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Full Length Research

Electronic Customer Relationship Management as a catalyst for sustainability in financial services organizations: An Exploratory study From Egypt

[1]**Ahmed Bahaa,** [1]**Dr Irene Shaker,** [2]**Dr. Dina ElKayaly**

[1]Misr International University, KM 28 Cairo–Ismailia Road، Ahmed Orabi, Egypt
[2]New giza University, Egypt

Author's E-mail: irene.fares@miuegypt.edu.eg

Abstract

Electronic Customer Relationship Management (E-CRM) has become an essential tool for businesses to comprehend, interact with, and keep clients. Social responsibility and ethical principles must also be adhered to by this technology-driven approach. ECRM has had to change to become a more sustainable option. The purpose of this study is to investigate the effect of various dimensions of E-CRM features on online customer satisfaction. This study aims to test four hypotheses representing the dimensions of the E-CRM on online customer satisfaction. The suggested model was verified using the partial least squares technique. A questionnaire was designed, electronically distributed, and collected from a sample of 123 Egyptian users. The results indicated a major influence of ease of use, online security, and the variety of payment options features of E-CRM on the online customer satisfaction, while online customer help had little influence on the overall satisfaction. The study was conducted only in the context of Egypt utilising a limited sample. Also, the study lacked inputs from the financial institutions' workers' perspective. Research results offer practical implications for marketing managers and practitioners at Egyptian financial institutions who are responsible for preparing strategic plans and implementing tools to improve the productivity or performance of the E-CRM systems. The results create a digital-driven environment and data-driven decision-making processes that ultimately support corporate governance and corporate responsibility efforts.

Keywords: E-CRM, convenience, security, variety, online help, customer satisfaction, Multiple linear Regression, Sustainability.

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1. INTRODUCTION

The Internet has become a powerful tool for managing electronic customer relations (Oumar et al., 2017). It has changed the way all business processes operate, particularly in the banking industry. The adoption and strategic use of information & communications technologies (ICT) began with introducing the internet, which is considered the starting point for other developments in numerous fields from academic to business. One of the most important arising developments is e-commerce, which has become pivotal to all businesses. Due to its information-intensive nature, the banking industry can profit greatly from the Internet. The Internet platform offers new openings to banks to ameliorate customer services and gain competitive advantage by providing customers' requirements and needs through Internet-based services. From a marketing perspective, the internet is not just another marketing tool; it can also serve as a strategic resource to help banks enhance customer satisfaction and loyalty.

Customer relationship management (CRM) is defined as "a strategy that enables organisations to compile data on their existing and prospective to sustain

its customers or even have other new customers.and preferences, and use it to enhance implementation and retention" (Saputra, 2019). CRM is a management strategy that combines marketing with information technology; it started in the USA in the late 1990s and, until now, has been accepted in many companies worldwide. CRM has become very important in the last 10 years since the competition for customer retention and access has become fierce in local and global markets (Rao, 2013). Anupreet (2021) reports that the CRM market in 2021 is rapidly growing at a pace of 13.7% compound annual growth rate (i.e., CAGR) as per Gartner estimates. That is the reason behind the raising investment in CRM applications to 44% in 2021 from 38% in 2020 (Super Office, 2021).

E-CRM is a combination of hardware, software, processes, applications, and management commitment to improve customer service and retain the customer (Noton, 2007). It refers to online marketing activities, tools, and techniques, which are aimed at building and improving customer relationships (Lee et al., 2003). Pan & Lee (2003) state that E-CRM expands the traditional CRM techniques by integrating new electronic channels, such as web, wireless, and voice technologies, and combines them with e-business applications into the overall enterprise CRM strategy.

Electronic customer relationship (E-CRM) has helped companies increase their reach to the customers as well as collect beneficial data of customers.

According to Mishra and Padhi (2013), the objective of the E-CRM process is to create a powerful tool for profitability, customer assessment, customer retention, and customer attainment. It uses comprehensive information about customers and then manages all their touch points to increase customers' loyalty with the support of electronic means.

Attributes of E-CRM

The difference between traditional CRM and E-CRM is in the method used; traditional CRM usually depends on actual employees and is based on personal contact, whereas E-CRM is completely technical in nature and applies advanced ICT tools to achieve customer satisfaction and increase their loyalty (Bhatnagar and Saxena, 2013). E-CRM is a web-centric approach to synchronise customer relationships, business functions, and audiences. It also analyses the business practices in the organisation to improve its competitiveness through stronger relationships with customers (Mishra and Padhi, 2013).

