

Full Paper

Website Aesthetics and Technology Playfulness in Encouraging Customer Use of Online based Self-Service Technologies: Special Reference to Commercial Banks in Sri Lanka

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Abstract

Rapid technological advancements have aided the service sector's continued evolution, converting traditional physical service encounters managed by service professionals into self-service technologies (SSTs) controlled by customers. Despite the fact that prior studies have attempted to understand customers' technology acceptance in general, sufficient attention has not been paid to the study of self-service technologies, particularly Online based SSTs. Hence, the purpose of this study is to investigate the website aesthetics and technology playfulness of online-based SSTs leading the use of self-service technologies in the Sri Lankan commercial banking industry. A qualitative approach was undertaken, conducting 50 semi-structured interviews with banking customers who use SSTs in the Western Province, Sri Lanka with the use of a non-probabilistic purposeful sampling strategy. The method of thematic analysis was used to analyze the data. The findings revealed "Information quality and guidance", "Innovative systems and facilities", "Use of multiple languages", "High interactivity" and "Visually appealing techniques" as the five themes of website aesthetics and "Enjoyment", "Exciting", "Entertaining", "Creativity", "Delight" and "Appealing features" as the six themes of technology playfulness leading towards the use of online-based SSTs in the banking sector. The findings would occupy the vacuum of existing literature on the customer use of online-based self-service technologies. Practitioners will be given direction with the understanding on how consumers could be encouraged towards the use of online-based SSTs with the integration of website aesthetics and technology playfulness to improve the delivery of self-service technologies in the commercial banking sector.

Keywords: Self-service technologies, online, website aesthetics, banking

Introduction

The majority of service interactions take place between front-line employees and customers [1, 2]. Traditional interactions are being surpassed by consumers in using self-service technology (SST) [3]. SSTs are becoming more common in a wide range of industries, from traditional high-contact industries like

hotels to low-contact industries like gas stations [3, 4]. With the rapid advancement of technology, SSTs are expected to evolve and play a bigger role in service delivery than they do now [5].

Customers interact with retail banks via a variety of self-service channels, including Automated Telephone Banking (ATB), ATMs, SMS Banking, and Web Banking, with the latter playing a critical role in customer interactions [6]. Despite the presence of a few private and foreign banks, three state-owned banks dominated the banking market in Sri Lanka until the late 1980s. After the 1980s, when the banking industry was heavily influenced by information technology, private sector banks began to emerge [7]. ATMs were the first SST introduced by Sri Lankan banks, followed by mobile and electronic banking [8, 9], and the Cash Deposit Machine (CDM) introduced a few years back [10]. With 26 commercial banks serving the country's 21.2 million residents, the banking industry in Sri Lanka is extremely competitive [7].

In order to provide the theoretical foundation for the study, several attempts have been made to assess banking customers' technology adoption behaviors [11-14]. Various technology acceptance models, such as the Technology Acceptance Model (TAM) [15], Unified Theory of Acceptance and Use of Technology (UTAUT)[16], Innovation Diffusion Theory (IDT)[17], and Theory of Reasoned Action (TRA) [18], have been made to understand SSTs as a part of information-technology innovations in a variety of areas [19-21]. However, according to Blut, Wang [22] and Galdolage [23], these general technology adoption models do not adequately explain the context of SSTs. Furthermore, customer behavior in terms of technology use and acceptance differs between developed and developing countries. As a result, novel approaches aimed at eliciting customer insights are required to comprehend changes in customer use of technological interfaces [24]. The aesthetics of the website and the guided instructions have been recognized as important in the intention to adopt internet banking in recent literature [25]. Further, technology playfulness of people encourages them to use self-service technologies. However, scholarly work on website aesthetics and its influence on the successful adoption to Self-Service Technologies are rare, particularly in developing context. Therefore, identifying website aesthetics and technology playfulness which encourage the use online based SSTs in the banking sector in Sri Lanka is worthy to study. Hence, the purpose of this research is to investigate website aesthetics to encourage the use of online based self-service technologies in the Sri Lankan commercial banking industry.

Hence, the current study contributes to the existing literature by providing a better understanding of the website aesthetics that encourage the use of online based SSTs in the Sri Lankan Commercial Banking Sector. Furthermore, with rapid technological advancements and growing concerns about technology use in the banking sector, the authors believe that the findings of the study will enable banks to discover ways to incorporate website aesthetics into implementing appropriate measures to improve customer use of online-based self-service banking technologies.

The following is the way in which the rest of the paper is organized: The next section includes a literature review that explains the paper's topic and underlying issues, followed by the study's methodology. Next, the data analysis and the findings are provided. Finally, the study offers a brief discussion followed by the theoretical and managerial implications, as well as limitations and future research opportunities.

Literature Review

Self Service Technologies

With the competitive nature of today's business environments, several organizations incorporate technology into their service processes [26]. Self-Service Technologies allow customers to perform service

transactions on their own, without the intervention of service organization personnel[27]. The rapid technological advancements, low hardware costs, and rising labor costs, have led the growth of SST popularity in the service sector[28]. Customers can use SSTs to produce their services[29], which reduces costs and improves efficiency[30].

SSTs are defined as “technological interfaces that enable customers to provide a service without direct employee engagement” [3, p. 50]. Technology interfaces allow businesses to instantly delight customers by allowing them to solve problems using technology [31] cited by Cho and Fiorito [32] . Many digital technologies offer their customers a highly personalized environment [33] with increased interactivity and rich information [34]. Since the implementation of this new service delivery model, customers' interactions with service providers/staff have shifted to interactions with technology [30].

