

## Assessing the Customer Behaviour in Relation to Electronic Payment Systems (EPS) in Some Ghanaian Banks in the Kumasi Metropolitan Assembly- Kumasi, Ghana

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### Abstract

Although other payment methods are available, like card, cheque, mobile, and online payments, most Ghanaians still use the cash payment system. The study examined how Ghanaian customers felt about using electronic payments. These included determining the sector and factors that influence consumer adoption and use of electronic payment services in Ghanaian banks, examining customer satisfaction with e-payment in the banking sector, and preventing fraud. A sample size of 100 participants was chosen for the study using purposive sampling to select participants from the banks and systematic sampling to select participants from the customers. According to the research's findings, factors such as usability, security, privacy, the caliber of the after-sales support, marketing mix, and reputation affect consumers' opinions of electronic payment systems. According to the study, customers are satisfied with the value offered for their banking requirements and the opportunity to experiment with e-payments in the banking sector. The study also found that while customers' top concerns are trust and security, barriers to e-commerce include a low internet penetration rate, fewer users, expensive and challenging e-commerce technology, and a lack of progress in other supporting industries. Trust and security are significant deterrents against using electronic payment systems. The ability of consumers and banks to reach a larger market and participate in the world payment system is another way that technology can help the economy. Stakeholders should offer the unbanked sufficient assurances of security for utilizing electronic payment systems on their privacy without requiring them to maintain accounts with them.

**Keywords:** Electronic Payment Systems (EPS), Automated Teller Machines (ATMs), Kumasi Metropolitan Assembly (KMA) Payment Portal Services (PPS), Information and Communication Technologies (ICTs), and Central Business District (CBD).

### Introduction

Since the advent of electronic payments in the banking industry, many banks have had to reevaluate their strategies to remain competitive. This is especially true at a time when customers are smart and demand much more from financial services. Customers want strong and user-

friendly financial tools, products, and services that traditional retail banking cannot provide, together with unprecedented levels of ease and flexibility. The impact of information and communication technologies (ICTs) on how most organizations function and adapt to shifting consumer expectations should not be understated. The promise of ICTs has been

measured in the banking sector in terms of their capacity to increase customer base, lower transaction costs, enhance response quality and timeliness, increase advertising and branding opportunities, facilitate self-service and service customization, and enhance customer relationship management [1]. Most established banks now provide various e-banking sophistication levels, as do those in developing nations. On the other hand, only a few African banks appear to be making progress toward fully developed e-banking programs, with most of them appearing to be content with merely having a Web presence [2].

In addition to being quick, simple, and secure, electronic payment systems (EPS) can have several financial benefits. Mobilizing savings and guaranteeing that most Ghana's cash is kept in banks are two of EPS's main economic advantages. Because of this, borrowers will have access to funds (businesses and individuals). Moreover, an electronic payment system may be able to track individual spending, which would facilitate the creation of goods by banks. This information is helpful for the government's economic decisions as well. Also, EPS might lower your printing expenses and cash handling costs [3].

Most people in Ghana employ the cash payment method, which includes using the actual currency for transactions, unlike in other developed nations. Such nations use a variety of payment methods, including card payments, online payments, mobile payments, and cheque payments. Several payment options, other than checks, have not yet become widely accepted in Ghana. Before introducing electronic payment into the Ghanaian banking system, all customers had to physically visit a bank to execute any transaction, join confusing queues, and wait hours for a quick talk with a teller to finish their operations [4]. Although some consumers view the usefulness and simplicity of use as two of the many advantages that electronic payment systems provide, they have not applied this attitude toward the usage of e-payment in

banking operations. Many bank customers hesitate to use Internet banking; some do not like the technology, while others worry that their computers can muddle their accounts. In addition, consumers are hesitant to make e-payments because they believe that even a small mistake could result in financial loss. Therefore, the study attempts to determine consumers' opinions toward accepting or rejecting electronic payments via Internet banking by Ghanaian consumers using mobile phones, iPods, and other devices as the "wallet" of the future.

The main goal of this study is to give important stakeholders the chance to share their opinions on how consumers feel about the banking industry's use of electronic payments, with a focus on how businesses in Ghana are expanding and developing. The report also analyzes the factors that contribute to Ghana's banking sector's inadequate use of electronic payment systems.

The study aims to address stakeholders' requirements and expectations by educating them on the economic effects of electronic payment systems. The findings and results also offer a more trustworthy scientific perspective and metric for characterizing and assessing the new system's level of effectiveness and its impact on business performance and customer satisfaction. The objective of this study is to increase the body of knowledge and body of literature on the subject at hand. Above all, it offers a justifiably valid and reliable guide to designing workable service delivery improvement strategies for creating and delivering consumer value, achieving consumer satisfaction and loyalty, building long-term mutually beneficial relationships with profitable consumers, and achieving sustainable business growth. It also provides empirical support for management strategic decisions in several important areas of their operations.

### **The Concept of Consumer Attitude**

Over the years, researchers who are interested in the behaviour of bank customers and their

interactions with these institutions have given their attitude considerable attention. Attitude is the result of what we say, feel, and know [5], and it has a significant impact on consumers' purchasing behaviour [6]. An individual's attitude toward electronic payment through online banking is defined as his or her overall emotional reactions to using the Internet for banking reasons [7]. In 1975, Fishbein and Ajzen posited that one's attitude toward a behaviour is made up of one's views about partaking in the behaviour as well as how those beliefs are evaluated [8]. Furthermore, Byers and Leader in 2004 claimed that rather than the cost structure of banks, changing consumer behaviour and attitudes are what determine the adoption of Internet banking [9]. A person's demographic, motivation, and behaviour toward various banking technologies, as well as personal acceptance of new technology, are all factors that influence a person's attitude toward electronic payment via banking, according to research on consumer attitudes and adoption of electronic payment in the banking sector [10].

The five perceived attributes of an invention (relative advantage, compatibility, complexity, and trial ability) may be used to measure the many facets of attitudinal belief about the innovation. The advantages that come with using the technology are what decide how valuable the internet is for consumers' banking requirements. An innovation's rate of adoption is typically correlated with how valuable people judge it to be. How quickly it is adopted is inversely correlated with an innovation's relative advantage. In a similar way, customers of online banking services gain the advantage of being able to access their accounts from any location and at any time of day, which makes it easier for them to manage their money [11].

Compatibility is another important factor in the spread of innovation theory. It was found that innovation was more likely to be adopted when it was compatible with the individual's work responsibilities and value system, according to a meta-analysis of innovation undertaken by

Tornatzky and Klein in 1982 [12], as cited by [6]. The distribution method of choice for today's banking customers, who are probably computer literate and accustomed to using the Internet, is said to be Internet banking. It was detected that complexity had a negative effect on Internet adoption and is defined complexity as the degree to which an innovation is seen as being somewhat difficult to understand and use [13]. Complexity, which has been proven to have a direct impact on Internet adoption, is the exact opposite of usability [9]. According to Rogers' 2005 theory of trial-ability, potential users of new technology who are given the chance to test it out will feel more comfortable with it and will therefore be more likely to embrace it [14]. If customers are given the chance to test the innovation, it will lessen certain unanswered concerns, especially if they learn that errors can be fixed, leading to a predictable situation [15].