E-CRM provides many benefits to employees and customers, some of which are:Integrating customer data into a single database, which allows departments within the organisation to share the information (Scullin et al., 2002), and improving communications within the company either between the employees or between the customers and employees (Goldenberg, 2002). E-CRM provides personalisation and customisation of products, services, and web content according to specific users' appeals. According to Rouholamini and Venkatesh (2011), E-CRM is a useful tool to make organisations more profitable by keeping their existing customers, reducing their costs, and increasing the value of interaction. This will lead to a number of important trends, including transforming into relationship marketing instead of transactional marketing, focusing on customers as an asset and not only as a commercial audience, moving from functions to processes in structuring organisations, paying attention to the benefits of using information proactively rather than reactively, maximising the value of information through greater application of technology, and recognising the need for the trade-off between extracting and offering customer value.

E-CRM in the financial sector

The growing importance of E-CRM in the banking industry originates not only from its benefits gained by lowering banks' operating costs, but also because it is crucial and directly related to the quality of the service provided and the satisfaction of customers. This research aims to study the effect of ease of use, security, variety of payment channels, and online help, respectively, on customer loyalty through e-banking service satisfaction in Egyptian commercial banks.

It can be said that in electronic banks the efficiency of the website is the key driver for establishing long-term relationships between banks and their customers, followed by ease of use (Amin, 2016). In the banking sector, the ability of banking sites to solve customer problems, customer feedback services,and the presence of an online help desk lead to the adoption of electronic banking services (Poon, 2008). When banks offer their clients high-quality services, their lucrative customer base grows because those consumers begin promoting those banks to their peers, resulting in favourable word-of-mouth (Oumar et al., 2017).

Dhingra and Dhingra (2013) recognised the advantages of using E-CRM in the banking sector to be the following:

1. Customer interaction and satisfaction are found to be the key advantage.
2. Transactions have been performed at high speed and accuracy.
3. Comfort and convenience are the major benefits offered to customers.
4. The availability of the latest information and reliable employees at banks offers additional benefits, and
5. Trust in the overall services provided by organisations to customers is an important advantage.

According to Akhlaq and Ahmed (2013) and Rahman (2009), internet banking activities include transfer of funds, loan applications, online payments, investment activities, opening or modifying deposit accounts,

exchange rates, bill payments, account details, paying with credit cards by direct debit or manual transfers, viewing credit card statements, online statements, and checking account balances. Another sector that is increasingly dependent on E-CRM is FinTech. Milian et al. (2019) define FinTechs as “innovative companies active in the financial industry making use of the availability of communication, the ubiquity of the internet, and the automated processing of information.” According to Thakor (2019), FinTech can be understood as “the use of technology to provide new and improved financial services.” Building on these two terms, FinTechs refer to organisations that embrace disruption by applying advances in innovation and technology, such as communication, the internet, and automated processing of information, to operate outside usual financial intermediation business models. They are increasingly reshaping traditional finance, enabling broader financial inclusion, and allowing customised customer experiences. In recent years, the financial services industry has witnessed significant disruption driven by the ongoing wave of innovation, digitisation, and digitalisation introduced by FinTechs. FinTechs have become an essential component in the broader and evolving chain of financial innovation.

In the Middle East and North Africa (MENA) region, the number of FinTech companies has grown from 91 in 2010 to 839 in 2017, but this region has attracted only 1% of the $50 billion invested in FinTech globally over the same period. The MENA FinTech market will witness an annual growth of US$125 million until 2022, directed by investors’ interest in the region’s FinTech opportunities. South Africa leads in Africa, with 184 startups, followed by 146 in Nigeria, 111 in Kenya, 36 in Ghana, 34 in Egypt, and 24 in Uganda. Previous works have divided FinTechs into five distinct functional areas, broadly described as

(i) financing (including deposit, lending, credit, and capital-raising services);
(ii) (payment, settlement, and clearing services, including digital currencies;
(iii) investment management services (such as in trading);
(iv) insurance and risk management (InsurTechs); and
(v) regulatory technology (RegTech).

FinTech is considered the main banking tool to achieve a high level of financial inclusion (Anwar et al., 2020). According to Elkmash (2022), the Egyptian government and the Central Bank of Egypt's initiatives to digitise payment systems and achieve financial inclusion goals have resulted in a rapidly increasing number of fintech businesses. These initiatives include establishing organisations that connect all fintech ecosystems, such as

1. Egyptian FinTech Association: It is a member of the Global Fintech Hubs Federation and is a non-profit, non-political organisation based in Egypt that started in 2019. It is a cross-industry project that aims to serve as a forum for all market players and stakeholders in the FinTech ecosystem to cooperate. The Association's mission is to grow Egypt's financial technology ("Fintech") business and to serve as a venue for the exchange of ideas, distribution of information, and collaboration among numerous players in Egypt's financial technology services industry and entrepreneurial ecosystem.
2. CBE FinTech Hub: It is a digital platform that fosters and connects all Fintech ecosystem stakeholders, including Fintech startups, financial institutions, regulators, service providers, mentors, and investors, through innovation and technology coming to life in 2019.

