A Comparative Analysis of Digital Payment Systems for Great Ethiopian Run Plc

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Abstract

The use of digital payments in emerging and developing economies is revolutionizing the way people transact in the 3rd world. By providing access to an efficient and secure payment system, digital payments are helping to reduce the reliance on cash, which can be costly and time-consuming to manage. In addition, digital payments offer the potential to reduce poverty by providing access to financial services, such as microloans, to people who previously lacked access to such services. As a result, digital payments are helping to spur economic growth in some of the poorest countries in the world. With the right infrastructure in place, digital payments can help to reduce financial inclusiveness and increase the purchasing power of citizens in 3rd world countries.

This research aimed to compare three of the widely adopted payment platforms – YenePay, TeleBirr, and Amole - in light of the rapid growth of the payment processing platforms and the number of customers the Great Ethiopian Run Plc., an event management company, has. This study was pertinent in the context of the Ethiopian Government's Digital Transformation Policy, which is driving its clients to use payment platforms/platforms to integrate their daily lives with technology.

The comprehensive comparative analysis led to the determination that, among the three examined payment systems, Amole emerged as the most commendable service provider. This conclusion stems from the substantiated evidence of positive feedback garnered from both customers and the organization itself, further accentuating Amole's exemplary adaptability to embrace and integrate emerging technologies. Such favorable outcomes position Amole as an exemplary choice within the realm of payment systems.

Keywords: Digital payment systems, secure payment,

1. Introduction

A payment platform is a type of service provided by an e-commerce application service provider that authorizes payment processing for e-businesses, online retailers, supermarkets, or traditional shops. The Platform is called a Trusted Third Party or Entry point to any network and is used in E-commerce systems for more secure transactions. Online shopping allows

customers to sit in the comfort of their homes or wherever they want to be and buy goods from all over the world. This process similarly will enable Merchants to sell their products all over the world.

With the imminent integration of our daily lives with technology, among other reasons, Ethiopian banks are driving their clients, both merchants, and buyers, to use their payment platforms/platforms, supported by the Ethiopian Government's Digital Transformation Policy.

One of the merchants that have started to adopt this new era of payment as an early adopter is the Great Ethiopian Run Plc., an event management company that was established in 2001 G.C. The Great Ethiopian Run organizes over 6 events every calendar year and has thousands of customers throughout the country as well as abroad.

Taking the rapid growth of the payment processing platforms and the number of clients the Great Ethiopian Run has into consideration, this research aims to compare three of the widely adopted payment platforms YenPay, TeleBirr, and Amole.

The Great Ethiopian Run's registration process has two parts. Payment and Registration. These two processes are currently performed separately on the company's platform and then the payment provider's platform. In addition to the 2-step process, some issues occur such as clients not being able to understand the payment process and committing errors and the payment platform not sending timely information to the company, information that is critical for the sales and management teams for decision-making.

The purpose of this study is to compare and contrast YenePay, TeleBirr, and Amole, three platforms for processing payments. The analysis will concentrate on determining their suitability in light of the Great Ethiopian Run's business strategy and requirements. The purpose is to give the organization a well-informed suggestion on which payment platform to choose to meet its goals and objectives.

2. Related Work

A Comparative Study of Different E-Commerce Payment Platforms done by Kavita [1] which reveals that user-friendliness and ease of access are two of the most important factors for consumers when choosing a payment platform. Additionally, users want to be assured of privacy when making payments via bank accounts, and there must be a way to accurately identify customer and merchant bank accounts. Comparative studies of payment platforms can therefore be useful for informing users and helping them make decisions about which payment system is best for them. Furthermore, when users feel that they can trust the payment system they are using, they are more likely to have a positive experience.

Another research by Khan et al. [2], examined the transition in payment methods from cash to cheques, to credit cards and debit cards, and currently to electronic commerce and mobile banking. The aim was to explore the use of online payments and the adoption of electronic

commerce for making payments by customers. Supporting evidence is provided for the advancements in technology, such as mobile transactions, that are making online payments more convenient and transparent, and are leading to customers becoming habitual in using this mode of payment. The statistics presented in this review indicate that the number of customers using online payments and making online transactions are growing, showing an acceptance of online payment systems from academia as well as industry. Furthermore, the review explores the opportunities and challenges associated with the adoption and deployment of new technologies in the implementation and design of secure online payment systems in the present day and the future. This review concludes that better integration of online payment systems with the current financial and telecommunication infrastructure is essential for the success of this payment mode. Additionally, establishing a common standard, improving compatibility with customers, overcoming privacy and security concerns, and utilizing the latest technology can speed up the adoption of online payment methods and expand the market. Future work should focus on legal aspects that contribute to the successful adoption of online payment systems globally.

