

Original Research Article

Interplay between Performance and Convenience in Customer Choice of Self-Service Technologies

ABSTRACT

Aims: Technological enhancements bring more convenience to customers by providing opportunities to do various service transactions through Self Service Technologies (SSTs). However, a very few studies focused on understanding SSTs profoundly. Thus, this research focuses on exploring performance and convenience related to SSTs in detail.

Study Design: Based on the inductive research approach, qualitative interviews were conducted with 25 SST users and data were analyzed using thematic analysis approach.

Findings: The study found eight performance features; ‘usefulness, speed, efficiency, consistency, cost-effectiveness, user-friendliness, reliability, trialability’ and three convenience features; ‘locational convenience, time convenience and physical exertion’ as important in customer choice of SSTs.

Implications: This study provides useful insights for SST service providers that can be incorporated to their SSTs in designing and delivering a high-quality service which matches with the customer expectations.

Originality: This study fills the gap in the literature by discussing two important matters in customer choice of SSTs in detail. It opens theoretical lenses to understand the significance of self-service technologies to customers from its performance and convenience perspectives.

Key words: self-service technologies, performance, convenience, technological platforms

1. INTRODUCTION

Service setting is identified as very important for both the service provider and the customer. It determines the efficiency and effectiveness of the service transaction as well as satisfaction of both the parties. This service setting can be a place where organization employees and customers meet together or a space where customers interact with the organization at arm's length through different technological devices. Solomon, Surprenant [1] view service encounters as a place where dyadic interpersonal interactions take place in between the customer and the service provider. Practically, at that time people had to visit business organizations and meet service employees to get every transaction done. Sometimes it consumes hours and days from customers' time for purchase related activities happening during the pre-purchase, purchase, and post-purchase settings. For example, getting appointments from a doctor at physical reception in a hospital required customers to visit the physical locations many times for getting the appointment, meeting the doctor and may be again to show reports. Thus, interpersonal interactions taking place in traditional physical service encounters create difficulties to both parties while consumers spend time and effort, the organization also has to manage a large crowd within the premises.

However, technological improvements are capable enough to transform the traditional service encounters into technologically incorporated advanced operations [2]. Now the situation has changed due to the introduction of the SSTs. Now customers can perform many service transactions while they are staying at home or reaching self-service technology outlets which are located at convenient locations and open for 24 hours. For instance, without visiting the hospital customers can channel their doctors via online, saving time and efforts.

However, every customer is not adapted to such technologies due to many barriers. Among them the awareness and assurance of SST performance and appreciation of convenience related to SSTs become important. Most of the people do not use technologies since they haven't positively experienced

performance and convenience benefits of SSTs. Therefore, this study aims to explore performance and convenience features related with self-service technologies.

Accordingly, this paper first presents the conceptual foundations of the study. Next, the research methodology is provided before presenting the findings and discussion. Finally, it provides conclusions, recommendations along with limitations and directions for further research.

2. LITERATURE REVIEW

This paper first presents the literature on the role of SSTs which transform the traditional service encounter to technology based self service solutions. Next, type of SSTs, advantages, and disadvantages for both the customers and service providers are explained. Finally, influencing factors on customer choice of SSTs are elaborated highlighting the performance and convenience features.

2.1 Self-Service Technologies as a transformation in service encounter

Hilton, Hughes [3, p 862] defined self-service technologies as “technologies, provided by an organization, specifically to enable customers to engage in self-service behaviors”. In a similar note, Meuter, Ostrom [4, p 50] outlined SSTs as “technological interfaces which enable customers to produce the service independent of direct service employee intervention”. According to both the definitions SSTs encourage self-service behaviors while persuading customers to be active in performing their own services independently, without relying upon the organization’s employees. Some self-service technologies have now become commonplace, such as ATMs whereby around more than half of banking transactions now take place without the assistance of a teller [4].

Bitner [5] accepts three forms of service environments namely, self-services, interpersonal services and remote services. According to this classification interpersonal service permits interactions between the service providers and customers while self-services and remote services are mainly dominated by the customer with or without any support from the organisation’s service providers. According to [4] SSTs are a fundamental shift in the services context, which transformed the traditional physical service encounters into technology supported service environments. Thus, in today’s business environment, the

phrase 'market space' is getting increased attention [6] while SSTs provide a classic example for market space business operations [4] being a natural outcome of the technological maturity [7].