The third sector in question here is e-commerce. E-commerce (electronic commerce) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet. These business transactions occur either as business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer, or consumer-to-business. E-commerce is the application of electronic means in making business transactions. E-commerce has made it possible to communicate through multi-channels like emails, websites, fax, etc. E-commerce has helped companies to reach their objectives by applying E-CRM as one of the instruments for reaching and increasing their customer base by providing personalised services, maintaining long-term relationships, and providing convenience, which is possible in a digital atmosphere. It also provides competitive benefits to companies in today’s world.

2. LITERATURE REVIEW

The S-O-R model was developed by Mehrabian and Russell in 1974 and modified by Jacoby in 2002. This model describes how people will react with three steps: stimulus, organism, and reaction to environmental stimuli. The model was initially intended for general environmental psychology, and several later studies have modified and tested it for retail use. Stimulus is defined in the context of e-commerce/e-retail as the features or attributes of the e-commerce world (Yadav and Rahman, 2018). The internal states in the S-O-R model mean that customers embody cognitive and emotional states and include their views, observations, and evaluations, while the responses are expressed as consumer behaviour, such as purchase behaviour, customer loyalty, and customer satisfaction (Sautter et al., 2004). In numerous e-commerce contexts, especially the S-O-R model has been extensively used. Mousavai (2015) also adopted the S-O-R model to analyse the relationship between E-CRM and customer loyalty through customer satisfaction. Based on the crucial role of E-CRM and customer experience in influencing customer satisfaction in the e-commerce context, the S-O-R model offers a theoretical framework to investigate

the impact of E-CRM (as a stimulus) on customer satisfaction (as a response).

This study aims to evaluate the effect of the different features of E-CRM on online customer satisfaction. Preliminary data was collected from journal articles, thesis papers, and other secondary data sources. Hypotheses were tested using surveys that were electronically distributed among the consumers via different means of communication, and all results were collected accordingly.

1. Hypothesis development

Feinberg et al. (2002) suggest three different groups of E-CRM features: pre-transaction features (marketing features that customers can get before deciding to purchase), transaction features (features that customers get during the transaction), and post-transaction or customer service features (features that customers might need after the transaction).

E-CRM features are needed for customising, personalising, and interacting with the customer. Without E-CRM features, CRM cannot be realised on the Internet (Khalifa et al., 2002). The usage of the transaction cycle framework to classify satisfaction is also supported by Khalifa & Shen (2009), who investigated the relative contribution of pre-sale, sale, and post-sale satisfaction to the overall satisfaction. In this study, the three different stages of E-CRM features will be examined as follows: Ease of use of the online platform as a determinant of pre-transaction features, online security and variety of payment channels as determinants of the transaction stage, and online help as a determinant of the post-transaction stage.

Pre-transaction Phase

1. Ease of use

According to Feinberg et al. (2002) and Khalifa & Shen (2005), site customisation, alternative channels', and the availability of search engines are considered very important features of pre-transaction E-CRM. Other features that are suggested by Feinberg et al. (2002) are stated below:

- Introduction for first-time users: This page will provide information about how to use the site effectively.
- Chat: This feature allows visitors to enter a real-time conversation between two or more users on the website. In this way, users can interact with each other and also with the site.
- Membership: This allows the company to collect information from the customer. When a customer registers for membership, it gives the company an opportunity to track the behaviour of the customer on the site at a different time. This allows a business organisation to choose a worthy customer by assessing the current and prospective customer.
- Mailing list: The website should accept the e-mails from visitors if they want to receive regular information.
- Site tour: Visitors can follow a tour through the website and get familiar with the web contents.
- Site map: This gives the opportunity to understand the structure of the website.

Talhat et al. (2009), in their study titled "The relationship between E-CRM implementation and e-loyalty at different adoption stages of the transaction cycle: A conceptual framework and hypothesis," highlighted the importance of pre-transaction E-CRM features, which they divided into five elements:

(a) Website Presentation that refers to pictures, images, and information well-presented on the website;
(b) Access to Information, which indicates how easy it is for a customer to find information about the products, prices, and services;
(c) Search Capabilities, which allow the customer to specify multiple criteria for quickly obtaining the desired information;
(d) Information Quality, which refers to the accuracy, content, and update of the information on the website; and
(e) Loyalty Program.

Perceived Ease of Use:

Several studies have investigated the impact of perceived ease of use on customer satisfaction in the context of fintech. Hsu and Lin (2015) found that perceived ease of use significantly impacted customers' trust and adoption of Fintech services. Similarly, Abubotain and Chamakiotis (2020) conducted a study among Saudi customers and discovered that perceived ease of use positively influenced customer satisfaction with Fintech, leading to continuous usage. These findings suggest that when fintech platforms are easy to use, customers are more likely to be satisfied with the services provided.