Nonetheless, the introduction of SSTs does not always ensure customer acceptance or value enhancement [35]. Due to some customers being hesitant to use SSTs, their adoption in various industries has been hampered [36]. As a result, SSTs provide both positive and negative experiences for customers, resembling a two-edged sword [37]. This has been proved with the fact that, it has been discovered that some stores are removing self-service checkout stations in order to improve customer service [38].

To reap the full benefits of technology services innovation, organizations must overcome customers' aversion to SSTs [39]. Customers must determine whether the service meets their expectations, and firms must improve customer interactions with SSTs [40]. Therefore, it is essential to study specific SST settings and ensure what interactions and aesthetics in technology may lead customers towards the use self-service behaviors at technological interfaces.

Use of Online based Self-Service Technologies in Banking Sector

Banks have leaped on the SST bandwagon in order to improve service delivery, increase transaction volume, and stay current with technology while providing clients with more options, such as ATMs, mobile banking, and internet banking. There is no doubt that the global retail banking sector has improved in terms of service quality in recent years [41]. Banks are being pushed to find ways to improve customization in order to provide a service that is not only one-of-a-kind, but also unrivaled [42] .

The introduction of an ATM and a debit card kicked off this technological revolution, which was quickly followed by core banking (The branches being interlinked making the customer becoming a customer of the entire bank instead being attached to one branch). Traditional banks have limited banking hours, whereas SSTs are open 24 hours a day, seven days a week to serve customers' needs Marr and Prendergast [43] as cited in Fernando and Dinesha [40]. Another SST option is internet banking, which was originally designed to provide information about the bank's products but is now available 24 hours a day, seven days a week, and allows for monetary transactions. Mobile banking is another SST that banks actively promote [44]. Banks must better understand how to handle SSTs as customers become more familiar with them. SSTs can save a lot of money if they're widely used, but they can also be very expensive if they are not installed and maintained properly.

However, in comparison to developed countries, the banking industries in developing countries appear to be less accepting of SST, resulting in lower usage [45-47]. This explains why there is still a scarcity of scholarly work in this field in developing countries [48]. Banks must, therefore, first understand the

consumer's decision to use an SST before investing time and money into designing, implementing, and managing them.

Sri Lankan Banking Sector and Use of Self-Service Technologies

Customers' reluctance to accept self-service technology has become a hurdle for businesses hoping to get the full benefits of technology services innovation [39]. The most significant barrier is customers' willingness to try out new self-service technologies, which often necessitates significant behavioral changes [49]. Customers share some of the responsibility for making sure the service meets their needs. In order to do this, customers must coproduce service processes. Businesses are seeking to develop customer relationships and aid them in becoming better co-producers in a variety of industries [40].

As more consumers utilize online banking, ATMs, or mobile banking to complete their everyday banking transactions without the assistance of a branch employee, self-service banking is becoming more popular [50]. In the banking industry, self-service technologies increase profitability, lower transaction costs, and give consumers with a comfortable 24-hour service that allows them to bank whenever they choose. Customers in traditional banking facilities have limited banking hours, whereas self-service technology are available outside of these hours, indicating that the banking sector is attempting to meet client demands Marr and Prendergast [43] as cited in Fernando and Dinesha [40].

The widespread usage of ICT in the Sri Lankan banking sector started in the late 1980s [51]. Self-banking and online banking are the current distribution strategies for banking services in Sri Lanka. Despite the fact that self-banking services (SBS) are offered by various banks in Sri Lanka, the Peoples' Bank was the first to bring these services to the country. With the goal of becoming the most digitalized bank by 2020, Peoples' Bank began developing self-banking units across the country, equipped with the most sophisticated CDM, ATM, and Kiosk equipment. The automated ATMs are available 24 hours a day, 365 days a year, providing customers more control over where, when, and how they perform their banking activities, resulting in increased customer convenience. Despite the numerous advantages provided by the new facilities, the bulk of Sri Lankan banking consumers have not adjusted to them as planned [52].

Managing Websites as an SST Platform

The physical business unit has been replaced with a website as a result of the rise of online commerce. Based on these findings, it is plausible to conclude that in the new electronic environment, perceived web site usability is a critical component of a store's image and can impact shopping behavior. In truth, as time has passed, website design has become a critical aspect when an organization's services for its customers rely on the Internet as a communication medium. Further it has been stated that website designs are crucial in achieving the user's overall happiness [53].

One of the advantages of the Internet is its interactive potential. As a result, experts from numerous disciplines have taken a keen interest in the concept of interaction [54]. Although most businesses are unable to provide live discussion between consumers and company representatives, several have attempted to give their customers a voice and social value by allowing them to engage with other customers on their website [55].

In today's internet world, a company's website or online application is the sole way to communicate with customers and meet their needs [56]. In a service industry like banking, high client engagement is required

because a bank can only gain consumer trust by meeting their demands. This moment of truth has been replaced by online engagement, and the corporation must please the consumer by providing the greatest degree of service quality while surfing the bank's application or website [57]. When a customer visits a company's website, they should be satisfied with the quality of information and service they receive [58].

Methodology

The current study used an exploratory research design with qualitative inquiries to investigate the use of website aesthetics in consumer adoption of online based SSTs in the banking sector in Sri Lanka using an interpretivism approach [59, 60]. Rationale of using a qualitative approach was backed by fact that need for customers' fresh insights and the limitations of quantitative surveys in providing such insights into customer use of SSTs [61, 62] .

The study was carried out in Western Province, Sri Lanka, since the majority of banks and branches are located in there. Bank branches are concentrated in urban areas [63], especially in the Western Province. Fifty SST users of commercial banks were chosen to the sample using a non-probabilistic purposeful sampling technique and conducted in semi-structured interviews using interview protocol [64-66].