Most of the digital technologies provide a highly personalized environment to their customers even though they perform transactions at arm's length. Additionally, SSTs provide needed information and guidance to the customers which is necessary to perform successful service transactions in interactive interfaces [8]. Today customers receive a significant independence over their service transactions [4]. Thus, SSTs create 'working customers', who perform tasks on their own [9]. Bitner, Faranda [10] note that SSTs convert customers to be 'full participator' by performing transactions without any help from service employees. This evolution has altered the manner that organizations practice customer care by asking customers to 'do it yourself' at SSTs [11, p 246]. At present, most businesses have introduced SSTs in a wider variety of services [12] ranging from routine and simple transactions to more complex non-routine work [13]. In future more technology-based solutions in service encounters are expected as 'automated social presence' and 'humanoid robots' by providing technology-based service frontline experiences [14].

2.2 Types self-service technologies

Self-service technologies were recognized under different classifications based on the channels of delivering the service to the customer, as electronic kiosks, the internet, telephone, and mobile devices etc. [7]. Accordingly, such services can be delivered via different modes such as over the telephone connections, internet connections, mobile devices such as phones as well as interactive kiosks machines which range from well-established traditional offerings to novel platforms such as flight check-in facilities [15]. Meuter, Ostrom [4] categorize SSTs into four groups as telephone and interactive voice response systems, online connections and internet-based interfaces, interactive kiosks and video or CD technologies. Both the classifications are similar and represent mainly online, telephone and kiosk based self-service options. Accordingly, telephone-based technologies allow the customer to perform many service transactions over the telephone without physically visiting the service premises. Most of the telephone-based services provide customer service such as answering questions regarding accounts, pay bills, tracking deliveries etc. Internet-based interfaces provide opportunities for customers to login to relevant websites and perform transactions in online platforms without any geographical barriers [16]. It

enables direct transactions such as ordering, purchasing, and exchanging resources between the organization and the customer. Most of the interactive kiosks have touchscreens, displays, card readers, scanners, coin operations etc., and enable users to access information (e.g., ATMs). People can use Video/CD technologies instead of experiencing services at physical locations (films, educational CDs). It provides self-help/ education /learn and training the customers [4, p 52].

2.3 Benefits of SSTs to service providers

Now it is visible that a considerable amount of service providers are providing full or part of their services via self-service technologies. SSTs provide benefits to both the customers and the service providers. Service providers can save cost by reducing the labor cost [11]. Additionally, they can increase efficiency of the services through standardizing the mechanisms [17]. Further, service providers can focus on other priorities avoiding many clerical, simple and routine tasks in the service transactions [7]. Though providing SSTs service providers can increase speed of service delivery [18] and productivity [2]. Further, introducing SSTs into the service encounter allows organizations to handle varying demand conditions without adjusting the staff [19].

2.4 Benefits of SSTs to customers

SSTs provide many benefits to the customer. Among them customers are mainly benefited with timesaving where previously they had to visit service premises particularly during the given time schedule (office hours) to get the service transaction done, though it is a disturbance to their normal schedules. Further it saves cost since customers can reduce unnecessary travelling and waiting time [17, 20]. Additionally, customers can earn a spontaneous happiness by performing tasks by themselves [2, 21]. Among all, the greater convenience related with the use of SSTs is significant [22]. It gives the customer a feeling of accomplishment, while enhanced self-efficacy, and enjoyment [23]. SSTs are user-friendly and provide more accessibility to people with disabilities (e.g., online transactions) and potentially contribute to the national prosperity and quality of life of individuals [7]. Wei, Torres [24] find the importance of extrinsic attributes and intrinsic attributes of self-service technologies that provide customer satisfaction and a positive service experience. 'Trust' is found to be the most vital element in building e-

loyalty among generation Y customers [25]. Nijssen, Schepers [26] note that customer relational value is higher among individuals who are highly benefited with SSTs and experience low-cost attributions. SSTs can delight customers simply through giving them the credit for what they can accomplish by themselves [4, p 69].