Efficiency and convenience are key aspects of Fintech ease of use that contribute to customer satisfaction. Quick account setup, instant payment transfers, and streamlined documentation save customers time and effort, resulting in higher satisfaction (Duma and Gligor, 2018). Additionally, Fintech platforms that are accessible across multiple devices and operating systems enhance convenience, allowing customers to access financial services anytime and anywhere (Alalwan et al., 2018). These findings highlight the importance of efficient processes and accessibility in enhancing the overall ease of use and ultimately improving customer satisfaction.

H1: There is a direct relationship between the website/app's ease of use and online customer satisfaction

Transaction Phase

1. Online security

Liu et al. (2008) highlighted the importance of the security/privacy factor, which affects a customer's decision to perform a transaction via the bank's website. Websites should, therefore, offer some E-CRM features to reduce any perceived risk and give customers enough confidence. For these reasons, it is important that web developers make customers feel that the Internet is a simple, secure, and trustworthy method of performing transactions (Talhat, 2011).

Perceived risk has been widely discussed, and studies have shown that perceived risk is a critical factor influencing customer decisions and behaviours (Chen et al., 2016). Customers' perceived risk would have an effect on their use of internet banking. Lovelock et al. (2001) noted that the highest adoption of a system takes place when the risk is low..

H2: There is a direct relationship between the website/app's security and online customer satisfaction.

1. Variety of Payment Channels

Egypt's government exerts huge efforts to expand Fintech services and make them available to every individual in the society. The Egyptian government and the Central Bank of Egypt's initiatives to digitise payment systems and achieve financial inclusion goals have resulted in a rapidly increasing number of fintech businesses. According to Elkmash 2022, these initiatives include establishing organisations that connect all Fintech ecosystems, such as the Egyptian FinTech Association and the CBE FinTech Hub.

Payment services, mobile cash, and smart wallets are the most developed sectors in the Egyptian fintech startups. Savings and investments, insurance, financial management, crowdfunding, and blockchain are among the other industries included in Egyptian fintech. For example:

• Payment service providers: Fintech startups let banked and unbanked clients transfer money, pay phone and other utility bills, and use a variety of other payment methods. Fawry is one of Egypt's most famous fintech startups that offers payment services. T-Pay Mobile, PayMe, PayMob, and Vapulus are some of Egypt's other digital payments fintech startups.

• Micro-savings: Haweshly is a service that allows unbanked clients to save little amounts of cash. Feloosy helps consumers save money for a certain investment. Money Fellows allows users to safely form money circles and classify them based on their income and other characteristics.

• ***Mobile*** wallets: licensed banks can provide mobile wallets, taking cash deposits in return for creating electronic money, according to the Central Bank of Egypt's new laws for cashless payments via mobiles, which were released in 2016. Cash-in/cash-out, person-to-person (P2P), international money transfers (IMT), ATM cash-in/cash-out, person-to-merchant (P2M), merchant-to-merchant (M2M), virtual card number (VCN), and account value load (AVL) from bank to wallet accounts are all covered by the new regulations.

• Micro-Insurance: Carsurance is an Egyptian fintech company that provides insurance quotes.

H3: There is a direct relationship between the website/app's variety of payment channels and online customer satisfaction.

Post transaction phase

Online Help

Online help platforms in fintech offer 24/7 accessibility, enabling users to seek assistance and support at their own convenience (Smith et al., 2019). This accessibility ensures that users can conveniently find help, resolve issues, and get their questions answered, leading to improved customer satisfaction. Additionally, online help platforms provide a convenient way for users to access support without the need for phone calls or waiting in long queues. Users can search for answers and interact with chatbots, saving time and effort (Johnson, 2018).

According to Wang et al. (2020), the provision of prompt responses is crucial in enhancing customer satisfaction in fintech. Online help platforms, such as live chat support, enable users to interact with support agents or AI-powered chatbots in real time. Users can receive immediate assistance, leading to the quick resolution of issues, clarification of doubts, and personalised guidance. According to Ang et al. (2017), real-time assistance significantly improves customer satisfaction by addressing concerns instantly and reducing frustration.

According to the World Bank in 2014, only about 12% of Egyptians and 14% of adults had a bank account in Egypt, one of the world's lowest access rates, while the mobile penetration rate was 102% and 33.9% of internet users, which proves that FinTech is the great development that banks need to improve their services and efficiency and increase inclusion (Nabil, 2019; Demirguc-Kunt et al., 2018).

There are different Internet-based E-CRM features of post-transaction or customer services that any bank can use to sustain its customers or even have other new customers.