The authors in [3, 4] has found and indicated that perceived benefit and performance expectancy have a significant positive relationship with the intention to use e-payment systems, while perceived security/privacy and perceived risk have a significant negative relationship with the intention to use e-payment systems.

3. Comparison of Digital Payment Platforms

The selection of a payment platform is a crucial decision for any organization or individual, and there are several factors that should be taken into account to ensure that the chosen platform is the right fit. Among the most important factors to consider are transaction fees, availability, speed, usability, security, and simplicity of integration. These factors may vary significantly depending on the specific platform under consideration, so it is important to carefully evaluate each platform to determine whether it meets the client's requirements and financial constraints.

To effectively compare different payment platforms, it is useful to divide the factors into two groups: the first group consists of factors that can be obtained directly from the organizations or providers of the payment platforms, such as transaction fees and security, while the second includes factors for which user feedback is particularly relevant, such as usability, speed, and availability.

By analyzing and comparing these two groups of factors, organizations or individuals can gain a comprehensive understanding of the strengths and weaknesses of different payment platforms and make an informed decision about which platform is the best fit for their needs.

In the first level comparison, an attempt is made to make a comparative investigation of payment platform providers and their different services, thus the data collected for this purpose

from the payment service providers is organized and presented in Table 1.

Table 1: Comparison of digital payment platforms and their services.

Payment Platform	Merchant Account Available?	COST			Scalability	Integration	Security
		Initial Setup	Transaction Fee for user	Commission to Agent			
Amole	Yes	None	1%	None	Working on Scalability	REST API	Multiple Securities in Place
Tele Birr	Yes	None	10 Birr Max	Up to 20 Birr per transaction	Highly Scalable	SOAP API (deprecated and outdated)	Only Password Security
YenePay	Yes	None	Up to 5%	None	Highly Scalable	REST API and Multiple Plugins for most major platforms	Multiple Securities in Place

The second group of parameters used to compare from the end-user perspective are convenience, security, Speed, Cost of signing up and other recurring fees, User Experience, Customer Support, and Availability of the system on the network. To analyze and compare these parameters, an online questionnaire has been distributed to random Great Ethiopian Run customers using a google form.

When choosing any kind of digital service provider, end-users consider various parameters to ensure that they receive the best possible experience. These parameters include convenience, security, speed, cost of signing up and other recurring fees, user experience, customer support, and the availability of the system on the network. Each of these parameters plays a crucial role in the end-users' decision-making process and can significantly impact their satisfaction with the service. By comparing service providers based on these parameters, end-users can make informed decisions and choose a provider that best suits their needs.

Parameters:

1. *User experience***:** Clients rate the overall user experience of the app, including how easy it is to use and navigate, the clarity of instructions, and the accessibility of features.
2. *Speed***:** Clients rate the speed of transactions, including how quickly transactions are processed and how long it takes for funds to be transferred.
3. *Reliability***:** Clients rate the reliability of the app, including how often it experiences errors or crashes and how responsive the support team is in fixing issues.

4. *Customer support***:** Clients rate the quality of customer support, including how quickly and effectively support requests are handled, and how well the support team understands and addresses their concerns.
5. *Availability***:** Clients rate the availability of the app, including how frequently it experiences downtime or maintenance periods that limit functionality.
6. *Features***:** Clients rate the features offered by the app, including how well they meet their needs and whether there are any features missing that they would like to see added.
7. *Feedback***:** Clients provide feedback and suggestions for improvement to the developers, including ideas for new features or ways to enhance existing functionality.

A random sample of Great Ethiopian Run customers has received an online survey in the form of a google form in order to compare these parameters. This method might be useful for gathering information from a lot of people and then analyzing the findings to determine which service provider performs best in each parameter. To ascertain which service provider excels in each area, a questionnaire can be created to ask particular questions about each aspect, and the replies can then be quantified and analyzed. End customers can choose the service provider that is most appropriate for their needs by comparing the performance of the various service providers in each criterion.

The information in Table 2 is the result of the analysis of data gathered via an online survey from a sample of Great Ethiopian Run consumers. The chart compares the various digital service providers based on a number of factors, including ease of use, security, speed, cost of signing up and other ongoing fees, user experience, customer support, and the system's network accessibility. It is simple to compare and contrast the various service providers and their respective performances in each parameter because the data are presented in table format. These findings can be a helpful reference for customers wanting to select the best digital service provider for their requirements.

When analyzing the data collected from the survey, it is important to break it down into specific sections to better understand how each payment platform performs in comparison to the others. This means splitting the data into three different parts, one for each payment platform, and assessing the survey results for each question per platform. By doing so, it becomes easier to identify any trends or differences in the survey results between the payment platforms. For example, if one payment platform consistently receives higher ratings for its user interface, while another consistently receives lower ratings, this could indicate that one platform is more user-friendly than the other. Similarly, if one platform consistently scores higher in terms of availability, this could suggest that it is more reliable than the other platforms. Splitting the data into different parts for each payment platform allows for a more detailed analysis, which can help provide a more accurate assessment of the overall

performance of each payment platform.