2.5 Disadvantages of SSTs

Concurrent occurrences of both positive and negative outcomes of SSTs were pointed out by Mick and Fournier [27] denoting that some people consider it as a threat and feel anxiety while some others enjoy the benefits of SSTs. As [26] show less-benefited people disclose a destructive association with the firm due to SSTs. From the organization's viewpoint, Meuter and Bitner [17] identify six general concerns as possible shortcomings of SSTs as service recovery issues, reduced face-to-face interaction, an overemphasis on firm benefits, an overemphasis on technologically based competitive advantages, the limitations of social experience and lack of sufficient cost savings. Customer complaints and dissatisfaction are mainly due to technology failures and process failures which are higher in SSTs compared to interpersonal interfaces [4]. Considering both successes and failures in traditional and technological interfaces, Thomas [28] recommends 'hybrid services' in the customer service field combining technology innovations with human involvement in customer service approaches. Even though the firm derives short-term value, forcing all customers to accept self-service technologies might result in value co destruction [29]. Therefore, the firm should have a thorough understanding of the extent of customer acceptance of self-service technologies.

2.6 Influencing factors for customer choice of technologies

Hilton and Hughes [12] point out the importance of 'consumer contexts' which is comprising with customer's skills, experience, social and psychological factors as well as the 'organizational contexts' which is characterized with features of the interface, speed, control, reliability as vital in customer choice of SSTs. Liljander, Gillberg [30] and Lin and Hsieh [31] point out the influence of technological readiness on customer intentions to select SSTs. Meuter, Ostrom [32] and Wang, Barua [33] explain the individuals' technology anxiety and lack of trust towards technology cause unwillingness to use SSTs and

dissatisfaction. Wang, Harris [34] explore the role of situational influences such as perceived waiting, complexity of the task in the customer choice of SSTs while Demoulin and Djelassi [35] also finds the influence of situational factors such as time pressure, basket size, coupons and queue length at the SSTs and staffed checkouts on actual customer usage of SSTs. Customer attitudes towards SSTs are found as important in SST acceptance [36, 37]. The SST Attitude- Intention Model [19], explains the influence of multiple attitudes of SSTs on customer's behavioral intention on selecting SSTs.

Lee and Lyu [38] find 'personal values' and 'consumer traits' as important in determining the intentions to use SSTs via building attitudes. Wu, Quyen [39] find e-servicescape dimensions having significant impacts on consumer attitudes and trust toward websites. Need for interaction with the service employee causes a negative disposition towards SSTs [2]. [40] confirms an inverse relationship between need for interaction with service employees and intention to use SSTs. Furthermore, Anton [41] views that customers are generally seeking more human interactions during the service encounter, also would negatively affect SSTs. Habit and experience of similar technology have also been found as significant in SST adoption [35]. Wang, Harris [42] identify prior habit as the most powerful precursor on SST usage, while Castro, Atkinson [7] argue that previous experience in using SSTs is crucial when the technology is new. Influences of personal control on the adoption of self-service technologies was recognized by Lee and Allaway [43]. Levels of perceived empowerment and enjoyment were identified as factors with strong influence on customers willingness to engage in online value co-creation [44].

Importance of service quality in SST context is found by Dabholkar [2] and confirmed by several researchers [45-48] as important in SST adoption. Dean [49] finds consumer demographics, especially age effects on SST use such that older generations have less experience with SSTs and therefore, less confidence in performing via SSTs. Eriksson and Nilsson [50] find that consumer demographics are insignificant in developed markets. However, nonsignificant impact of age on the use of SSTs was found by Dabholkar, Michelle Bobbitt [51] and Weijters, Rangarajan [52]. Proving the same, Blut, Wang [53] found that age and gender as not effective predictors of SST acceptance. However, a significant effect of gender on intention to use self-service technologies are found by [54]. Additionally, characteristics of technology such as simplicity of use, time convenience, place convenience, security, standardization of