• The first tool is automatic call distribution, which is used by banks and any other organisations in order to automatically divert calls to service agents with a specific

area of expertise and can even arrange calls to favour preferred customers, reducing the customer's waiting time

- The second main tool is Interactive Voice Response (IVR), which provides 24/7/365 service of routing calls based on customers' responses typed on the telephone keypads. These applications allow call switching without even human interaction. The latest advances in technology relate to speech recognition abilities in place of telephone keypad recognition that allow customers to ask their questions verbally instead of using keypad or the telephone. Any effective customer service system should contain tools to assess the performance of service. By using performance measurement tools, the organisations can track and evaluate customer service interactions can be tracked and evaluated by the organisations.
- Other tools include computer telephony integration (which is the integration of data with telephones by the use of these applications) and service cyber-agents, which are used to solve problems of customers with coordination of other agents. Zineldin (2005) states that the post-transaction E-CRM features in a website can be divided into three elements: problem solving, order tracking, and after-sale service.

H4: There is a direct relationship between the website/app's online help and online customer satisfaction.

1. Research Methodology and Data Collection

This study aims to provide a new model for identifying effective factors in the success of E-CRM systems. The proposed research theoretical framework is presented in Figure 1. To test the relationships among the components of the framework, four hypotheses were identified.

This correlation study has been conducted with minimal researcher interference and under non-contrived environmental settings. Regression analysis is a way of mathematically sorting out which of those variables does indeed have an impact. It answers the questions: Which factors matter most? Which can we ignore? How do those factors interact with one another? And, perhaps most important, how certain are we about all these factors? Regression analysis is the "go-to method in analytics." And smart companies use it to make decisions about all sorts of business issues (Gallo, 2015). First-generation multivariate methods, like multiple regressions, are appropriate for evaluating constructs and relationships between constructs. The terms "regression" and "correlation" have been used interchangeably to label a regression analysis; however, the intent of a regression analysis is prediction, while the intent of a correlation is to assess the relationship between the dependent variable and the independent variables. (Tabachnick & Fidell, 2001, p. 111). The proportion of the variance in the dependent variable explained by the independent variables in the model is the coefficient of multiple determination, or R^2. R-squared can also be interpreted as the proportionate reduction in error in estimating the dependent variable from the independent variables. The F test was issued to test the significance of R-squared. Beta is the average amount the dependent variable changes when the independent variables increase one standard deviation, and the other independent variables are held constant.

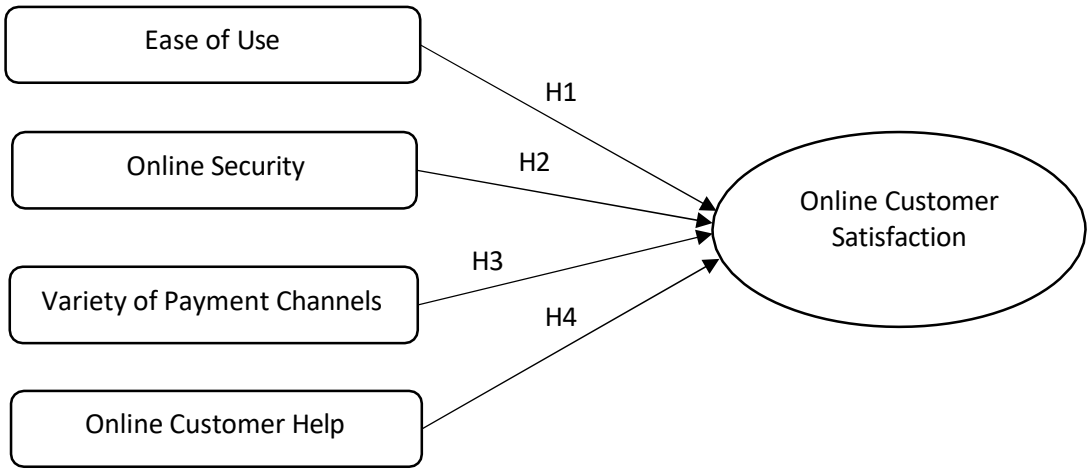

Figure 1: Theoretical Framework (Authors own work)

Research Population

A total of 123 respondents contributed to the results and findings, which will be further discussed in the upcoming section. The scale of the questionnaire is built upon the previous work of Abdulfattah and Fatthwia (2012) with little researcher modification relevant to the scope of this research (questionnaire form in the appendix). The following five-point Likert scale was adopted: 1
1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The questionnaire consists of 19 items. Four items for the convenience of use, 3 items for online security, 2 items for the variety of payment channels, 4 items for the online customer help, and 6 items to assess the overall customer satisfaction with the online service.