The process of reaching out to customers of Amole who have previously taken part in the Great Ethiopian Run events was done through digital communication channels such as SMS, social media platforms like Facebook and Twitter, as well as instant messaging apps like Telegram. This was done in order to gather feedback from customers who had prior experience with the Amole platform and who were also familiar with the Great Ethiopian Run events. By targeting this specific group of customers, we were able to obtain a more accurate and targeted set of responses that would provide insight into the experiences of Amole users who are also Great Ethiopian Run participants. The use of digital communication channels allowed for a wider reach and ease of access for potential respondents, as they could respond to the survey in their own time and from the convenience of their own devices. Additionally, the use of digital communication also allowed for a quick and efficient method of collecting and collating the responses, which could then be used for analysis and comparison with other payment platforms. Overall, the use of digital communication to reach out to Amole customers who have participated in the Great Ethiopian Run events allowed for a more targeted and efficient data collection process.

Table 2: Customer Feedback Survey Results

Questions	Payment Service Provider		
	Amole	TeleBirr	YenePay
How clear are the instructions to use the app?	2.92	2.5	2.3
How easy do you find the application to use?	3	3	2.44
Do you find the app has the features you are looking for? (Percentage)	93.36	96.49	91.84
Transaction Speed?	3.05	3.5	2.51
How often do you experience errors and crashes	3	3.5	2.93
Is the support team responsive?	2.92	1	3.04
How is the customer support for this app?	3.05	2	3.03
How "available" is this app? Please answer this question with regards to the application working properly considering the network as well.	3.08	3.5	2.97
Does the team accept your feedback? (Percentage)	90.27	17.57	90.82

This section will present an analysis of the customer satisfaction survey results for the mobile payment platforms Amole, TeleBirr, and YenePay. The survey was conducted to evaluate the customer experience on the platforms, and several parameters were analyzed, including how clear and easy-to-use the app instructions were, whether the app had the necessary features, transaction speed, frequency of errors and crashes, the responsiveness of customer support, and the availability of the app. The survey also asked respondents whether the team accepted feedback. By analyzing the responses to these questions, we can gain

insights into the customer experience on each platform and identify areas of strength and areas for improvement.

According to the survey results, customers who use Amole as their preferred mobile payment platform are generally satisfied with the app's features, including the range of services it offers. Amole appears to have a comprehensive set of features that users are looking for, which is an important factor in customer satisfaction. In addition, Amole is seen as having a good support and feedback system. This means that users feel that they can easily get in touch with the support team and receive helpful assistance when needed. Furthermore, Amole's system is generally available, meaning that users can access the platform without any major issues.

Another strong point for Amole is its transaction speed. Users feel that transactions on the platform are generally processed in an acceptable amount of time. This is a critical factor for a mobile payment platform, as users expect fast and efficient transactions. Overall, these factors contribute to Amole's overall positive rating from customers in the survey.

The analysis of this result highlights a potential area for improvement for Amole. While the payment service provider has several strong points, such as being feature-rich, having good support and feedback systems, and an acceptable transaction speed, it seems that the clarity of initial instructions to use the app could be improved. This issue may have contributed to Amole receiving lower ratings from customers, suggesting that some users may have found the app's learning curve to be too steep. This finding indicates that Amole may want to consider revising its initial instructions to make them clearer and more user-friendly, thereby improving the overall user experience and customer satisfaction.

The results of the survey indicate that TeleBirr is perceived by its customers as a user-friendly and reliable mobile payment platform. The fact that customers find it easy to use and appreciate its transaction speed suggests that the platform is designed with user experience and convenience in mind. The low occurrence of errors and crashes indicates a stable and reliable system, which adds to the overall user experience.

Furthermore, customers find the service to be generally available and working, which is a crucial aspect of any payment platform. The ability of the platform to function properly and efficiently is one of the most important factors in customer satisfaction. A mobile payment platform that is frequently down or unavailable will quickly lose customers and credibility.

However, the survey also shows that TeleBirr may need to work on improving its customer support and feedback system. While it is not indicated as a major weakness, it still stands as a point of improvement for TeleBirr in order to maintain customer satisfaction and loyalty in the long run.

The results of the customer satisfaction survey showed that TeleBirr scored lower than its

competitors in terms of having a responsive support team, consistent support for the app, and accepting feedback from its users. This suggests that the company may need to focus more on improving its customer support and addressing user feedback in order to better meet the needs and expectations of its customers.