equipment, availability of technology, efficiency and average competence are recognized as encouraging customer use of self-service technologies while habit, preference, fear and absence of sufficient benefits discouraging the use of SSTs [55]. The effect of perceived usefulness and multichannel satisfaction [50], innovation characteristics [56], cost savings, time-saving and behavioral control [11], individuals' capacity, perceived risk, relative advantage, desire for personal contacts and personal back up [57], willingness and ability [58] have also been recognized as important. Galdolage [59] found ten key determinants of SST acceptance including the performance and convenience. Additionally, well-designed interface, accessibility, support of employees, store promotion and fast delivery were recognized as important in retail kiosks [60]. Picot-Coupey, Hure [61] found the challenges e-retailers confronted when enhancing the customer shopping experience by synchronizing clicks with bricks. Curran and Meuter [36] contend that adoption of SSTs is a shift in consumer behavioral patterns and therefore firms should encourage customers to use SSTs by providing justifications. [58] note that transferring to SSTs without understanding the customer's perspective as critical. Thus, this study explores performance and convenience of SSTs from customers' perspective which determines their choice of SSTs in service transactions.

3. METHODOLOGY

Exploratory type of research work typically accepts when it is difficult to find sufficient information through existing literature [62, 63]. Pointing out the lack of prevailing scholarly work in understanding SSTs from customers' perspective, the qualitative research approach was used to achieve the research objectives. Semi structured interviews were conducted with 25 individuals who were chosen based on a non-probabilistic judgmental sampling method. As Palinkas, Horwitz [64] point out, investigator's judgment on which respondents provide the quality insights on the research interest helps to identify information-rich cases. Interviews were like conversations, allowing respondents to freely express their views and ranged from 30-45 minutes. The interviews were conducted until reaching information redundancy. All the interviews were recorded with the permission of interviewee and transcribed into word document providing more convenience to the researcher to read, re-read the quotes until being familiar with the content. Data were analyzed using Thematic analysis method.

4. Results

The study found eight (08) elements which determine the performance of SSTs and three (03) factors which customers considered giving convenience to them.

Performance

The study outlines performance as “the degree to which using SSTs provides benefits to customers in performing certain activities”. The interviews identified eight elements that determine the SST performances: usefulness, speed, consistency, cost effectiveness, user friendliness, trialability, efficiency and reliability. A few quotations from interviews are provided in support of the findings.

Usefulness: Most of the respondents mentioned that SSTs is a very useful solution for their busy lives. They pointed out the situations where they have to waste time and wait in the que if they happened to visit service organisations and wait until service employees provide the service for them.

It's useful. I am using internet banking, self-checking checkouts, ATM, online shopping and so on... Yes, I mean definitely useful and makes things a lot quicker than others. Imagine what happens if we are supposed to go to pay electricity bills, water bills to different places and go to the bank just to withdraw money. Now everything is very easy. (38 years, Male)

Speed: Many of the respondents praised SSTs for their speed/quickness of service performance. Therefore, they recognised SSTs as a useful medium that helps them to save time with a minimum of waste.

I use SSTs because they are quick and fast. Basically, otherwise you have to get leave or half day from the office to do shopping every week. But now I am not wasting my time. I find free time for myself and do shopping online. I do all kinds of payments via online. It actually speeds up my life. (58 years, Male)

Efficiency: Most of the SSTs are very efficient. As respondents mentioned, SSTs do not result in wasting customers time and effort and helps to achieve maximum productivity with minimum wasted effort, resource or expense.

Another kind of thing like internet banking, I think it's good because it's efficient, it saves your time and effort. Also, you don't have to wait for someone, if you go to the petrol station and it's closed, you can still somehow pay with your card. Moreover, at a supermarket, you don't have to wait for someone, so I think that's good in that sense. (50 years, Male)

Consistency: Respondents admired the consistency of SSTs in similar contexts as important in their intention to use SSTs, mainly because they could use their existing knowledge and skills in performing transactions, even in slightly different contexts such as automated checkouts at different shops.