### **Influences on Customer Attitudes Toward Electronic Payment**

Several prior studies have identified several key factors, including usability, security, privacy, after-sales assistance, marketing mix, and reputation, that may have an impact on customers' views about electronic payment [16].

#### **Usability**

Usability is the extent to which a website enables users to use its capabilities easily and effectively [17]. Online usability is all about making the design straightforward enough for customers, who are naturally goal-oriented, to do their assignments as quickly and painlessly as feasible ([www.webcredible.com](http://www.webcredible.com)). The Internet serves as the fundamental building block for all online transactions, including electronic payments. As a result, the attitudes of online shoppers and the success of e-commerce are greatly influenced by website usability. Ease of use, reaction time, navigation, interactivity, design, convenience, learnability, efficiency, site findability, and accessibility are among the

factors that have been compiled in several earlier studies as a benchmark for measuring website usability.

### **Safety**

Online security, according to Salisbury et al. in 2001, is “the extent to which one believes that the World Wide Web is secure for transferring sensitive information” [18]. The results of the study showed that perceived e-transaction security was positively correlated with the desire to make an online purchase, and that perceived e-transaction security affected online banking transactions. In a similar vein, one of the most crucial factors in electronic payments in banking was the customers’ perception of security-related challenges. This has had a tremendous impact on customers’ perceptions of e-payments and made security one of the most important reasons why they hesitate or fear using them.

### **Privacy**

A significant issue when it comes to privacy is always personal information. Generally speaking, “data not normally accessible via public sources” is what is meant by “personal information” [19]. Online privacy issues are frequently caused by the gathering and exchange of personally identifiable information about specific website visitors. In 2011, Guo & Noor defined four dimensions of online privacy, including illegal access to digitally stored personal information, illicit secondary use of personal information, improper personal information acquisition, and inaccurate personal information gathering. Anonymity, intrusion, surveillance, and autonomy as issues with online privacy [20].

In conclusion, there are many areas of consumer privacy protection in the virtual world that are challenging to control. Internet privacy is therefore more challenging to protect than conventional offline privacy. This is the reason why many consumers still oppose using electronic payment systems.

## **The Electronic Payment (E-Payment) System Concept**

Financial agents can communicate and settle financial obligations using a payment system, which is a collection of organizations, resources, and processes [21]. Considering this, an effective payment system is one in which the financial architecture makes sure that financial responsibilities are transferred and settled with the least amount of time, money, and trouble possible. The core of this effectiveness is the payment system’s clearing and settlement processes. The first is when buyers and sellers exchange bonds and money, while the second is when a financial transaction is completed, and securities or money are delivered from one party to another.

A payment system is the entire matrix of institutional infrastructure arrangements and procedures in a country for initiating and transferring monetary claims in the form of commercial and central bank liabilities, according to the 2010 Bank of Ghana Annual Report [22]. This matrix includes: 1) Payment instruments used to initiate and direct funds transfer, 2) Network arrangements for transacting and clearing payment instruments, 3) Institutional players in the system, and 4) Market participants. Nonetheless, a number of definitions have been provided as a result of the nature of electronic payment systems. The researcher has made an effort to highlight a few noteworthy ones, from the now-common automated teller machines (ATMs) to online bill payments. E-payment is described as payment via direct credit, electronic transfer of credit card details, or some other electronic means, as opposed to payment by cheque and cash [23]. Electronic payment refers to the use of computer networks, such as the Internet, and digitally stored value systems for financial and related activities. Technology has eliminated the need for customers to visit a bank or write and mail checks to pay their bills [24]. Electronic payment, as defined by the European Central Bank in 2003, is the transfer of a payer’s

financial claim to a third party that the recipient accepts. Electronic payment is a financial exchange that occurs between the customer and the seller online. The essence of this exchange typically takes the form of a digital financial instrument that is backed by a bank, an intermediary, or legal tender (like encrypted credit card information, electronic checks, or digital cash) [25]. Electronic payment is a sort of financial transaction made possible by electronic communication between the buyer and the provider [26].

The researcher can describe an electronic payment as any digital financial payment transaction, including a money transfer between two or more parties, based on the definitions provided above. An e-payment transaction is, to put it simply, a transaction in which funds are sent electronically or digitally between two parties (banks, companies, and individual customers) in exchange for goods and services. It is obvious that electronic payment is one that is done without using paper-based instruments. To achieve effective and efficient retail payment systems, it is necessary to take into account a number of factors, such as ease of use, dependability, and security, the service's level and structure of fees levied by financial institutions; consumer preferences and demographics; and technological advancements that have increased the speed, flexibility, and convenience of retail payment systems.

### **Forms of Electronic Payment**

Electronic payment systems are generally made for customers who make payments using credit, debit, or prepaid cards [27]. There are several different types of electronic payments that are most frequently employed in today's banking industry.

#### **Credit Cards**

The credit card system, as it is referred to, is a pay-later (credit) payment mechanism where the sale's value is credited to the payee's bank account before the payer's account is debited.

Simply put, credit cards enable customers to make purchases up to a pre-set limit. The credit may be paid partially with the remaining balance being provided as credit, or it may be paid in full at the end of a specified term, typically a month. Credit cards are well-recognized by customers, and merchants accept them [27]

#### **Debit Instruments**

The payer's account is deducted at the time of payment in the pay-now payment system. This category includes ATM card-based systems. Debit instruments allow the payer to have purchases immediately charged (debited) to funds on his or her deposit-taking institution account, such as a bank. Direct debits, debit cards, and checks are all examples of debit instruments [28].

#### **Prepaid Payment Services**

To conduct any financial transaction, users of this payment system must first deposit money. This comprises electronic wallets with smart cards, digital money, and (certified/guaranteed) bank cheques [27]. This also applies to the E-zwich payment system from Ghana. Both pay-now and pay-later are direct payment methods since they necessitate communication between the payer and the payee. There are also systems for indirect payments, where either the payer or the payee initiates the transaction without the involvement of the other party [27].

#### **Payment Portal Services (PPS)**

Payment portals are companies that offer a variety of payment options and give merchant accounts to internet stores generally. Payment portals manage the payment portion of e-commerce operations for merchants. Merchants can lead clients to the payment portal's website to make online payments, where they can select from a number of payment methods. The gateway notifies the online merchant that the order can be shipped once the payment has been received successfully [26].

## **Benefits of Electronic Payments for Consumers**

Electronic payments and transactions have expanded greatly since the advent of the Internet. Recently, consumers have decided to make transactions online by sending credit card information that is not encrypted across the network, which offers little security and privacy. Yet, a plethora of fresh secure network payment options emerged as consumers grew more concerned with their privacy and security. Digital money benefits banks, retailers, and financial organizations alike [28]. A secure electronic cash system can guarantee anonymity for authorized users while also enabling tracking for cash that has been issued illegally or that has been cleaned up. The anonymity of digital money may be revoked if criminal activity is found in order to protect the bank. Digital cash is a surefire method of preventing the unauthorized transfer of intellectual property and materials since it can track double spending, and double spending protects content by disclosing the name of the double spender [29].

