questionnaires were partially answered (i.e. some questions and/or some parts such as demographic questions were left blank). Therefore, remaining 370 questionnaires were used for further data analysis. Consequently, the final response rate in this study was 96.6%.

The response rate achieved in this study is reasonably much higher than that of in earlier studies on web based marketing and information systems. For instance, the response rate reported in the study by Cheng et al. (2006) was 20.3 per cent, Wu (2008) received 10.5 per cent, Abeka (2009) had 25% response rate, Laitinen (2002) reported 10.8 per cent, and Podder (2005) had 15.7 per cent of usable responses. Yousafzai (2005) in her research survey of Internet marketing acceptance in the United Kingdom received 21.8 per cent usable responses.

Therefore, the final response rate in this study can be considered relatively better than the previous studies mentioned above.

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Table 2 presents the Cronbach's alpha coefficients for all constructs obtained in the piloting stage. All of the measures used in the pilot stage showed an adequate reliability with Cronbach's alpha values, which ranged between 0.805 and 0.873 that are considered to be good and acceptable except one item (i.e., one from Security (SEC3) construct), which were dropped in the final survey instrument.

**Table 2. Cronbach's Alpha Coefficients for all Constructs in Pretest Study**

| Items/ Construct | Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | No. of Items |
|---|---|---|---|
| **Security (SEC)** | **.873** | **.927** | **10** |
| **Acceptance (ACP)** | **.805** | **.796** | **10** |

Data normality for individual measured items was checked by determining the skewness and kurtosis statistics, which are shown in tables 4 and 5. The skewness and kurtosis statistics were found less than ±1, which indicated no deviation from data normality.

**Demographic Characteristics of Participants**

Table 3 shows that the respondents were well represented between males and females. Males accounted for 51% of total respondents whilst females accounted for 49%. Gender Ratio of 1:1.05. The results of participants' demographic characteristics revealed that the majority of the respondents were male (51%). This was not surprising because looking at the latest gender statistics of Kenya prepared by the Kenya National Bureau of Statistics for the year 2009, it can be seen the total number of male population exceeds slightly the number of females (KNBS, 2009). This difference in the ratio between the male and female categories therefore may explain the high percentage of male responses obtained in this survey. In addition, this finding suggests that there are more male web based marketing information users than female in Nairobi Region, Kenya.

The age distribution of respondents ranged between 20 to 60+ years of age. Results (Table 3) revealed that the majority i.e. 52% of respondents were aged between 20-39 years. The second highest number (29%) of respondents was of those aged between 40-59 years old and finally, 19% of respondents of ages 60 and above. This finding suggests that the majority (about 52 per cent) of the web based marketing information users in Nairobi are adults in their early adult hood of working age, who might be using the Internet mostly to do their businesses on internet. This is always the stage were most people are techno savvy.

Most of the participants in this survey reported highest level of education as a Bachelor degree (40%) followed by masters qualifications (30%). Respondent with diploma qualification

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constituted 20% of the total percentage of all respondents, a paltry 5% were PhD holders and another 5% for the rest whose qualification were not among the categories given. (see table 3). The findings also revealed that the level of education of the most (about 95 per cent) of the participants was minimum a diploma qualification, which was higher compared to an average citizen in Kenya where the literacy rate is i.e. 87.01 per cent in 2009, (World Bank, 2010). These findings suggest that the web based marketing information system users in Nairobi generally have higher education level. It can possibly be explained that educated respondents have benefited from more awareness and greater exposure to information technology as a part of their education. Therefore, they are better able to use computers and the Internet.

From the table 3, single respondents were 54% hence 46% were married. Only two categories of marital status were provided; single and married. The researcher deliberately did not include divorced or separated due to their stigmatization and the societal expectations.

Four categories of job designation were presented to respondents to choose the one which best reflects their occupational status. Evident from table 3; 5% of the respondents were branch Managers, 20% were Officers from ICT departments, 40% were Customers and 35% were Sales and marketing officers.

**Table 3: Demographic Characteristics of the Marketing Information Systems' Users of The Existing Marketing Information System N= 370**

| Category | Frequency | Percentage (%) |
|---|---|---|
| **Gender** | | |
| Male | 188 | 51 |
| Female | 182 | 49 |
| **Age** | | |
| 20-39 (Early adult hood) | 192.4 | 52 |
| 40-59 (Middle adult hood) | 109.3 | 29 |
| 60 and above (Late adult hood) | 70.3 | 19 |
| | | |
| **Educational Qualifications** | 18.5 | 5 |
| Others | 74 | 20 |
| Diploma | 148 | 40 |
| Bachelors | 111 | 30 |
| Masters | 18.5 | 5 |
| PhD | | |
| **Marital Status** | | |
| Single | 199.8 | 54 |
| Married | 170.2 | 46 |
| Designation | | |
| Branch Managers | 18.5 | 5 |

| | | |
|---|---|---|
| Information Communication Technology (ICT) | 74 | 20 |
| Customers | 148 | 40 |
| Sales and marketing officers | 129.5 | 35 |

**Security level of Web- Based MKIS**

A ten- item scale was used to measure the level of data security (SEC) construct and Table 4 shows the means and standard deviation of items measuring this construct. The findings show that all items i.e. All the items had mean below 3.5 (i.e. neutral point). The average mean ratings for all the items of this construct were 2.97 (±0.909). This indicated that respondents were undecided or neutral to the measurement variables.