The interviews began with a brief introduction and description of the study, emphasizing the importance and utility of the participants' input. Before the interview, a formal consent form was created to obtain the respondent's voluntary participation in the study. To aid transcription, it was requested that the interviews be recorded. To make the interviewing process simple, seamless, and focused, an interview guide was created. Each subject was interviewed for 30 to 45 minutes. In this phase of the study, thematic analysis was used to uncover, analyze, and summarize patterns (themes) within the data [67]. The interviews were transcribed and following that, patterns were identified under each of the interview questions. The identified patterns were then reclassified into eleven themes after being analyzed with the relevant quotes from the interviews. The final step was to match the findings with the related literature in order to develop a valid justification for the themes chosen [68].

Findings

The study aims at exploring website aesthetics and technology playfulness which encourage people to use online based self-service technologies.

Website Aesthetics

The study found several critical parameters of website aesthetics which were reclassified into five themes as "Information quality and guidance", "Innovative systems and facilities", "Use of multiple languages", "High interactivity" and "Visually appealing websites".

Information Quality and Guidance: This reflects the quality of the provided information and guidance. The current study observed that the information quality and guidance provided by the online based SSTs are very important in the decision of using an SST for banking transactions. Among them were the availability, applicability, timeliness, quality, precision, uniformity, and user friendliness of information and guidance. The majority of respondents said they were satisfied with the information and instructions they received, while others mentioned instances where transactions went wrong due to muddled instructions.

In the applications and online banking, we receive prompt information but clear reflecting what amount, to whom we did the transaction and the date and time which could be kept for reference as well. Also, for most of the online banking applications appropriate guidance is provided on how to use them for the first time. It is available in the app as well the bank employees explain it well at the registration of online banking (Male, 32 years, Software Engineer)

Among the issues were incorrect or outdated information on websites, a lack of clear recommendations up to the end, and complicated instructions.

There were several times where after the upgrades of the application and addition of new features by the banks, I experienced that some instructions which were not clear. It confuses you, and some of it invites errors. Also, sometimes there are unwanted widgets which are so complicated to understand and use which irritates me so much. After that, I also have to call my son to help me out (Female, 58 years, Housewife)

Innovative Systems and Facilities: The online based SSTs comprising of different innovative features and interactive systems which enable the use of them much convenient is acknowledged by this. The systems including the capability of conducting several transactions in the same interface, the onetime passwords which resembles the security of the transaction conducted and other security measures including the unique usernames and passwords are highlights of this theme. Following is an illustration of one of the respondents of the study in relation to theme recognized.

Instead of travelling to the bank, I prefer to utilize online banking because the programs are highly inventive and feature a large number of transactions with one-time passwords and security precautions. I can pay my bills; do any transfer I need get done. so many other transactions at one time from one app. So, it is so innovative making it so easy for me to do my banking activities (Female, 30 years, School teacher)

Use of Multiple Languages: This refers to the availability of multiples languages in the online based SSTs. According to the respondents, majority of them preferred the availability of multiple languages in these applications which would make it more convenient to understand the instructions and complete the transactions without a hesitation in their mind about getting it wrong. However, as revealed by the respondents though few of the banks in Sri Lanka are in the progress of enabling multiple languages in the online based SSTs, majority of the applications have not reached that level of convenience which is supported by the following illustrations of the respondents.

I am having the mobile app only from one bank I do transactions from. I like it very much because, it has multiple language facility which makes it so convenient for me to use it without a doubt. Otherwise, sometime some instructions are not perfectly understood in English only (Male, 45 years old, Clerk)

I have two banking mobile apps that I frequently use for the banking transactions I have to do in my day today life banking stuff. However, one application is so useful because it has all the multiple languages. Not even for me, but my friends also like it because of that convenience. But, as far as I know, as I experience most of the other banks still have multiple language facility only for ATMS and CDMs (Female, 35 years, Receptionist)

High Interactivity: The fact that the online based SSTs being much interactive with so many different widgets and tabs that enables the convenience and interactivity for the users is acknowledged by this theme. According to the respondents as illustrated below, majority of the respondents revealed the fact that rather than facing the onsite banking difficulties including waiting in the queues and getting signatures it is more fun to use the mobile application and internet banking facilities for their transactions.

There are different transactions that can be done via the mobile app, but it is really more fun and interactive than waiting in lines to get what we want. I hate going to the bank and waiting in the queue to get the transactions done. Now I have the app to myself, and I can do any transaction whenever I want, and I love using it (Male, 40 years, Accountant)

Visually Appealing Websites: This resembles the variety of features available on the internet banking websites and the mobile applications which enables the transactions in the banking activities through online based SSTs. As revealed by the respondents in the internet banking facilities the instructions and information are provided in an appealing manner making it easy for them to follow in completing a banking transaction. However, it was also revealed that, some widgets the banks have used to make the mobile applications visually appealing disrupt the user friendliness of the applications and also lower the speed of processing transactions through it.

I use the online banking site, there in the site navigations are provided with instructions which are very helpful for anyone in using them. For me, it was very helpful at the initial stages of starting to use internet banking as for all different types of available transaction step by step guidance was shown on the site in a very appealing way (Male, 38 years, Assistant Lecturer)

I do use the mobile application and internet banking facilities for my banking transactions. Yes it is much easier than going to the bank as we can do the transactions whenever we need from those two. But the thing is sometimes it is so tiring in the mobile app, there are widget getting opened from different panels and tabs which makes it so hard to operate and get the transaction done. Also, sometime the app gets stuck because of those (Female, 50 years, Surgeon)

Technology Playfulness

Technology playfulness was reflected by six themes as “Enjoyment”, “Exciting”, “Entertaining”, “Creativity”, “Delight” and “Appealing features” leading the use of online based SSTs which have been elaborated below.