In addition to their convenience and security, electronic payments have a wide range of economic benefits. Automated electronic payments contribute to the growth of bank deposits, increasing the amount of money available for commercial loans, a key engine of overall economic activity. The massive amount of cash transactions boosts the electronic payment sector, but it costs local economies. Money needs to be printed, moved safely, totaled, and reconciled, and then preserved and kept safe for future usage. The cost of an electronic system is set, but the cost of a single payment is significant and will always be such [30]. By using their cards at the point of sale, cardholders support the preservation of funds within the banking system. EPS can help displace shadow economies, bring hidden transactions into the banking system, and increase the transparency, confidence, and involvement of the financial system [30]. Higher point-of-sale volumes and higher demand

deposits are related. Automatic electronic payments are a powerful growth engine and a gateway into the banking industry. By removing cash from circulation and depositing it in bank accounts, these payments create low-cost funds that can be used to encourage bank lending for investment, a major driver of overall economic activity [31].

The method results in greater accountability and transparency, which boosts productivity and boosts economic performance. Consumers find electronic payment to be especially convenient. In most cases, you only need to input your account information once, like your credit card number and shipping address. The information is then stored on the retailer's Web server in a database. When you visit the website again, you just need to log in using your username and password. To finish a transaction, all you need to do is click your mouse once, confirm your purchase, and you are done [32]. Businesses can cut costs by using electronic payments. Less money is spent on paper and shipping as more electronic payments are made. The availability of electronic payment methods may also aid businesses in retaining clients. If a consumer has already registered and stored their information, they are more likely to return to the same e-commerce site [32]. Bank customers can make routine financial transactions without having to go to their neighbourhood branch by using electronic payments. By substituting electronic payment methods for cash, merchants might save time and money [33]. Automating and streamlining electronic payments made through self-serve channels like ATMs, branch office terminals, and point-of-sale (POS) systems can reduce costs and errors associated with paper-based transactions. The prompt and secure receipt and processing of electronic payments must be possible in every nation. By allowing customers to pay with their chosen credit or debit card, businesses can gain a significant competitive advantage.

Ghana has lagged far behind the rest of the world in the effort to boost microeconomic

activity generally by reducing the significance of actual cash in day-to-day transactions and promoting the development of a cashless society (including many of its African contemporaries). However, financial experts have cautioned that unless something radically innovative, practical, and shrewd is introduced, which takes into account attitudes as well as the nation's sizable unbanked population, the country's dream of becoming a functionally cashless society in the quickest time possible may be elusive [34].

## Materials and Methods

### Research Design

The research design for the study was a descriptive cross-sectional design, which entails data collection at a single moment in time. In order to gather information from bank staff and clients of certain banks operating in the Kumasi Metropolitan Assembly (KMA) in the Ashanti Region, the researcher used standardized questionnaires that outlined the research's objectives. This study's primary data came from a structured questionnaire that was given to participants (customers and bank workers), who were purposefully chosen at random from the study's coverage region with the help of field assistants.

### Study Site

The survey was conducted in the Kumasi Metropolitan Assembly (KMA), Ghana in three major Banks, within the Central Business District (CBD), Happer Road, and Adum Shopping Center. The Banks included Ecobank Ghana Ltd, Standard Chartered Bank, and Absa Bank Ghana Limited all located within the KMA.

### Size of Sample and Sampling Techniques

The population is the study's target audience and the group to which the researcher wants to extrapolate its findings [35]. Furthermore, the population is the entire group of people (subjects), things, or events that the researcher is

interested in and that have observable characteristics [36].

Two populations were looked at to address the study's research questions. Customers who use the chosen banks' electronic payment systems made up the first population and the chosen banks' bank staff who provide services for such systems inside the Kumasi Metropolis made up the second.

The researcher chose the three major banks that offer electronic payment services and have branches on Harper Road- Adum in the Kumasi Metropolis. These banks are Ecobank, Standard Chartered Bank, and Absa Bank Ghana Limited. Three hundred people, both consumers and staff, were the study's projected population. For each category or group, the sample size formula developed by Prof. David de Vaus in 2002 was used in order to obtain a sample size that is representative of the population of customers:

$$n = N / [1 + N (\alpha)^2]$$

Where n = sample size,

N= population universe and,

$\alpha$  = Margin of Error.

The formula adopted a confidence level of 90% and a margin of error of 10%, which is acceptable in social science research. The breakdown for each of the groups is calculated as follows:

1. Bank officials: N=11 and  $\alpha$ =10%.

$$n = 11 / [1+11(0.1^2)] = 11 / [1+11(0.01)] = 11/1.11 = 9.91 \therefore n \approx 10.$$

The required Sample size (n) for each Bank is 10 Participants.

2. Bank Customers: N = 34.

Applying Prof. David de Vaus' Formula (2002)  $n = N / [1+N (\alpha^2)]$ .

$$n = 34 / [1+34(0.1^2)] = 34 / [1+34(0.01)] = 34 / [1+34/1.34] = 25.37 \therefore n \approx 25.$$

In summary, one hundred (100) participants were sampled for the study. For bank customers, 25 participants were sampled from each of Ecobank and Standard Chartered Bank, and 20 respondents from Barclays Bank making seventy (70) customers for all three (3) banks;

and for the bank staff, 10 respondents for each bank were sampled making a total of thirty (30).

### **Sampling Technique**

The purposive sampling methodology was used in this study to select sample units or respondents from the staff, whereas the systematic sampling method was used to select customers. Purposive sampling was used to pick bank employees since the goal was to obtain insight into the phenomenon, necessitating the use of persons who were familiar with electronic payments in the banking business. As a result, members of staff who are directly responsible for all electronic payment processes were sought and interviewed. Purposive sampling was also used to select which branch of the banks to visit within the metropolis for the study. This is guided by the fact that even though there are other branches of the selected banks in the Kumasi Metropolis, only Harper Road branches of Ecobank, Standard Chartered, and Absa Bank Ghana Limited banks were selected for the study. To select staff for the study, stratified random sampling was used at the branches. The researcher divided the entire population into different subgroups or strata, and then randomly selected the final subjects proportionally from the different strata. This was directed by the leadership structure used by the banks in their branches. As a result, this sampling approach assured that questionnaires were distributed to employees in the clerical, supervisory, and management categories. Prior to administering the questionnaire, the managers of the branches chosen for the study were approached for approval, and a staff list of their individual branches was collected. In the case of customers, the researcher used a systematic sampling method. The systematic sampling method is defined as a probability sampling procedure in which the initial sampling point is selected at random, and then the cases are selected at regular intervals (Saunders et al. d, 2007). In this method, every 10<sup>th</sup> customer that approached the enquiry counter was served with a questionnaire

on the study. The customers were chosen from all the classified customer groups, such as salaried workers, retail, small and medium enterprises as well as corporate clients with a basic appreciation of electronic payments. This was intended to ensure representativeness in the sample.