You do not need lots of help. Everything is obvious and straightforward. It provides the same service every day. If you have done it once, for the next time also you may have to do the same...all machines are similar, the process may not be changing (consistent). It's easy for me. (45 years, Female)

Cost-effectiveness: Some of the respondents pointed out the cost efficiencies related with SSTs as an influencing factor to collaborate with SSTs. Reduction of transportation costs becomes important here.

What I feel is, if I go shopping for everything, it's a big cost for me...see fuel, parking and my time either. I can save my money doing my shopping online. It's clever. (25 years, female)

User friendliness: The study further reveals the user-friendliness of the SSTs, the reliability of service due to not having human errors and the opportunities given for trials as important in customer acceptance.

I am not saying that it's too difficult...many of the self-service options are user-friendly. Nothing we have to do other than simply ticking a few numbers and words. All questions are in simple language and in an understandable way... I have seen some provide a few options for language selection too. (45years, female)

Reliability: Respondents pointed out that SSTs are reliable and free from human errors. Since most of the machines provide standardized service on a one-to-one basis which are typically routine, it can deliver an error free service.

These machines are truly reliable. Because, I hope that it is free from human errors. Think of the money you get from ATMs. Have you ever heard of errors with counting? (38 years, male)

Trialability : As respondents pointed out, customers can try out many services particularly online based SSTs before making an actual purchase. It helps them to be familiar with the SSTs as well as decide not to purchase/ or do transactions at the last moment by clicking the cancel button.

Sometimes I try out many options even though I haven't actually purchased it or not. It's simple in SSTs. You can go to the last step and if you realize that you don't want it simply you can cancel it by clicking a button. It asks for your confirmation before finalising the transaction. Pressing the cancel or exit button will bring you to the beginning. (62 years, female)

The following figure summarises the performance elements of SSTs.



Figure 01: Performance elements with SSTs

Convenience

Convenience is recognised as the degree of ease associated with the use of SSTs. The study identifies three main convenience factors: locational convenience, less physical exertion and time convenience. Further, the study found that younger participants were more convenience oriented than older people and more inclined towards using SSTs.

Locational Convenience: Locational convenience relates to opportunities to perform many services at one's fingertips (in many online services) or in most convenient places such as money withdrawal machines, vending machines etc, placed in locations convenient for customers like supermarkets, the roadsides etc.

It makes my life easier. I do many things online, staying at home, in my bedroom (location). I think it increases the efficiency of purchasing things or sending the bank transactions. It assists your daily life, so you can do some things like you could be at the office but also be shopping for food, you could be possibly at work but then during your breaks send a money transaction to someone. I would say it creates more convenience. (32 years, female)

Time convenience: Respondents pointed out that time convenience provided by SSTs due to 24 hours' operation, every day of the year, including after office hours and holidays etc, is a great advantage.

We are a busy family. I work full time with two children. I don't have time just to go and spend a day in the town shopping leisurely. I personally prefer self-service than actually physically going in and out. It's not to do with laziness. It's just to do with convenience. (45 years, female)
You know, many self-service machines are 24 hours, day and night, weekends, really easy...what happens if I have to get a day off and go for all these matters? I find it difficult in the office hours. (48 years, male)

Physical exertion : Less physical effort due to reducing travelling, searching for items and carrying out transactions also were pointed out by the respondents as favourable features of SSTs.

With these online, telephone technologies, we don't want to go everywhere to get everything done. It makes me free from unnecessary travelling and tiredness (physical efforts). I think it's good. Just purely because like for instance, if you want to go to the supermarket you want to get in and out of it very quickly but there is a massive queue at the till, you can just use self-service in using yourself. (38 years, male)

Figure 2 summarises the convenient elements of SSTs.