This finding also suggested that some respondents had reservations about the security level of their personal data in web based information systems. This was evident from the low mean rating (2.47 ±0.904) for item SEC8 i.e. 'I trust the ability of web-based MKIs to protect my privacy'; the web based marketing information system offers secure personal privacy, which might suggest that respondents were concerned about the security of the web based information systems. This finding is not surprising because the security and privacy are the two major issues that have been found to greatly influence users' acceptance of online technologies especially in the financial and business sectors. In addition, the reliability statistics of the security level construct (as shown Table 2) indicated .873 Cronbach's alpha reliability for this construct, which shows strong internal consistency of measurement items of this construct.

**Table 4: Descriptive statistics of measured items of data security level construct**

| | Mean Statistics | Std. Deviation Statistics | Variance Statistics | Skewness Statistics | Kurtosis Statistics |
|---|---|---|---|---|---|
| **SEC1** | **3.12** | **0.860** | **1.458** | **-.644** | **-1.754** |
| **SEC2** | **3.10** | **0.851** | **1.425** | **-.761** | **-1.564** |
| **SEC3** | **2.62** | **0.991** | **1.963** | **-.507** | **-1.063** |
| **SEC4** | **2.55** | **0.961** | **1.845** | **-.442** | **-1.083** |
| **SEC5** | **3.19** | **0.944** | **1.779** | **-.556** | **-1.898** |
| **SEC6** | **2.92** | **0.918** | **1.680** | **-.572** | **-1.904** |
| **SEC7** | **3.40** | **0.956** | **1.825** | **-.412** | **-1.116** |
| **SEC8** | **2.47** | **0.904** | **1.624** | **-.384** | **-1.106** |
| **SEC9** | **3.16** | **0.818** | **1.307** | **-663** | **-1.651** |
| **SEC10** | **3.15** | **0.882** | **1.543** | **-.710** | **-1.662** |

**Relationship between Security and Acceptance Level of Web based MKIs. (Hypothesis Testing)**

Respondents were asked several questions aimed at establishing if there was a relationship between security and the acceptance of web based marketing information system (MKIs). The results in table 5 showed that Acceptance of Web based MKIs is predicted by level of security ($\beta$= 0.120, p< 0.01).

**Table 5: Result of Hypothesis Test**

| Hypothesis | Research Path | $R^2$ | Path Coefficient | T- statistics | Remarks |
|---|---|---|---|---|---|
| $H_0$ | SEC ⟶ ACP | 0.56 | 0.120 | 2.0541 | Rejected |

Fig. 2. The path between security level and acceptance was found to be significant ($\beta$=0.120), thereby not supporting hypothesis hence its rejection. This finding supports Aladwani (2001) contention who reported that there is a significant relation between security level and acceptance of we based MKIs in TAM model. It further concurs with the findings of Raisingahani and Savoie (2009) who concluded that privacy and security significantly predicted acceptance of web based MKIs among microfinance institutions in Nairobi, Kenya.

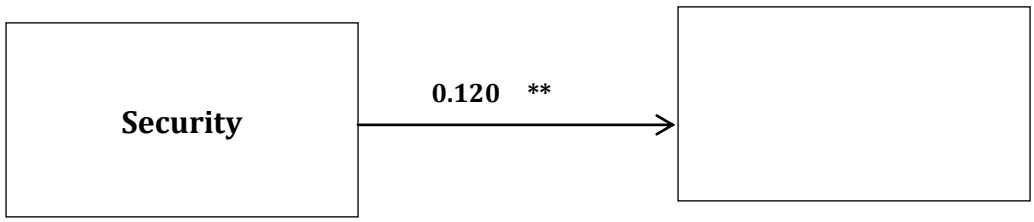


**fig 2: Analysed research model**

**Bivariate Correlations**

Table 6 presents the bivariate correlations of the independent (security) and dependent variable (acceptance).