### **Inclusion Criteria**

Customers who use the chosen banks' electronic payment systems and are above 18 years found in the study site were included in the study site. The bank staff of Ecobank, Standard Chartered, and Absa Bank Ghana Limited banks only who provide services for such systems inside the Kumasi Metropolis were selected for the study.

### **Exclusion Criteria**

Apart from the three major banks that offer electronic payment services and have branches on Harper Road- Adum in the Kumasi Metropolis, the researcher excluded all other bank staff and customers. Customers without knowledge of EPS were excluded.

### **The Instrument for Data Collection**

Primary data were mostly used in this study and were collected by asking respondents to fill out questionnaires with the assistance of friends and coworkers. Both open-ended and closed-ended surveys were used, and the questions focused on how customers felt about electronic payment systems, their difficulties using them, and the measures taken to increase customer acceptance. Two sets of questionnaires were used: one set for employees and the other for customers. The questionnaire used both open and closed-ended questions. The open-ended questions offered the opportunity for the respondents to freely express themselves on the issue of customer acceptability on the use of the electronic payment system. The closed-ended questions on the other hand restricted the respondents to the options offered to them. Other issues on which the questionnaire was used to collect data included the problems associated



with the electronic payment system and the strategies adopted to promote customers' acceptability of the electronic payment system.

A 5-point Likert style with Very Much (5) being the highest and Very Low (1) the lowest and Average (3) was used to assess various variables for the study.

### Data Presentation and Analysis

Raw data collected are meaningless unless they are converted into information. The collected data was reviewed to check and correct possible errors and omissions that may have occurred to ensure consistency across respondents. The Microsoft Excel 2016 program, which is frequently used by researchers for data analysis, was utilized to handle primary data that had been gathered through questionnaires. The mean, median, and standard deviation are combined with descriptive statistical methods, such as bar graphs and pie charts, for data analysis. Quantitative facts were given meaning, and their implications were explained using qualitative justifications. The researcher's conclusions were

used to generate the appropriate recommendations.

### Ethical Standards

Throughout this investigation, all applicable ethical criteria for conducting research were upheld. Along with gaining the study subjects' informed consent, disclosures to the study subjects about the goals and advantages of the study, the confidentiality of their information, and volunteers were made. All data obtained were discreetly manner.

### Analysis and Discussion of Results

#### Respondents' Demography

The study revealed 20-30 years as the modal class with total respondents of 39 constituting 39%; this is followed by those within the age limit of 31-40 years which is made up of 33 respondents (representing 33%), while the age group of 41-60 years had 25 respondents (constituting 25.00%) and 3.00% were found to be 60 years plus. The results further show that the study is made up of 46.00% male and 54.00% female as demonstrated by Table 1.

**Table 1.** Gender and Age of Respondents

Detail	Female	Male	Total	Percentage
20-30 years	24	15	39	39.00%
31-40 years	18	15	33	33.00%
41-60 years	11	14	25	25.00%
61 and above	1	2	3	3.00%
Total	54	46	100	100.00%
Percentage	54.00%	46.00%	100.00%	-

Source: Field Survey, April 2023

As shown in Table 2 both customers and staff have been with their respective banks in their mentioned capacities for several years. In general terms, 65.00% (Ecobank-25%, Standchart-23%, Absa-17%) have had more than 4 years of acquaintances in their banks. The study shows that the majority, which is made up of 31.00% (comprising 12%-Ecobank, 10%-Standchart, and 9%-Absa) of the respondents, have been with their respective banks between 4-6 years. It became known that 19% have worked

with their banks for more than 8 years, while 15% have worked for 6-8 years and 14% for less than 2 years. These findings show that the respondents have worked with their respective banks for different years, though the majority have been with the bank for more than 4 years as mentioned earlier. This result is a reflection of the fact that the majority of the respondents have adequate working experience and have a lot of knowledge on the subject matter of consumer attitude to e-payment.

**Table 2.** Number of Years Being with the Bank - Customers and Staff

<b>Years</b>	<b>Ecobank</b>	<b>Standchart</b>	<b>Absa</b>	<b>Total</b>	<b>Percentage (%)</b>
Less than 2 years	4	4	6	14	14%
2 - 4 years	6	8	7	21	21%
4 - 6 years	12	10	9	31	31%
6 - 8 years	8	5	2	15	15%
More than 8 years	5	8	6	19	19%
<b>Total</b>	<b>35</b>	<b>35</b>	<b>30</b>	<b>100</b>	<b>100%</b>

Source: Field Survey, April 2023

On the educational level of respondents, the study found out that, the majority (25%) of the respondents (only consumers) are holders of secondary school certificates; 24% are holders of a postgraduate degree, 16% are holders of the first degree; 17% (10% of staff and 7% of consumers) holds professional certificates in their respective fields and 10% (only consumers) have Ordinary and Advanced level certificates

whiles 8% are holders of Middle School/JHS certificates. This finding shows the diversity in terms of educational backgrounds of respondents of both staff and customers of the selected banks who could be assumed to have a perfect understanding of the consumer attitude towards electronic payment systems in the banking industry in Ghana.

**Table 3.** Level of Education

<b>Level</b>	<b>Staff</b>	<b>Customers</b>	<b>Total</b>	<b>Percentage (%)</b>
Postgraduate	15	9	24	24%
First Degree	5	11	16	16%
Professional	10	7	17	17%
Secondary	0	25	25	25%
O' & 'A' Level	0	10	10	10%
Middle School/JHS	0	8	8	8%
<b>Total</b>	<b>30</b>	<b>70</b>	<b>100</b>	<b>100%</b>
<b>Percentage (%)</b>	<b>30%</b>	<b>70%</b>	<b>100%</b>	

Source: Field Survey, April 2023

As illustrated by Table 4 above, top management staff as expected are the least represented with 4.00%, supervisors recorded 5.00%, middle level attained 6.00% and 15.00% are operational level. This, in summary, is an

indication that the organizational structure of the banks is in consonance with the conventional pyramid structure; it is a fair representation of employees, which cuts across all the job positions.

**Table 4.** Job Position

<b>Level</b>	<b>Percentage (%)</b>
Top Management	4%
Supervisor	5%
Middle Level	6%
Operational Level	15%
<b>Total</b>	<b>30%</b>

Source: Field Survey, April 2023

The study again showed that the staff respondents are a cross-section of the entire selected banks who can provide the requisite answers to the questionnaires administered.

Sales/Marketing registered 6.00%, 10.00% by Finance, 4.00% for IT, Corporate recorded 2.00% and others which were represented mostly by operations attained 8.00%.