Enjoyment: According to the study's findings, online based SSTs utilized in banking operations are not only seen as a solution to customers' financial transactions, but also as a kind of entertainment, as disclosed by the respondents. The fact that trying out these new applications makes people appreciate it, according to respondents. According to the study's respondents, the interface of the applications and how they work make them enjoyable to use.

See, all of the banks' online banking apps, as well as their mobile apps, are extremely engaging, with a beautiful interface to deal with. As a result, rather than filing slips at bank counters, I prefer to handle financial transactions online. So, yeah, I appreciate using these resources. (Female, 35 years old, Interior Designer)

Exciting: This shows that the various features integrated into the mobile application provide users with fun and excitement when using them, as shown by the study's respondents. The respondents recognized that using the mobile application, its navigations, and various settings to do transactions with banks is more fun than physically visiting the bank. One of the respondents provided the following example:

I utilize all of these applications, including ATMs, CDMs, online banking, and mobile banking. My smartphone app is a lot of fun to use. There are numerous features to try. For instance, registering payees and other items. Going over them and testing out the new features makes it more enjoyable to use. (29 years old, male, IT Security Analyst)

Entertaining: This indicates that, when compared to actual bank visits, which the majority of respondents claimed as a fact they dislike, the SST applications provide a perspective of entertainment in their use. Because

of their interactive features and the various incentives customers receive from the bank for using them, the respondents stated that mobile applications and online banking facilities are considerably more interesting to use. As a result, as illustrated below, executing transactions with online based SSTs entertains the respondents.

We will have to wait in long lines and spend time if we go to a bank or another location to pay bills, such as the power board. However, the interactive aspects of the mobile app and internet banking tools have really aided me in my profession. With all of the new features they have, such as favorite transfers, they are pretty engaging. Also, when we utilize these services, they occasionally provide rewards and shopping deals. As a result, it's a lot entertaining to use them. (35 years, Female, Teacher)

Creativity: According to the study's respondents, the tremendous advancement of technology has changed SST facilities with updates and originality. They went on to say that the applications are incredibly innovative to deal with because of the proper navigation and tabs for each transaction. As a result, the SST facilities were discovered to have innovative interfaces that encourage respondents to use them instead of traditional banking facilities. An example provided by a respondent is as follows:

I had no clue what these apps were for at first. Then a bank staffer demonstrated the various functions and how easy it is to use. Almost all of my financial transactions are now completed through them. The most significant element is that the apps offer fantastic features such as appropriate navigation across the app and multiple tabs for different activities, which makes them so creative. (27 years, Male, Brand executive)

Delight: This refers to how pleasant it is for clients to use the SST facilities for their banking needs. Customers may execute banking transactions at home or wherever they like using only a mobile device such as phones and laptops, as mentioned by the survey participants, which is much more delightful for them than listening to bank employees and waiting in lines. One of the respondents provided the following example:

Since I started using the smartphone app, I haven't gone to the bank. In the last three to five months, I don't recall going to the bank for anything. I don't want to rely on them because I can do it myself, and using them anytime I want, including at home, is a pleasure. (27 years, Female, Finance officer)

Appealing Features: According to the study's respondents, this refers to the various interactive and distinctive elements present in the SST applications. One of the compelling aspects mentioned is the option to save utility payees in mobile applications and internet banking. According to the respondents, the cardless transactions available at CDM machines are also an appealing aspect in the use of online based SSTs. The following is an example offered by a participant:

Well, why I mostly use these facilities is especially because of the appealing features they have in each of them. The mobile applications anyway have a lot of appealing features. I like the option to save the payees which help to save me a lot of time that I use to spend in filling slips. Also, the cardless option available in the CDM machine is another impressive feature which is much convenient in depositing cash (30 years, Female, Hotel Assistant Manager)

Conclusion

In a summary, this qualitative study found five themes explaining website aesthetics and six themes of technology playfulness leading the use of online based SSTs in Sri Lanka's commercial banking sector as given in Figure 01.

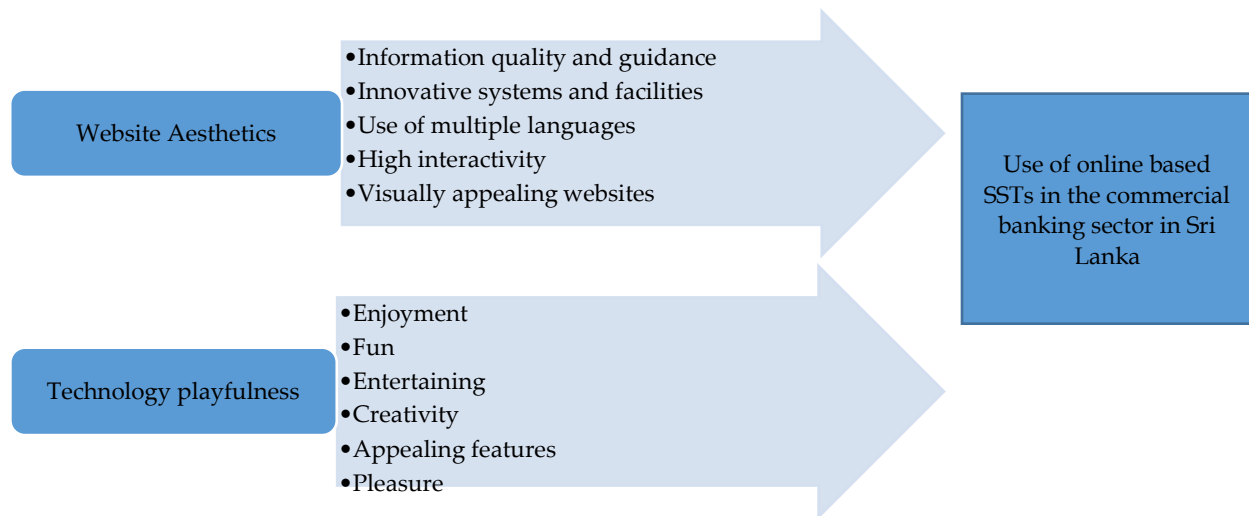


Figure 1. Website aesthetics and Technology playfulness driving the use of online based SSTs in the commercial banking sector in Sri Lanka

Discussion

The findings of the present study complement with some available scholarly work while contributing new knowledge. According to the prior literature, website aesthetics have been recognized as important for the improvement of usage and intention to adopt online based SSTs [25]. Each of the recognized themes of the present study are further discussed with few exiting literatures through the following explanations.