**Table 6: Correlations**

| VARIABLES | | SECURITY | ACCEPTANCE |
|---|---|---|---|
| SECURITY | Pearson Correlation | 1 | |
| | Sig. (2 Tailed) | | |
| | N | 370 | |

| | | | |
|---|---|---|---|
| **ACCEPTANCE** | **Pearson Correlation** | **0.700**** | **1** |
| | **Sig. (2 Tailed** | **.000** | |
| | **N** | **370** | **370** |

***Note: *p <0.05; ** p<0.01, [ns] not significant***

As shown in Table 6, it is reported that the independent variable was positively related to acceptance of web based marketing information system. Security was positively related to intention to use at 0.01 significance level (*r* =.700). Taken as a whole, when the independent variables is increased, the dependent variable is also increased positively.

Security level in this research model is hypothesized not to have any relationship with acceptance of web based MKIs, (H2). The parameter estimate results (β = 0.120, *t* = 2.0541) for the hypothesis H2 (i.e. SEC _ ACP) were found statistically significant (p = 0.001). As such, this hypothesis was proved valid and thus accepted. The results indicated that security was a predictor of acceptance of MKIs. This implies that if there is an increase in security level in web based MKIs it would influence users' acceptance and eventual usage of the system. These findings are in accordance with the findings of previous research studies, which suggest a pressing need for enhanced security level in web based systems (Godwin, 2001; Aldowani, 2001; White and Nteli, 2004). This finding also validates the inclusion of security in the TAM model by Gefen et al. (2003). Moreover, this finding demonstrates that those users who have higher levels of the trust as a result of enhanced security levels are likely to have high levels of acceptance of web based MKIs.

**Conclusion and Discussion**

In this empirical research study, the researcher intended to establish the levels of security and acceptance level of web based MKIs. He also wanted to determine if there exist a relationship between security and acceptance of Web based MKIs. Self-designed questionnaire was used to collect relevant data from the respondents. Descriptive statistics including simple frequencies and mean ratings were computed on the respondents' views on security level and acceptance level of web based MKIs. The analysis was done with a system designed for statistical analyses (SPSS). The mean and frequency results show that respondents had reservations about the security level of their personal data in web based information systems.

The study revealed that respondents were hesitant on accepting web based MKIs because of its level of security available; they were uncertain whether they could trust the system with their personal data to remain safe without hackers or other unauthorized people accessing their private information when they feed them in the system. It was further found out that the respondents were not certain where the system had firewall technology to prevent unauthorized intrusion in to their data hence the slow acceptance rate of the system among the microfinance institutions in Nairobi region, Kenya.

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It was surprising that the respondent rated lowly firewall existence but highly rated the provision of encryption technology to prevent unauthorized intrusion yet both plays major roles in safeguarding microfinance data.

To be more precise, lack of security was found to be significant obstacle to the acceptance of the web based marketing information system among the microfinance institutions in Nairobi region, Kenya. As the amount of products and services offered via the Internet grows rapidly, customers are more and more concerned about security and privacy issues hence microfinance institutions must enhance the levels of security available in the web based marketing information system for the to attract more customers to accept web based system and also it is important for the microfinance management to share information, which tells the customers about the greater measure employed to secure the use of web based marketing information system.

The correlation results revealed that security was found to have a significant effect on acceptance of Web based MKIs. It had the high influence on acceptance of web based MKIs. It is concluded that the more secured the system is, the more likely that web based MKIs will be accepted by the users (Customers and staff) of microfinance institution in Nairobi, Kenya.

**Recommendations & Future Research**

This study makes significant contributions to knowledge in relation to determinants of web based marketing acceptance. Furthermore, it also provides an insight into the customers' needs and wants which may be essential for microfinance institutions in order to provide better marketing services to customers. In the light of these findings, several recommendations are made which may be useful for microfinance institutions and other related authorities. The researcher recommends that banks take security of their web based marketing security system into serious consideration since fraud and websites hacking still haunt most of the customers. Perhaps they can implement more advanced encryption methods and build stronger firewalls to prevent security infringement. Government authorities like Central Bank of Kenya (CBK), Association of Microfinance in Kenya (AMFIK) can also play their role by issuing statements which reassure customer that the government recognizes web based marketing as secure.

The data for this study was collected using cross-sectional survey, future research is needed to obtain longitudinal data to investigate what factors will influence individuals' perceptions in continuing to use the web based marketing information system. Prior literature indicates that individuals' perceptions are formed with the passage of time, experience and continuous feedback from surroundings (e.g. Venkatesh and Davis, 2000; Davis et al., 1989). Thus, it is expected that the future research will inspect the findings of this research with more in-depth investigations using longitudinal data.

The future study can also propose the other data collection method such as in depth interview with the end user computing. In this study, questionnaire has been used to collect the data through owing to the fact that financial and time are of the essence. The sample size should

also be increased. A larger sample size would be required to enhance generalization ability of research.

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