**Table 5.** Departmental Representation of Staff

Department	Percentage (%)
Sales/Marketing	6%
Finance	10%
IT	4%
Corporate	2%
Others	8%
<b>Total</b>	<b>30%</b>

Source: Field Survey, April 2023

### Determinant Factors for the Consumer to Accept and Adopt EPS in Ghanaian Banks

In affirmation of [16], the study identified six (6) factors that affect consumers' attitudes

towards electronic payment systems, namely usability, security, privacy, after-sales service quality, marketing mix, and reputation. The ranking of the above factors in terms of most influential on consumer attitude to e-payment is shown in Table 6 below.

**Table 6.** Determinant Factors for the Consumer to Accept and Adopt EPS

Criteria	Mean	Rank
Usability	4.51	3 <sup>rd</sup>
Security	4.73	1 <sup>st</sup>
Privacy	4.60	2 <sup>nd</sup>
After-sales service quality	4.45	5 <sup>th</sup>
Marketing Mix	4.47	4 <sup>th</sup>
Reputation	4.39	6 <sup>th</sup>

Source: Field Survey, April 2023

It was detected that six factors attained a very high mean value of over 4.00 (representing 80%); which is an indication of the high level of influence on consumers' attitudes to electronic payments by the aforementioned factors. Moreover, in terms of ranking, the study shows that consumers consider security with a mean of 4.73 as the most important factor when contemplating the adoption of e-payment in the banking sector. This result conforms to [19]'s which stressed that the consumers' perception of security-related issues was one of the most important factors in electronic payments in banking.

Furthermore, buttressing the security consciousness of consumers, the respondents indicated that consumers look at privacy (4.60) as the next most influential factor. This is not surprising at all taking cognizance of the importance consumers attaches to security. The findings of the study on privacy agree with the assertion of [20], which includes anonymity, intrusion, surveillance, and autonomy, and for that reason, many consumers still are indifferent to electronic payments. Usability was ranked third with a mean of 4.51, followed by 4.45 for marketing mix; the fifth position was occupied by 'After-sales service quality' which had 4.45, and the sixth position was taken by 'Reputation'

with a mean of 4.39 (87.8%). In spite of its low ranking by respondents its rating of 87.8% is high; thereby affirming [41]'s position that an employee's overall reputation has a positive and statistically significant impact on the consumers' willingness to adopt electronic payment.

### Customer Attitudes and Views Towards Electronic Payment Systems

The study looked at the variables in relation to customer attitude and views from both the staff and customers' points of view and analysis and discussion were done using Tables 7, 8, 9, 10 and 11, respectively.

**Table 7.** Attitudes and Views of Staff

Views	Very Much	Much	Average	Low	Very Low	Mean
To what extent are you acquainted with the concept and application of EPS	11	15	4	0	0	4.22
How important is the implementation of EPS to your company	15	12	3	0	0	4.44

Source: Field Survey, April 2023

Questions based on the attitudes and views of the staff of the selected banks making use of the EPS were solicited, as shown in Table 8. It was detected that there was a registered mass acquaintance with the concept of EPS as the majority of the staff of the banks in respect of the resultant mean of 4.22, which indicates a high acquaintance with the electronic payment system. Moreover, it was also recorded that, such as system was very important to the banks as it reduces much work and creates efficiency in terms of payments through the electronic system. This payment system ensures cashless transactions and improves the accuracy and safety of monetary transactions on the part of the banks. Therefore, the researcher agrees with [9] that concluded that changing consumer behaviour and attitudes rather than banks' cost structure determine the adoption of Internet banking. In that customer attitude is the driving factor behind the adoption of EPS.

On the part of respondent customers, a 5-point Likert scale was used for the various measurements of the study which intended to know the extent of agreement with an assertion or disagreement with the assertion of consumer attitude on electronic payment in respect of 'value towards the banking needs', 'complexity', 'compatibility' and 'trial ability'. For a five-point Likert Scale: 5 – Strongly agree, 4 – Agree, 3 – I am not sure, 2 – Disagree, 1 - Strongly disagree.

Therefore, for the analysis of consumer attitude based on 'value towards the banking needs', 'complexity', 'compatibility', and 'trial ability' weights were assigned to the extent of agreement to each variable in order for the mean and standard deviation of each benchmark to be found as shown in Table 8, Table 9, Table 10, and Table 11 and below.

**Table 8.** Value towards the Banking Needs-Customers

Value toward the banking needs	Mean	Std. Dev
I find electronic payment systems by the banks an easier way to solve my banking needs	4.33	0.936
Electronic payment system through the banks gives me greater control over my finances	4.03	0.742

Electronic payment system through the banks allows me to manage my finance effectively	4.14	1.032
I find the electronic payment system a convenient way to manage my finance	4.03	0.742
An electronic payment system allows me to manage my finance efficiently	4.02	0.653
Electronic payment system services are fast to use	4.43	0.742
<b>Average</b>	<b>4.16</b>	

Source: Field Survey, April 2023

As clearly shown in Table 8, some of the variables have a mean of values approximately to the notion of agreement of better values towards the banking needs by the three selected banks, such as “I find electronic payment systems by the banks an easier way to solve my banking needs” which recorded a mean of 4.33; ‘Electronic payment system through the banks gives me greater control over my finances’ and ‘I find electronic payment system a convenient way to manage my finance’ had a mean of 4.03. Furthermore, it is noted that consumers’

assessment of ‘Electronic payment system through the banks allows me to manage my finance effectively’ had a mean in the dimension of 4.14 representing 82.4% with ‘Electronic payment system services are fast to use’ registering the least mean of 4.43. In summary, the study shows that an average of 4.16 representing 83.27 % is an indication of the banks placing value on the banking needs of consumers by having their hands firmly on the implementation of the e-payment system.

**Table 9.** Complexity-Customers

<b>Complexity</b>	<b>Mean</b>	<b>Std Dev</b>
Electronic payment system requires a lot of knowledge to use	2.456	1.638
The electronic payment system is difficult to use	4.533	1.839
I am reluctant to use an electronic payment system service unless it has been tried and tested by others first.	4.016	1.046
The electronic payment system is an easy way to conduct banking transactions.	1.376	1.201
I always find it easy to remember the password of my ATM card	4.203	1.490
The electronic payment system is technologically easy to get started	2.046	1.084
<b>Average</b>	<b>3.105</b>	

Source: Field Survey, April 2023

On the issue of complexity, the study found out that, the total average as illustrated in Table9, collectively, the study recorded a level of approximately 3.105 i.e., 62.1%. However, ‘Electronic payment system is difficult to use’, ‘I am reluctant to use electronic payment system service unless it has been tried and tested by others first’, and ‘I always find it easy to remember the password of my ATM card’ are the main factors which were accepted by almost all the consumers involved in the study as

evidenced by the recorded mean of 4.533, 4.016 and 4.203 respectively. The study shows that consumers are really bothered by the ‘Electronic payment system requires a lot of knowledge to use’; ‘Electronic payment system is technologically easy to get started’ and ‘Electronic payment system is an easy way to conduct banking transactions, evident by the 2.456, 2.046 and 1.376 mean respectively. This portrays non-performance by the banks in those three major areas assessed.