1. Analysis and findings

Out of the 123 responses, 118 (96%) were users of the online banking and transfer services, and 113 (91.9%) of the respondents were in the age group between 25 and 44. The geographical distribution of respondents came as follows: 66 (53.7%) from the greater Cairo region, 25 (20.3%) from the delta region, 15 (12.2%) from upper Egypt, and 13 (10.6%) from the Alex region. The income levels of respondents on a monthly basis were mostly between EGP 5000 and EGP 25000, since 103 (83.74%) of the responses were in this category. Table I shows the research sample demographics

Table I: Sample Demographics

Characteristics	Description	Frequency	Percentage %
Age group	Under 25	7	5.7
	25-44	113	91.9
	Above 45	3	2.4
Location	Greater Cairo	66	53.65
	Delta	25	20.3
	Alex	13	10.6
	Upper Egypt	15	12.2
	Abroad	4	3.25
Monthly Income	Below 5000	4	3.25
	5000-14999	57	46.3
	15000-24999	46	37.4
	Above 25000	16	13

As indicated in Table 2, using Cronbach's alpha, we have examined the measurement items of internal reliability. Cronbach's alphas that are higher than .65 indicate a high level of internal consistency for our scale with this specific sample.

Table 2: Reliability Testing

Variable	No. of Items	Cronbach alpha
Ease of use	4	0.715
Security	3	0.7
Variety of channels	2	0.664
Help	4	0.851
Satisfaction	6	0.923

On the Cronbach alpha scale, all of the variables proved to be reliable, where the scores of the scale recorded 0.715 for ease of use, 0.7 for security, 0.664 for variety of payment channels, 0.851 for online help, and 0.923 for satisfaction, which are all considered reliable as per the work of Goforth, Chelsea, 2015.

In Table 3, the mean score for ease of use was 3.721 with sig less than 0.05, which reflects that most responses tended to agree to the supposed relationship between ease of use and satisfaction. The same applies to online security with a mean score of 4.032 and sig less than 0.05, variety of payment channels with a mean score of 4.024 and sig less than 0.05, and satisfaction with a mean score of 3.894 and sig less than 0.05. The only variable or dimension of the independent variable that recorded the least mean score, with responses

tending towards neutral more than agreement to the statements, was the online customer help, with a mean score of 3.366 and sig less than 0.05.

Table 3: Sample's Descriptive Statistics

Variable	Descriptive Stats		T-test	
	Mean	St. Deviation	t	sig
Ease of use	3.721	0.745	10.746	0
Security	4.032	0.761	15.036	0
Variety of payment channels	4.024	0.868	13.088	0
Help	3.366	0.966	4.199	0
Satisfaction	3.894	0.781	12.696	0

Correlation & Regression analysis

Since we have multiple questions measuring a construct, we calculated an average score for all independent constructs and dependent construct. The scores were calculated by first combining responses from multiple survey questions. When we combine the responses together, using a simple average. The statistical analysis process is done by the researchers with SPSS 23.

Tables 4 indicates that there is a statistically significant positive moderate relationship between the ease of use of the service, security, Variety of payment channel and help with online customer satisfaction. And there is no multi co linearity between the independent variables (Mukaka MM. Statistics corne, 2012).

Table 4: Correlations

		Ease of use	Security	Variety of payment channels	Help	Satisfaction
Ease of use	Pearson Correlation	1	.548**	.535**	.529**	.629**
	Sig. (2-tailed)		0	0	0	0
	N	123	123	123	123	123
Security	Pearson Correlation	.548**	1	.569**	.297**	.610**
	Sig. (2-tailed)	0		0	0.001	0
	N	123	123	123	123	123
Variety of payment channels	Pearson Correlation	.535**	.569**	1	.428**	.574**
	Sig. (2-tailed)	0	0		0	0
	N	123	123	123	123	123
Help	Pearson Correlation	.529**	.297**	.428**	1	.352**
	Sig. (2-tailed)	0	0.001	0		0
	N	123	123	123	123	123
Satisfaction	Pearson Correlation	.629**	.610**	.574**	.352**	1
	Sig. (2-tailed)	0	0	0	0	0
	N	123	123	123	123	123

The researchers calculate multiple regressions by stepwise method using the previous calculated score. In this study, to prevent overestimating the effect of adding an independent variable to the model, Adjusted R square is used. The SPSS did three iterations to ending with an adjusted R Square of 51% which means that the included score managed to explore 51% of the changes in the satisfaction score, the rest is related to factors that were not included in the study (Table 5).

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.629[a]	.396	.391	.60957
2	.705[b]	.497	.488	.55878
3	.725[c]	.526	.514	.54470

According to the information provided in Table VI, all regression models are statistically significant and as illustrated in coefficients Table 6 of regression models, the three score (E, S, V) - in this specific order - do predict the changes in the satisfaction scores, while H is not significant. The ease of use of the service, security, and Variety of payment channels respectively were significantly affecting the change in the customer satisfaction score.