Similar to the findings of the current study with regard to the importance of information quality and guidance, it has been stated that, 'Information richness,' is a feature that influences client beliefs about technology-mediated services [35, 69]. Marr and Prendergast [43] agreed with the conclusions of this study, citing the ease of use of SSTs as one of the key factors that encourages customers to utilize them in banking. Further, it has been stated that, customers place much importance on the updated information available on the websites in relation to online based SSTs [25]. Galdolage [34] supports the study's findings further revealing that, the information/instructions offered by the SSTs is a key factor in deciding which SSTs to use.

Meuter, Bitner [49] revealed the importance of 'novel aspects of SSTs' such as relative advantage, observability, and trialability as crucial in consumer trials of SSTs, which supports the findings of the current study. Furthermore, it has been noted in previous literature that innovative technology has hastened the way banking services are supplied in many developed and emerging nations, resulting in consumers getting swept along with this trend [70]. Elliott and Hall [26], on the other hand, observe a different gender effect. Females are more uneasy and insecure about their proclivity to accept SSTs, whereas males are more inventive.

The importance of considering the knowledge level of consumers in designing the SSTs has been recognized by prior literature [26]. Referring to the same, the present study emphasized on the importance of integrating multiple languages in the facilities they provide as online based SSTs. This is supported with the prior literature highlighting the importance of understanding the status of language knowledge of the users in promoting SST facilities [71].

As revealed by Mohd-Any, Mahdzan [72] with the high internet penetration and usage prevailing in the present world, individuals require quick, uncluttered information, which can be provided through interactive website technology. Complementing the present study's funding they further stated that easy navigation, brief content is more interactive enabling the convenience to the users of that technology [72]. Further, it has been recognized that, especially in relation to financial services the more the interactivity of the online service provided, the more the quality of the delivery of the online banking facility [73].

According [74], the visual appeal resembles the quality of the website offered by an organization which supports the findings of the current study revealing the importance of visual appeal for online based SSTs. In support, aesthetically attractive color schemes, increased use of graphics, and web page customization depending on the consumer's financial demands have been suggested as different approaches for improving e-banking web usability [73]. Hence, prior literature complements with the study's finding with regard to the visual appeal highlighting its importance to be considered for the design of firm's website in making it more user-friendly [75]. According to Davis, Bagozzi [15] customers' enjoyment of utilizing technology has an impact on technological acceptability. They also discovered that by improving the enjoyability of the interface, even mediocre or unproductive systems may be made more acceptable. In support, Customers appreciate SST interactions, according to Dabholkar, Michelle Bobbitt [76], who recognize it as a key dimension of technology-based SSTs. According to research, customers despise waiting, and managers have noticed this as well. In the case of technology-based self-service, these options may be chosen for the delight they bring or because they are seen as quick [77]. As a result, enjoyment as a motivator adds to the existing literature.

The findings in this study that creativity and appealing features are two other driving factors are confirmed by [78]'s findings that creative features might assuage customers' uncertainties and fears about the use of SSTs. However, as the market becomes more competitive, service providers must effectively advertise, including using face-to-face communication tactics to introduce benefits to non-adopters [78].

Furthermore, the findings of this study support previous research that found pleasure and entertainment to be motivators for the adoption of SSTs, because customers who experience entertainment, pleasure, and satisfaction when using novel channels perceive mobile banking to be able to achieve higher levels of use. They also mentioned that mobile banking is a cost-effective and fun way to deliver financial services, which is in line with the findings of the current study. Consumers with a low need for interaction with a service person would choose technological service delivery solutions that are much easier to use, much more reliable, and much more enjoyable than those with a high need for interaction with a service employee [77].

Theoretical Contributions

This study uncovers the website aesthetics which would encourage the use of online based SSTs in the Sri Lankan banking sector. Despite the fact that earlier researchers have concentrated on this context, there is minimal research work relevant to developing countries like Sri Lanka, and commonly used models like the TAM and UTAUT have been favored, despite the fact that they do not closely resemble the context of SSTs. Further, though few studies prevailed on technology aesthetics on other study context, studies relating to online based SSTs in the banking sector were scarce. Hence, the present study explored website aesthetics and technology playfulness which leads the customers to use the online based SSTs in the commercial banking sector of Sri Lanka. Comparing with the broadly used technology acceptance models, this study reveals "Information quality and guidance", "Innovative systems and facilities", "Use of multiple languages", "High interactivity" and "Visually appealing websites" as the website aesthetics and "Enjoyment", "Exiting", "Entertaining", "Creativity", "Delight" and "Appealing features" as technology playfulness which would encourage the use of online based SSTs in the Sri Lankan Commercial Banking sector.

Managerial Implications

With the rise of online banking, disruptive innovation technologies will continue to be used in many transition economies, potentially speeding up the pace of change. This study looked into the nature of online banking in Sri Lanka, as well as the aesthetics of websites that encourage people to use technology for their banking requirements. Clearly, online banking is becoming one of the most important banking delivery channels, and Sri Lanka represents not only a culturally sensitive market, but also a market in the development and growth stages of delivery.