**Table10.** Compatibility-Customers

<b>Compatibility</b>	<b>Mean</b>	<b>Std. Dev</b>
Electronic payment system with the banks is well suited to my lifestyle	2.153	0.846
Electronic payments fit well in the way I like to manage my finances	2.078	1.274
I am happy with my old way of banking operations	1.957	1.475
I am knowledgeable about the various methods for accessing my account	1.685	0.674
Automated banking services make me uncomfortable	1.372	1.586
I believe that many transactions can be done by electronic payment system	2.434	1.085
Using an electronic payment system for me is the same as paying by cash	2.746	1.684
<b>Average</b>	<b>2.061</b>	

Source: Field Survey, April 2023

The total average in Table 10 illustrates that about compatibility, the banks attained an abysmal mean level of 2.061 i.e., 41.22%. Seven major variables were severally used to assess the compatibility of electronic payments by the selected banks; except for the notion ‘Using

electronic payment system for me is the same as paying by cash’ which recorded a mean of 2.746, the rest of the six variable measured means below 2.5; with the least of them being ‘Automated banking services make me uncomfortable’, which attained 1.372 means.

**Table 11.** Trial Ability-Customers

<b>Trial ability</b>	<b>Mean</b>	<b>Std. Dev</b>
Before I use the electronic payment system, I need to try it for at least one month	4.02	0.933
There are many opportunities for electronic payment systems available for us to use	4.43	0.742
The electronic payment system is available to me to adequately try it	4.00	0.663
<b>Average</b>	<b>4.15</b>	-

Source: Field Survey, April 2023

The total average as per Table11 illustrates that with regards to ‘trial ability’, cumulatively, a level of approximately 4.15 i.e., 83% was attained. Three major variables were severally used to assess trial ability. ‘Before I use the electronic payment system, I need to try it for at least one month’ had a mean of 4.02; ‘There are many opportunities about electronic payment system available for us to use’, attained 4.43; and ‘Electronic payment system is available to me to adequately try it’ recorded 4.00. The study

revealed the above means that consumers hold in high esteem all the necessary variables needed for trial ability are in place. This shows that the consumers of the selected banks are actually satisfied with the trial ability with respect to e-payments in the banking sector. The findings as per the view of the respondent customer agree with the importance that [6] different dimensions of attitudinal belief toward EPS to users’ banking needs relating to the advantages that accrue to the users of the technology in question.

## Degree or Level of Usage of E-Payments by Customers in Ghanaian Banks

**Table 12.** Extent of Adoption of E-Payment

Importance	Very Much	Much	Average	Low	Very Low	Mean
Making payment for almost all services	13	11	6	0	0	4.22
Receiving payments for all services rendered	5	7	6	12	0	3.09
Delivery of goods and services	6	2	7	10	5	2.77
Ordering and payment of inventory purchasing	9	14	7	0	0	4.01

Source: Field Survey, April 2023

From the staff point of view, concerning issues of the importance and extent of adoption of the e-payments in the systems, it was detected that the banks virtually make all their payments through the e-payments system, as well as ordering and payment of inventory purchasing, which had a higher average score of 4.22 and 4.01 respectively, indicating a mass usage among the banks in making their payments.

This is attributed to the fact that the banks make their payments through banking infrastructure which makes use of transfers and electronic payment and not cash due to the high

volume and amount of goods of which such payments are made. Furthermore, payment receipts of their services rendered to their clients do not all pass through the e-payment systems. The study revealed that substantial parts of the receipts are not paid through the electronic system but rather, through cash as indicated in Table 12.

This influenced the average mean to be 3.09 even though some part is paid to the banks through the e-payment systems. Nevertheless, the delivery of goods and services to the banks is hugely not paid through the e-payment system.

**Table 13.** Infrastructure Requirement

Infrastructure	Very Much	Much	Average	Low	Very Low	Mean
Hardware and network (computers, internet, intra/extranet, email, modem)	13	8	9	0	0	4.12
Software (public and specialized/advanced packages, standardized processes & systems)	5	9	13	3	0	3.60
IT experts	8	12	10	0	0	4.00
Skilled staff (in e-commerce)	11	13	6	0	0	4.20

Source: Field Survey, April 2023

The study indicated that for the electronic payment system to be effective, there is the need for the needed infrastructure to be in place and to make sure that, the stakeholders do have the required human resources and the available technology in place to manage the e-payment system. The banks have the requisite hardware

and network, IT experts, and skilled staff available for the execution of the electronic payment systems in its effectiveness as indicated by the high mean of over 4.00 (80%) as shown in Table 13. This indicates the preparedness and readiness of the banks to manage and execute the electronic payment systems to their highest

benefit to both the banks and their clients. However, the software (public and specialized/advanced packages, standardized processes, and systems) recorded a mean of 3.60 (registering a representation of 72%). The findings of the study agree with [24] and [32]

attaches to the importance of EPS since most electronic payments cost only about one-third to one-half as much as paper-based non-cash payment, it is obvious that the social cost of a payment system could be considerably reduced if it is automated.

### Degree or Level of satisfaction of customers with EPS in the Ghanaian banks

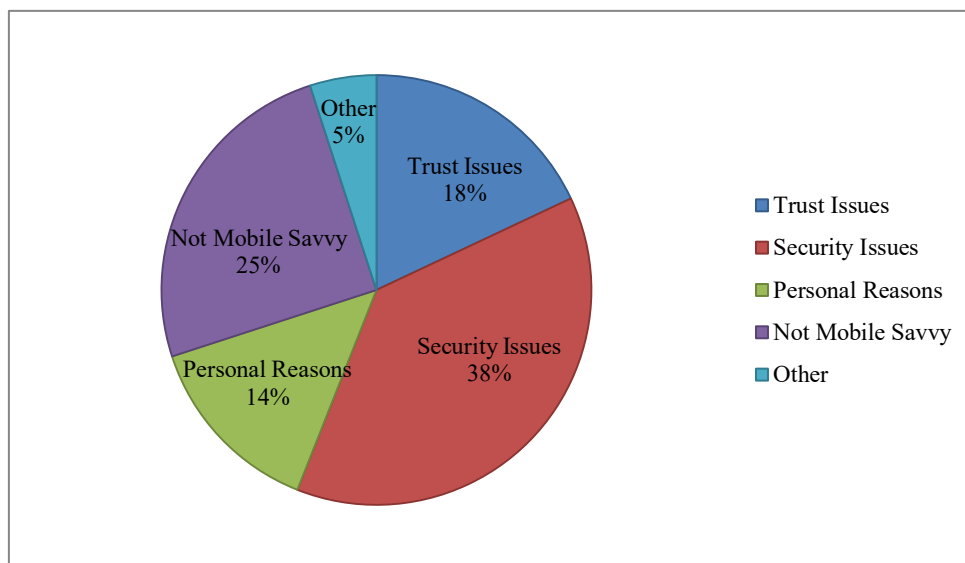
**Table 14.** Awareness of the E-Payment System in Ghana

Item	Frequency	Percentage (%)
Very well aware	27	39%
Not really	24	34%
Somehow	8	11%
No, I am not aware	11	16%
<b>Total</b>	<b>70</b>	<b>100%</b>

Source: Field Survey, April 2023

Contrary to [37], Table 14 indicates that 39% (27 in absolute terms) of the consumers were very much aware of the existence of an e-payment system in Ghana; 34% (24 in absolute terms) were recorded as ‘not really’, ‘somehow’ registered 11% and ‘16% for ‘no, I am not aware’. It could be deduced that the notions of ‘not really’ and ‘somehow’ represents the group of respondents who are too sure of their status as far as the awareness of e-payments in Ghana is concerned, and those two classes cumulatively registered 45%. Furthermore, in spite of the 16%

of the customer sample for the study registered respect of ‘not aware’ of such an existence the study indicated that the majority of the populace is abreast with the development of the e-payment existence in one way or the other within the economy of Ghana. Moreover, all those who indicated an awareness or somehow awareness also indicated that their banks operate electronic payment systems through E-zwich, ATM, and money transfer on their mobile networks of which 45% indicated such preference on their mobile phones.