Table 6: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.498	1	29.498	79.386	.000[b]
	Residual	44.961	121	.372		
	Total	74.459	122			
2	Regression	36.991	2	18.496	59.237	.000[c]
	Residual	37.468	120	.312		
	Total	74.459	122			
3	Regression	39.152	3	13.051	43.986	.000[d]
	Residual	35.307	119	.297		
	Total	74.459	122			

Table 7: Coefficients

el	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.437	.281		5.109	.000
Total Ease of Use	.660	.074	.629	8.910	.000
(Constant)	.680	.301		2.262	.025
Total Ease of Use	.442	.081	.421	5.441	.000
Total Security	.389	.079	.379	4.899	.000
(Constant)	.517	.299		1.727	.087
Total Ease of Use	.369	.084	.351	4.403	.000
Total Security	.301	.084	.293	3.574	.001
Total Variety of Channels	.197	.073	.219	2.699	.008

De pendent Variable: satisfaction

Another Round of regression

The researchers wanted to test the causal effect of the independent variables on the satisfaction score. The SPSS did five iterations to ending with an adjusted R Square of 55% which means that the included variables managed to explore 55% of the changes in the satisfaction score, the rest is related to factors that were not included in the study.
Table 8 represents a Model summary.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.619[a]	.383	.378	.61627
2	.692[b]	.479	.471	.56840
3	.724[c]	.524	.512	.54551
4	.742[d]	.551	.536	.53221
5	.753[e]	.567	.549	.52479

According to the information provided in Table 9, all regression models are statistically significant and as it is illustrated in coefficients Table X of regression models, the three score (S1, H2, E2, V1 and H3) - in this specific order - do predict the changes in the satisfaction scores where S represents security of the transaction, H represents online help, E represents ease of use and V represents the variety of payment channels.

Table 9: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.505	1	28.505	75.056	.000b
	Residual	45.954	121	.380		
	Total	74.459	122			
2	Regression	35.691	2	17.845	55.236	.000c
	Residual	38.769	120	.323		
	Total	74.459	122			
3	Regression	39.047	3	13.016	43.739	.000d
	Residual	35.412	119	.298		
	Total	74.459	122			
4	Regression	41.037	4	10.259	36.220	.000e
	Residual	33.423	118	.283		
	Total	74.459	122			
5	Regression	42.237	5	8.447	30.673	.000f
	Residual	32.222	117	.275		
	Total	74.459	122			

Table 10: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.987	.227		8.752	.000
	Security 1	.474	.055	.619	8.663	.000
2	(Constant)	1.370	.247		5.550	.000
	Security 1	.373	.055	.487	6.802	.000
	Variety of channels 1	.256	.054	.338	4.716	.000
3	(Constant)	.962	.266		3.611	.000
	Security 1	.350	.053	.457	6.596	.000
	Variety of channels 1	200	055	263	3.638	000
	Ease of Use 2	.185	.055	.231	3.359	.001
4	(Constant)	.771	.270		2.860	.005
	Security 1	.330	.052	.431	6.319	.000
	Variety of channels 1	.166	.055	.219	3.029	.003
	Ease of Use 2	.181	.054	.227	3.378	.001
	Help 2	.125	.047	.174	2.650	.009
5	(Constant)	.816	.267		3.057	.003
	Security 1	.311	.052	.406	5.937	.000
	Variety of channels 1	.171	.054	.224	3.145	.002
	Ease of Use 2	.200	.054	.250	3.730	.000
	Help 2	.225	.067	.314	3.370	.001
	Help 3	-.122	.058	-.191	-2.088	.039

a. Dependent Variable: satisfaction

Finally, Table 11, demonstrate the key aspects (questions) that any commercial bank should focus upon their action to achieve customer satisfaction.

Table 11: key aspects

S1	Security 1	'Log in' or 'Sign in' feature makes me feel safer to use the bank/app website for my transactions.
H2	Online Help 2	Online Feedback feature is available on the website/app
E2	Ease of Use 2	The website/app is capable to provide me with the needed information quickly and precisely.
V1	Variety of Payment channels 1	Different payment methods to choose are available. (Transfer to bank accounts, e wallets, etc.)
H3	Online Help 3	The site/app has customer service representatives available online.

6. DISCUSSION

The aim of this research is to investigate the effect of various dimensions of electronic CRM features on online customer satisfaction. The features include ease of use, security, variety of payment channels, and online help, respectively.

The findings of this research have demonstrated useful ideas that managers and marketers can use to boost the effectiveness of E-CRM systems. Noteworthy is the fact that client contentment, as a function of ease of use, security, and variety of payment channels, is associated with E-CRM system success.

6.1 Theoretical Implications

A marketing campaign's major goals are to increase a company's profitability and cultivate and preserve positive customer connections; therefore, this research looked at how E-CRM affects customer satisfaction. While several studies have validated the importance of E-CRM in the e-banking sector, few have evaluated its effectiveness in the Egyptian banking sector. By conceptualising and empirically investigating the viability of E-CRM in the banking sector and its correlation with customer satisfaction, this research aimed to bridge the aforementioned research gaps and make a significant contribution to the body of literature already in existence.