Having a responsive support team is important because it allows customers to receive timely assistance when they encounter issues with the app or have questions about how to use certain features. Similarly, providing consistent support for the app is crucial to ensure that customers can access the app and use it effectively at all times.

Accepting feedback from users is also important as it allows companies to identify areas for improvement and make changes that better align with the needs and preferences of their customer base. By failing to prioritize these factors, TeleBirr may be at a disadvantage compared to its competitors in terms of customer satisfaction and loyalty.

The survey results suggest that YenePay's customers have a positive experience with the platform's customer support. Customers appreciate that YenePay has a responsive support team, which is willing to assist them when needed. Additionally, the platform is perceived to have the necessary features that customers are looking for, which can contribute to their satisfaction with the service.

Moreover, YenePay seems to be open to receiving feedback from its customers, which can be a significant advantage in a competitive market. By listening to its customers and implementing their suggestions, YenePay can continue to improve its service and build a strong reputation among its user base.

However, the survey results do not provide clear information about YenePay's performance in other areas, such as the clarity of its initial instructions or the availability of its service. Therefore, further investigation may be needed to determine how well YenePay performs in these areas compared to its competitors.

However, the results also indicate that YenePay receives average ratings in several key areas. Firstly, users do not find the app to be particularly simple or easy to use, suggesting that there may be room for improvement in terms of the user interface and overall user experience. Additionally, users rated the initial instructions for using the app to be average, indicating that there may be some confusion or difficulty in getting started with the app.

In terms of transaction speed, YenePay receives an average rating, suggesting that the payment processing time may not be a significant strength or weakness of the platform. However, users did report experiencing crashes and errors with the app, indicating that there may be some technical issues that need to be addressed to improve the overall stability and reliability of the platform.

Finally, in terms of general availability, YenePay receives an average rating. This suggests

that users do not find the platform to be consistently available at all times and that there may be some issues with network connectivity or other technical challenges that impact the reliability of the service. Overall, while YenePay does receive high ratings for its support team, features, and feedback acceptance, there are several areas where improvements could be made to enhance the overall user experience and platform performance.

4. Conclusion

The purpose of this research was to conduct a comparative analysis of three payment processing platforms, namely YenePay, TeleBirr, and Amole, in order to evaluate their suitability with respect to the business model and requirements of the Great Ethiopian Run. Specifically, the objective was to provide a well-informed recommendation to the company for selecting the appropriate payment platform that aligns with its objectives and goals. This study aimed to investigate and compare the features and functionality of the platforms, as well as the user experience, reliability, and support provided by each platform. The findings of this research hope to assist the Great Ethiopian Run in selecting the best payment platform for their needs and improving the payment process for their customers.

Based on the research conducted and the analysis of the results, it is evident that Amole has emerged as the leading payment processing platform among the other two contenders, namely YenePay and TeleBirr. Amole has performed well in several categories, including having a feature-rich platform, good support and feedback system, high availability, and acceptable transaction speed.

In contrast, YenePay has been found to be an average performer across most of the metrics evaluated. Although it has a responsive support team, accepts feedback from its customers, and has some of the features required by clients, it has consistently scored average in terms of app simplicity, clear instructions, transaction speed, crashes & errors, and general availability.

On the other hand, TeleBirr has been found to lag behind its competitors in many areas, particularly customer support. TeleBirr scored the lowest in terms of a responsive support team, consistent support for the app, and accepting feedback from its customers. Although it was found to be easy to use and had good transaction speed, it had issues with availability, crashes & errors, and lacked the necessary features required by the Great Ethiopian Run.

Overall, the results indicate that Amole is the best-suited payment processing platform for the Great Ethiopian Run. Its feature-rich platform, responsive support team, and high availability make it an ideal choice for the company. However, it is important to note that selecting a payment processing platform involves several factors, and the decision should be based on the specific requirements and goals of the Great Ethiopian Run.

During the course of this study however, it came to light that TeleBirr under investigation underwent a substantial update subsequent to the completion of our research. This update

introduced significant changes to their system, rendering the findings presented in this paper potentially outdated and requiring further examination. It is important to acknowledge that the TeleBirr has implemented enhancements aimed at improving its functionality, user experience, and security measures. Although these updates have invalidated the specific findings presented in this study, they offer valuable insights into the dynamic nature of payment systems and the need for continuous research and analysis. As such, this development presents an opportunity for future follow-up research to assess the impact of the updated system and evaluate its performance against the criteria established in this study.

Acknowledging these recent advancements, it is important to approach the findings of this paper with caution and consider them within the context of the pre-update system state. The present study lays the foundation for further investigations that can delve into the implications of the recent changes and contribute to a comprehensive understanding of the evolving landscape of payment systems.

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