Clearly, the findings of the present study show that providing on-line banking is no longer sufficient for competitive advantage; it has merely become the industry's threshold standard, necessitating a deeper understanding of consumers and their motives. As a result, banks must better understand their customers and respond swiftly and strategically to market developments in order to keep up with global trends brought on by the Internet.

The paper has investigated how website aesthetics may encourage the use of online based SSTs in the banking sector including e-banking and mobile applications. The demonstrated effectiveness and success in more matured and developed countries, makes online banking an appealing prospect for some into the developing economies. As recognized by the present study, it is important that in the design stage, the banks should carefully integrate the website aesthetics into their online based SST facilities so that it will not be complicated for the users.

In addition, as revealed by the paper, it could be observed that the over integration of website aesthetics may disrupt the convenience of the users which would discourage the use of online based SSTs. Therefore, the banks should undertake a proper analysis in deciding what the most important features are to be integrated to make the online based banking SSTs visually appealing to its users. Furthermore, the banks could make arrangements to improve the knowledge of consumers in using them by educating them with the details of such online based SSTs in the banking sector.

Customers are more likely to use SSTs if the technology interfaces are engaging and fun to use. As a result, banks might include interactive features in their technical interfaces, such as navigation and instructions for using online based SSTs. As previously stated in previous studies, the introduction of enjoyment could boost adoption even in slightly ineffective systems and platforms. However, it is critical to publicize and organize face-to-face awareness workshops on the novel features and how much fun they are to use in order to persuade clients that using online based SSTs is far more worthwhile than standing in a long line at the bank.

Limitations and Future Research Directions

Only the western province was covered as a geographical area, and only semi-structured interviews were conducted. As a result, the study recommends that the current study's conclusions be experimentally tested using a field survey. Future research could look into what capabilities clients should have in order to improve the use of online based SSTs in the banking industry.

Conflict of Interest

There are no competing interests declared by the authors.

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References

- [1] M.J. Bitner, B.H. Booms, M.S. Tetreault. The Service Encounter: Diagnosing Favorable and Unfavorable Incidents. *Journal of Marketing*. **1990**, 54,1, 71-84.
- [2] J.A. Czepiel. Service encounters and service relationships: Implications for research. *Journal of Business Research*.

1990, 20,13-21.

- [3] M.L. Meuter, A.L. Ostrom, R.I. Roundtree, M.J. Bitner. Self-service technologies: Understanding customer satisfaction with technology-based service encounters. *Journal of Marketing*. **2000**, 64, 50-64.
- [4] J.M. Curran, M.L. Meuter, C.F. Surprenant. Intentions to Use Self-Service Technologies: A Confluence of Multiple Attitudes. *Journal of Service Research*. **2003**, 5, 209-224.
- [5] A. Beatson, L.V. Coote, J.M. Rudd. Determining Consumer Satisfaction and Commitment Through Self-Service Technology and Personal Service Usage. *Journal of Marketing Management*. **2006**, 22, 853-882.
- [6] H.M.R.S.S. Gunawardana, D. Kulathunga, W.L.M.V. Perera. Impact of self service technology quality on customer satisfaction: A case of retail banks in Western Province in Sri Lanka. *Gadjah Mada International Journal of Business*. **2015**,17, 1-24.
- [7] J.M.T. Madhusanka, T. Pranthaman. A comparative analysis of customer satisfaction on self-service technology channels between state and private banks. *The Journal of Business Studies*. **2018**,2, 50-61.
- [8] L. Vivekanandan, S. Jayasena. Facilities offered by the Banks and Expectations of IT Savvy Banking Customers. *Procedia - Social and Behavioral Sciences*. **2012**, 40, 576-583.
- [9] B. Warf. South Asia. E-Government in Asia: Chandos Publishing; **2017**. p. 87-115.
- [10] R. Jayathilaka, H. Pathiratne, C. Jayanath, H. Perera, S. Wickremasinghe, T. Dharmasena. The usage of cash deposit machines: An empirical analysis of identifying determinant factors. *Sri Lankan Journal of Banking and Finance*. **2020**,3:1-17.
- [11] S. Akinci, Ş. Aksoy, E. Atilgan. Adoption of Internet banking among sophisticated consumer segments in an advanced developing country. *International Journal of Bank Marketing*. **2004**, 22, 212-32.
- [12] M. Sathye. Adoption of Internet banking by Australian consumers: an empirical investigation. *International Journal of Bank Marketing*. **1999**, 17, 324-34.
- [13] R. Walczuch, J. Lemmink, S. Streukens. The effect of service employees' technology readiness on technology acceptance. *Information and Management*. **2007**, 44, 206-15.
- [14] C.S. Yu. Factors Affecting Individuals to Adopt Mobile Banking: Empirical Evidence from the UTAUT Model. *Journal of Electronic Commerce Research*. **2012**, 13, 104-21.
- [15] F.D. Davis, R.P. Bagozzi, P.R. Warshaw. User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*. **1989**, 35, 982-1003.
- [16] V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis. User acceptance of information technology: Toward a unified view. *MIS Quarterly*. **2003**, 27, 425-478.
- [17] E.M. Rogers. Diffusion of Innovations: Modifications of a Model for Telecommunications. *Die Diffusion von Innovationen in der Telekommunikation*. **1995**, 17, 25-38.
- [18] M. Fishbein, I. Ajzen. Belief, attitude, intention and behavior. **1975**.
- [19] U. Akturan, N. Tezcan. Mobile banking adoption of the youth market: Perceptions and intentions. *Marketing Intelligence and Planning*. **2012**, 30, 444-459.
- [20] A.N. Giovanis, S. Binioris, G. Polychronopoulos. An extension of TAM model with IDT and security/privacy risk in the adoption of internet banking services in Greece. *EuroMed Journal of Business*. **2012**, 7, 24-53.
- [21] T. Pikkarainen, K. Pikkarainen, H. Karjaluo, S. Pahlila. Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet research*. **2004**, 14(3), 224-35.
- [22] M. Blut, C. Wang, K. Schoefer. Factors Influencing the Acceptance of Self-Service Technologies: A Meta-Analysis. *Journal of Service Research*. **2016**, 19, 396-416.
- [23] B.S. Galdolage. Value co-creation intention, practices and experience in self-service technologies. **2018**.
- [24] N. Kanal. Growth of mobile banking in India 'Below Expectations':RBI. *PTI*. **2014**.
- [25] A. Kaur, G. Malik. Examining factors influencing Indian customers' intentions and adoption of internet banking: Extending TAM with electronic service quality. *Innovative Marketing*. **2019**, 15, 42-57.
- [26] K. Elliott, M. Hall. Assessing consumers' propensity to embrace self-service technologies: are there gender differences? *Marketing Management Journal*. **2005**, 15, 98-107.
- [27] B.S. Galdolage. Do it yourself: Customer self-directed learning in self-service technologies. *Sri Lanka Journal of Management Studies*. **2020**, 2, 51-66.
- [28] S. Hagen, F.E. Sandnes. Toward accessible self-service kiosks through intelligent user interfaces. *Personal and Ubiquitous Computing*. **2010**, 14, 715-721.
- [29] J. Kim, N. Christodoulidou, P. Brewer. Impact of individual differences and consumers' readiness on likelihood of using self-service technologies at hospitality settings. *Journal of Hospitality and Tourism Research*. **2012**,36, 85-114.
- [30] E.Y. Kim, K. Yang. Self-service technologies (SSTs) streamlining consumer experience in the fashion retail stores:

- The role of perceived interactivity. *Journal of Global Fashion Marketing*. **2018**, 9, 287-304.
- [31] M.J. Bitner, A.L. Ostrom, M.L. Meuter, J.A. Clancy. Implementing Successful Self-Service Technologies [and Executive Commentary]. *The Academy of Management Executive (1993-2005)*. **2002**, 16, 4,96-109.
- [32] H. Cho, S.S. Fiorito. Self-Service Technology in Retailing. The Case of Retail Kiosks. *Symphonya Emerging Issues in Management*. **2010**, 43-55.
- [33] S. Parise, P.J. Guinan, R. Kafka. Solving the crisis of immediacy: How digital technology can transform the customer experience. *Business Horizons*. **2016**, 59, 411-20.
- [34] B.S. Galdolage. Prominence of Information Richness in Accepting Online Based Self-Service Technologies. *Archives of Current Research International*. **2021**,21,31-42.
- [35] B.S. Galdolage. Barriers for Entering the Digital World: Exploring Customer Value Co-destruction in Self-Service Technologies. *FIIB Business Review*. **2021**.
- [36] W. Wei, E.N. Torres, N. Hua. The power of self-service technologies in creating transcendent service experiences: The paradox of extrinsic attributes. *International Journal of Contemporary Hospitality Management*. **2017**, 29, 1599-618.
- [37] L.L. Berry, L.P. Carbone, S.H. Haeckel. Managing the total customer experience. *MIT Sloan Management Review*. **2002**, 43, 85-89.
- [38] M. Åkesson, B. Edvardsson, B. Tronvoll. Regular issue paper: Customer experience from a self-service system perspective. *Journal of Service Management*. **2014**, 25, 677-698.
- [39] V. Liljander, F. Gillberg, J. Gummerus, A. van Riel. Technology readiness and the evaluation and adoption of self-service technologies. *Journal of Retailing and Consumer Services*. **2006**, 13,177-191.
- [40] A.D.M. Fernando, P.K.C. Dinesha. The influence of technology anxiety on consumer use of self-service technologies in Sri Lankan banking industry: Moderating role of demographics. *8th International Conference on Management and Economics*. **2019**, 121-136.
- [41] N.O. Ndubisi, C.K. Wah, G.C. Ndubisi. Supplier-customer relationship management and customer loyalty: The banking industry perspective. *Journal of Enterprise Information Management*. **2007**, 20, 222-236.
- [42] C.C. Ugwuanyi, J.I. Uduji, C. Oraedu. Customer Experience with Self-Service Technologies in Banking Sector: Evidence from Nigeria. *International Journal of Business and Systems Research*. **2021**, 15, 1.
- [43] N.E. Marr, G.P. Prendergast. Consumer Adoption of Self-Service Technologies in Retail Banking: Is Expert Opinion Supported by Consumer Research? *International Journal of Bank Marketing*. **1993**, 11, 3-10.
- [44] A.K. Bose. Retraction of "Issues of Landlessness, Contract and Corporate Farming," by Amit Kumar Bose. *Journal of Land and Rural Studies*. **2013**, 1, 1, 25-39.
- [45] Y.K.A.A. Migdadi. The developing economies' banks branches operational strategy in the era of e-banking: The case of Jordan. *Journal of Emerging Technologies in Web Intelligence*. **2012**, 4, 189-97.
- [46] S.K. Sharma, S.M. Govindaluri, S.M. Muharrami, A. Tarhini. A multi-analytical model for mobile banking adoption: a developing country perspective. *Review of International Business and Strategy*. **2017**, 27, 133-148.
- [47] A.A. Sukkar, H. Hasan. Toward a model for the acceptance of Internet banking in developing countries. *Information Technology for Development*. **2005**, 11, 381-98.
- [48] A.M. Baabdullah, N.P. Rana, A.A. Alalwan, R. Islam, P. Patil, Y.K. Dwivedi. Consumer Adoption of Self-Service Technologies in the Context of the Jordanian Banking Industry: Examining the Moderating Role of Channel Types. *Information Systems Management*. **2019**, 36, 286-305.
- [49] M.L. Meuter, M.J. Bitner, A.L. Ostrom, S.W. Brown. Choosing among alternative service delivery modes: An investigation of customer trial of self-service technologies. *Journal of Marketing*. **2005**, 69, 61-83.
- [50] K. Augustine, editor Self-Service, ATM, and other omnichannel banking: Omnichannel experience needed2013.
- [51] R. Jayamaha. Impact of IT in the banking sector. *BIS Review*2008.
- [52] D. Salgado, N. Bandara, T. Peiris, L. Gunathilaka. Consumer Intention Towards Self-Banking Services in Sri Lanka : A Study Based on Peoples ' Bank. *13th International Research Conference, General Sir John Kotelawala Defence University*. **2020**.
- [53] E.B. Kim, S.B. Eom. Designing effective cyber store user interface. *Industrial Management & Data Systems*. **2002**, 102, 241-51.
- [54] S. Kim. Web-Interactivity dimensions and Shopping Experiential Value. *Journal of Internet Business*. **2011**, 1-26.
- [55] R.R. Dholakia, M. Zhao, N. Dholakia, D. Fortin. Interactivity and revisits to websites: A theoretical framework: American Marketing Association, 2001.
- [56] A.K. Hazlina, M. Reza, R. Nasim. Long-Term Effects of Bank Consolidation Program in a Developing Economy. *Journal of Asia Pacific Business Innovation and Technology Management*. **2011**, 1, 20-30.
- [57] W. Dai, J.-H. Lee. Effects of Website Characteristics and Delivery Service Quality on Repurchase Intention. *Journal*