6.2 Practical Implications

Kampani 2020 stated that management should plan E-CRM applications in accordance with their business model. The model should focus on online business transactions' attributes to achieve convenience. It should be user-friendly, as every customer aspires it to be.
The current research has practical consequences for the banking sector operationalised in developing countries. Egyptian banks should invest in building relationships and satisfactory factors significantly contributing to customer satisfaction in order to obtain the personalised attention of their clients. Consumers expect to have interactions with their banks based on well-established, user-friendly, secure, and effective systems that provide a wide range of payment channels.
Egyptian banks should take into consideration the previously mentioned dimensions of E-CRM to enhance customer satisfaction.
E-CRM is becoming more and more relevant in the banking sector due to its direct correlation with customer satisfaction and service quality, as well as the immediate benefits it offers by reducing operational expenses for banks. By enhancing customer satisfaction through E-CRM, companies can foster stronger customer loyalty, improve their environmental impact, and reinforce their commitment to CSR initiatives. This alignment benefits the company and contributes positively to broader societal and governance goals.

Accordingly, the Egyptian bank manager should:

- Develop ICTs and concentrate on enhancing retail banking policies while closely considering the cost-benefit analysis.

- Provide more electronic touchpoints so as to have a smooth and efficient interaction with their customers.

- Connect E-CRM to customer satisfaction metrics in order to justify the implementation of E-CRM, which is perceived as costly.

- Perceive E-CRM as a comparative advantage boosting widespread success

- Work with other stakeholders such as telecom companies and fintech startups; a lot of effort needs to be exerted towards providing awareness of these services to larger segments of the population, focusing on security measures.

- Create multiple channels to receive customers' feedback and act accordingly

- Provide DO IT YOURSELF (DIY) tutorials on fintech and banking apps to educate users and hence enhance convenience and promote security and safety of transactions throughout the whole transaction process. For example, cross-device authentication for login and two-step verification are methods used to access a user's account.

- Invest in well-trained customer service representatives available on a 24/7 basis to help potential users become loyal customers of the online services, which is very crucial from a user's perspective and more helpful than auto-reply services and chatbots.

- Expand the multi-channel transaction services supporting transfers across multiple platforms, including banking websites/apps, money transfer apps, and electronic wallets provided by different financial institutions.

- Lobby with other stakeholders to provide low-cost internet access packages

7. Limitations and direction for future research

First, the sample size of users of fintech and internet banking services in Egypt is small. Second, the study did not include inputs from the financial institutions' workers' perspective. Third, other moderating and mediating variables may affect this field of research and can even draw attention to in-depth understanding of this rapidly growing and dynamic sector. The outputs of the above research point towards some recommendations that might be helpful for future work:

- Facilitating and encouraging the use of internet-based banking and money transfer in less privileged local communities (Upper Egypt as an example)

- Fintechs should receive more regulatory and governmental support to expedite and support financial inclusion initiatives.

- Further research on other factors that may affect the customers' satisfaction. Example: Perception of quality

- Extending research to other branches of the fintech industry

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	Do you use Internet banking/money transfer mobile apps?	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
	Which kind of e banking services do you prefer?					
	How long have you been using internet banking?					
	How long have you been using money transfer apps?					
	How frequently do you use these services per month?					
E1	'Site Map' or 'Introduction Page' feature is available on the bank/app website.					
E2	The website/app is capable to provide me with the needed information quickly and precisely.					
E3	Website/app is providing information on how to use (example: User's guide).					
E4	The speed of 'Log in' or 'Sign in' feature is fast.					
S1	'Log in' or 'Sign in' feature makes me feel safer to use the bank/app website for my transactions.					
S2	The web site/app does not misuse my personal information					
S3	The website/app is secure for my information.					
V1	Different payment methods to choose are available. (Transfer to bank accounts, e wallets, etc.)					
V2	Different payment methods are an important factor for me to visit and use the website/app again.					
H1	The Website/app provides appropriate information to customers when a problem occurs.					
H2	OnlineFeedbackfeature is available on the website/app					
H3	The site/app has customer service representatives available online.					
H4	The site/app quickly resolves problems I encounter with my Online transactions.					
	Rate your most frequently used apps/sites in terms of your satisfaction score from 1 being dissatisfied to 5 being extremely satisfied. (N/A is for those you don't use) [Bank website/app]					

	Rate your most frequently used apps/sites in terms of your satisfaction score from 1 being dissatisfied to 5 being extremely satisfied. (N/A is for those you don't use) [Telecom e wallets]					
	Rate your most frequently used apps/sites in terms of your satisfaction score from 1 being dissatisfied to 5 being extremely satisfied. (N/A is for those you don't use) [Money transfer apps (instapay/ fawry pay, etc.)]					
S1	It is easy for me to become skillful at using the website/app					
S2	I have confidence in the website/app services.					
S3	I feel safe in my website/app transaction.					
S4	The internet banking/money transfer service is meeting my expectations as a customer					
S5	All the services on the website/app function well from my own experience					
S6	Overall, I am satisfied with service website/app					