Source: Field Survey, April 2023

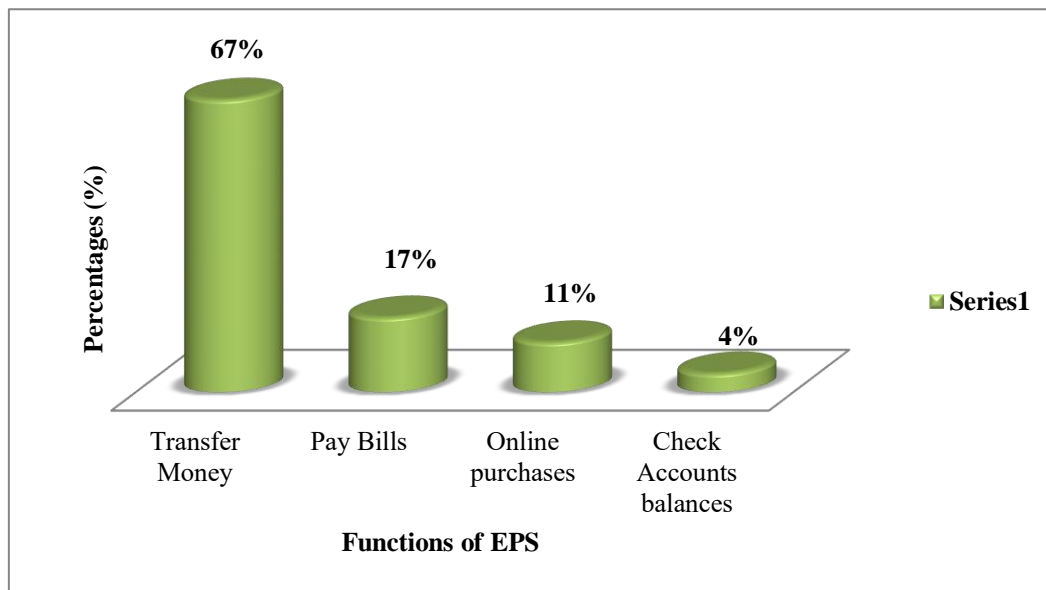
**Figure 1.** Unlikeliness to Use Electronic-Payment on Mobile Phone



As demonstrated by Figure 1, certain reasons were identified by the study as reasons why consumers of the three selected banks do not fancy the use of mobile phones as a means of e-payment system. It was discovered that 25% of the respondents indicated that their prime reason for not opting for E-payment is 'not mobile savvy'. This is because most of those respondents in this category are not acquainted with the use of the mobile phone for other purposes such as making transactions (buying

goods and services) over the internet and in the shopping mall. They consider the use of mobile phones for only making calls and other social network services but not for financial services.

Besides, the study discovered that the major issues considered by customers are security reasons (registering 38%); followed by issues of trust (represented by 18%) of the usage of mobile phones; and 14% was recorded for those whose reasons are personal.

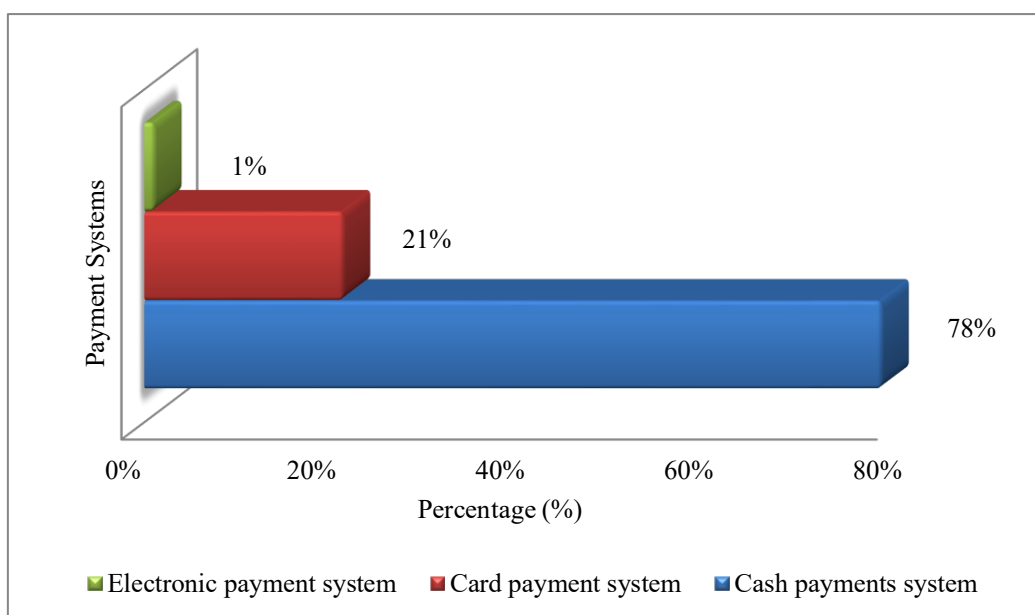


Source: Field Survey, April 2023

**Figure 2.** Functions of the Electronic Payment System

Consequently, as picturesquely demonstrated by Figure 2 above, the majority (67%) of the respondents use the e-payment system mainly for the purpose of 'Transfer Money', 17% recorded the customers use it for payment of bills (such as electricity bills, DSTV, particularly, at Ecobank); 11% for online purchase; and only 4% use it to check their account balances, through the Account alert services which provide the balance of a client the moment there is a deposit or withdrawal of

accounts. Nevertheless, the usage of those services recorded a very satisfactory response (69%) as indicated by all the respondents who use E-payment for either money transfer, payment of utility bills, online purchases, and checking of balances. Furthermore, it was detected that as much as 78% of the populace prefer the cash payment system to the electronic payment system (registering 21%) and the card payment system (1%) as demonstrated by Figure 3 below.