of Industrial Distribution & Business. 2018, 9, 17-24.

- [58] V.A. Zeithaml, A. Parasuraman, A. Malhotra. Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*. 2002, 30, 362-375.
- [59] N. Malhotra, D. Birks. Marketing Research: An Applied Approach. 2007.
- [60] U. Sekaran, R. Bougie. Research methods for business: A skill building approach. 2015.
- [61] A.S. Baron, M.R. Banaji. The Development of Implicit Attitudes: Evidence of Race Evaluations From Ages 6 and 10 and Adulthood. *Psychological Science*. 2006, 17, 53-58.
- [62] C. Wang, J. Harris, P.G. Patterson. Customer choice of self-service technology: the roles of situational influences and past experience. *Journal of Service Management*. 2012, 23(1), 54-78.
- [63] B. Thilakaweera, C. Harvie, A. Arjomandi. Branch expansion and banking efficiency in Sri Lanka's post-conflict era. *Journal of Asian Economics*. 2016, 47, 45-57.
- [64] L.S. Abrams. Sampling 'hard to reach' populations in qualitative research: The case of incarcerated youth. *Qualitative Social Work*. 2010, 9, 536-550.
- [65] L.A. Palinkas, S.M. Horwitz, C.A. Green, J.P. Wisdom, N. Duan, K. Hoagwood. Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Administration and Policy in Mental Health and Mental Health Services Research*. 2015, 42, 533-544.
- [66] M.Q. Patton. Two Decades of Developments in Qualitative Inquiry: A Personal, Experiential Perspective. *Qualitative Social Work*. 2002, 1, 261-283.
- [67] V. Braun, V. Clarke. Using thematic analysis in psychology Virginia. *Qualitative Research in Psychology*. 2006, 2, 77-101.
- [68] J. Aronson. A Pragmatic View of Thematic Analysis. *The Qualitative Report*. 1995, 2, 1-3.
- [69] C.M. Froehle, A.V. Roth. New measurement scales for evaluating perceptions of the technology-mediated customer service experience. *Journal of Operations Management*. 2004, 22, 1-21.
- [70] M.M.M.A. Riffai, K. Grant, D. Edgar. Big TAM in Oman: Exploring the promise of on-line banking, its adoption by customers and the challenges of banking in Oman. *International Journal of Information Management*. 2012, 32, 239-250.
- [71] B.S. Galdolage, R.M.K.S. Rasanjalee. Customer Capabilities and Value Co-Creation Practices in Self-service Technologies : Insights from Commercial Banks in Sri Lanka. *Asian Journal of Management Studies*. 2022, 1-27.
- [72] A.A. Mohd-Any, N.S. Mahdzan, H. Valinejad. Young adults' perceptions of online service quality. *International Journal of Electronic Marketing and Retailing*. 2016, 7, 91-114.
- [73] M. Loonam, D. O'Loughlin. Exploring e-service quality: A study of Irish online banking. *Marketing Intelligence and Planning*. 2008, 26, 759-780.
- [74] E.T. Loiacono, R.T. Watson, D.L. Goodhue. WebQual: A measure of website quality. *Marketing theory and applications*. 2002, 13, 432-438.
- [75] E. Cristobal, C. Flavián, M. Guinalfú. Perceived e-service quality (PeSQ): Measurement validation and effects on consumer satisfaction and web site loyalty. *Managing Service Quality*. 2007, 17, 317-340.
- [76] P.A. Dabholkar, L. Michelle Bobbitt, E.J. Lee. Understanding consumer motivation and behavior related to self-scanning in retailing: Implications for strategy and research on technology-based self-service. *International Journal of Service Industry Management*. 2003, 14(1), 59-95.
- [77] P.A. Dabholkar, R.P. Bagozzi. An attitudinal model of technology-based self-service: moderating effects of consumer traits and situational factors. *Journal of the academy of marketing science*. 2002, 30(3), 184-201.
- [78] P. Laukkanen, S. Sinkkonen, T. Laukkanen. Consumer resistance to internet banking: postponers, opponents and rejectors. *International Journal of Bank Marketing*. 2008, 26(6), 440-455.