Source: Field Survey, April 2023

**Figure 3.** Payment systems

The main reason assigned by most of their preference for cash payment is that the Ghanaian populace is skeptical about the use of cards and electronic payment systems basically because of security and privacy matters. The ordinary Ghanaian seems more comfortable with lots of currency notes in their pocket than loading them on their cards. The study has shown that position of [33] which mentioned that Ghana has lagged way behind most of the world (including many of its peers in Africa) in the general quest to boost microeconomic activity by reducing the role played by physical cash in daily transactions

and by encouraging the creation of a cashless society.

### **Challenges Faced by Consumers as they Adopt EPS in the Ghanaian Banking Sector**

The results as stated below agrees in totality with the assertions held by [37] and [38] on the challenges that confront Africa in general and Ghana, in particular, the area of EPS, which has been the bane for the continents to develop a cashless society.

**Table 15.** Major Obstacles

Major Obstacles	Very Much	Much	Average	Low	Very Low	Mean
Low internet usage and fewer users	10	12	8	0	0	4.10
Security reservations	11	13	6	0	0	4.20
Expensive and complicated technologies of e-commerce	16	13	1	0	0	4.47
Product complexity and low-interest products	12	8	1	9	0	3.76
Scarcity of skilled staff	5	12	5	8	0	3.60
Inflexible organizational chart and resistance to change	4	6	12	8	0	3.29
Lagging of other supportive sectors (e.g., internet service providers)	9	14	6	1	0	4.04

Source: Field Survey, April 2023

As shown in Table 15, the study identified certain major obstacles hindering the implementation and the usage of the e-payment system in the three selected banks. It was detected that the most ascetic major obstacle facing the banks is ‘expensive and complicated technologies of e-commerce’ with a mean of 4.47 (89.4%); followed closely with a mean of

4.20 was ‘security reservations’; ‘low internet usage and fewer users’ attained a mean of 4.10; ‘lagging of other supportive sectors (e.g. internet service providers)’; ‘product complexity and low-interest products’; ‘scarcity of skilled staff’; and ‘inflexible organizational chart and resistance to change recorded 4.04, 3.76, 3.60 and 3.29 respectively.

**Table 16.** Potential Application

Departments	Very Much	Much	Average	Low	Very Low	Mean
Sales/Marketing	16	14	0	0	0	4.53
Information Technology	13	15	2	0	0	4.42
Accounting and Finance	16	12	2	0	0	4.44
Technical Services	23	6	1	0	0	4.73
Production and Operations	11	15	4	0	0	4.22
Quality Assurance	7	14	9	0	0	3.94

Source: Field Survey, April 2023

As illustrated by Table 16 six major departments were found to have the potential application of the e-payments, which impacts on the business execution of the various departments at the selected bank. The ‘Technical Services’ with a mean of 4.73 (94.6%) is shown to be the department that has a potential

application of the e-payment. The study revealed that Sales/Marketing, Accounting and Finance, IT, Production and operations and quality assurance departments registered 4.53, 4.44, 4.42, 4.22 and 3.94 respectively as departments with potential application.

**Table 17.** Perceived Benefits

Perceived Benefits	Mean
Brand and image promotion (as a pioneer and modern company)	2.96
Lower investment for establishing the sales and after-sales services work	3.03
Decentralization and no restriction imposed by national borders	2.98
Cost reduction in value chain management (product/service development)	3.81
Increase in sales volumes (Premium)	3.92
Mass-customization and innovation	4.10
Promotion enhancement with lower cost desired CRM (customer relation management) through continuous service (24/7) and fast response	3.95
Good knowledge management and better stakeholder relationship	3.86
Job enrichment and high productivity	4.29
An extended corporation with management	3.87
Globally, to what extent is your company ready to embrace e-commerce	4.34

Source: Field Survey, April 2023

As shown in Table 17, the results agree with [42] that the perceived benefits in respect of staff of the banks selected an enormous advantage

that might be recouped because of the full and smooth usage of e-payment in the economy. The most perceived benefit will be the readiness of

the banks to embrace global e-commerce as it will make transactions across borders effectively hurdle-free and help the banks to compete globally. This had a higher agreement among the staff of the banks, which had a mean of 4.34, followed by 'job enrichment and high productivity' which also had a mean of 4.29 as well as 'mass customization and innovation' which also had a mean of 4.10.

These are wheels for the expansion of technology and improvement in service quality delivery as well as openness of the global economy to clients and individuals alike. This finding shows that the electronic payment system has the potential to benefit which benefits each sector of the economy and increase the security of individual finance and gives individual and corporation the openness to access services across the globe. Therefore, the research results affirm [42] position which indicated that with the advent of modern technologies in telecommunications, infrastructure, and protocols, future payments will be made through e-payments by Business to Business, Business to Customer, and Customer to Government.

## **Conclusions and Recommendations**

### **Conclusion**

The electronic payment system establishes a platform for payments to be made easily and comfortably, ensuring that there is less currency in circulation and enhancing security and privacy. Nonetheless, issues about security and privacy still exist when using technology. The study found that the main reasons people do not use electronic payment methods are trust and security. Additionally, the system has the ability to boost the economy and expand clients' and banks' access to markets, ushering them into the multilateral payment system.

### **Recommendations**

The following recommendations are made to help enhance the consumer attitude to the

electronic payment system in the Ghanaian banking sector.

### **Uniformity across all Electronic Payment System Platforms**

The central bank should harmonize the platform for using the electronic payment system in order to employ all service providers uniformly. The convenience of using the card payment system, cash payment system, and mobile payment system will all enhance as a result, increasing utilization. This would ensure that users of the system could use their preferred payment method throughout the nation, which would boost demand for it.

### **Expert Security Training**

It is also suggested that those involved with e-payments organize a successful training session for experts on how to deal with security-related concerns, particularly cyberattacks and information storage, as lack of confidence is one of the main barriers to using the electronic payment system. In addition, this will aid in stopping the unease associated with using the card payment system or the mobile payment system.

### **Assurance on Privacy**

It is also recommended that stakeholders give users of electronic payment systems sufficient assurance regarding their privacy, as such data through electronic payment systems may be used to track and monitor users inadvertently during global cyber-security and data storage. In order to promote the use of the electronic payment system, will foster more confidence and trust among businesses and their clients and restore the necessary assurance.

### **Intensification of Education**

In general, it is acceptable that Ghana has lower EPS usage than the rest of the globe since customers are less aware of the services available to them, how they work, and the advantages they offer. Most Ghanaians, particularly the elderly, lack the knowledge and

skills necessary to guarantee the system is used effectively and efficiently. As a result, banks must inform customers about all of their payment system choices and thoroughly outline the advantages and disadvantages of all EPS-related services. In order for consumers to comprehend how new forms of electronic payment vary from cash, they must be made aware of the potential liabilities associated with their use.

### **Attracting the unbanked**

One of the primary barriers to electronic payments in Ghana, according to [32], is the inability to persuade the millions of people who do not yet have bank accounts to join the mainstream financial system. It is well recognized that the unbanked challenge is one that the banking industry has not given much thought or effort to. Thus, it is advised that the different banks implement ways to draw the unbanked into the EPS without necessarily having to open accounts with them.

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### **Conflict of Interest**

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