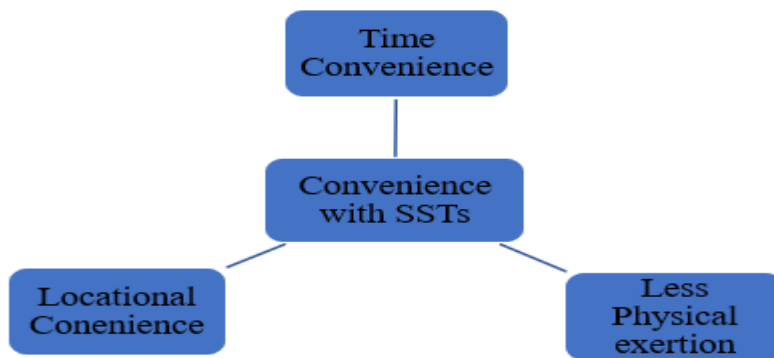


Figure 02: Convenience Associated with SSTs

5. DISCUSSION , RECOMMENDATIONS AND FUTURE RESEARCH DIRECTIONS.

The literature shows 'performance expectancy' to be the strongest predictor of customer acceptance and use of technologies (UTAUT model) [65], and important in determining attitude towards SST usage [37]. 'Perceived usefulness' and 'Perceived ease-of-use' were recognized in the TAM model as key in determining customers' acceptance of technologies [66, p 277]. Similarly, the effect of perceived usefulness was confirmed as significant in customer intention of using technological interfaces. [50]. Additionally, well-designed interface, accessibility, support of employees, store promotion and fast delivery were recognised as important in retail kiosks [60].

As the literature suggests, this study also witnessed significant differences among age groups such that younger people have more confidence in SST performance compared to older people [65]. Characteristics of technology such as simplicity of use, time convenience, place convenience, security, standardization of equipment, availability of technology, efficiency and average competence are recognised as encouraging customer use of self-service technologies [55].

Locational convenience related with SSTs was pointed out by many scholars as a key determinant of customer choice of SSTs [17, 20], time convenience due to flexible operating hours and convenience of reaching SSTs [47], time and place convenience [55], are recognized as critical in encouraging customers to use self-service technologies. Cost savings and time-saving as recognised as critical in choosing SSTs [11].

This study provides insights for service providers on performance and convenience related elements that they need to consider when providing SSTs to customers. Incorporating these elements to SSTs in the designing stage and delivering a high quality service to the customers would result in enhancing customer acceptance of SSTs. Future researchers can focus on understanding customers' different reactions including personal judgements and emotional responses towards SSTs which boost or hindrance SST acceptance.

REFERENCES

1. Solomon, M.R., C. Surprenant, J.A. Czepiel, and E.G. Gutman, *A Role Theory Perspective on Dyadic Interactions: The Service Encounter*. Journal of Marketing, 1985. **49**(1): p. 99-111.
2. Dabholkar, P.A., *Consumer evaluations of new technology-based self-service options: An investigation of alternative models of service quality*. International Journal of Research in Marketing, 1996. **13**(1): p. 29-51.
3. Hilton, T., T. Hughes, E. Little, and E. Marandi, *Adopting self-service technology to do more with less*. Journal of Services Marketing, 2013. **27**(1): p. 3-12.
4. Meuter, M.L., A.L. Ostrom, R.I. Roundtree, and M.J. Bitner, *Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters*. Journal of Marketing, 2000. **64**(3): p. 50-64.
5. Bitner, M.J., *Servicescapes: The Impact of Physical Surroundings on Customers and Employees*. Journal of Marketing, 1992. **56**(2): p. 57-71.
6. Rayport, J.F. and J.J. Sviokla, *Exploiting the virtual value chain*, in *Creating value in the network economy*. 1999, Harvard Business School Press. p. 35-51.
7. Castro, D., R.D. Atkinson, and S.J. Ezell, *Embracing the self-service economy*. 2010.
8. Parise, S., P.J. Guinan, and R. Kafka, *Solving the crisis of immediacy: How digital technology can transform the customer experience*. Business Horizons, 2016. **59**(4): p. 411-420.
9. Reider, K. and G. Voss, *The working customer - an emerging new type of consumer*. Psychology of Everyday Activity, 2010. **3**(2): p. 2-10.
10. Bitner, M., W.T. Faranda, A.R. Hubbert, and V.A. Zeithaml, *Customer contributions and roles in service delivery*. International journal of service industry management, 1997. **8**(3): p. 193-205.
11. Ding, X., R. Verma, and Z. Iqbal, *Self-service technology and online financial service choice*. International Journal of Service Industry Management, 2007. **18**(3): p. 246-268.
12. Hilton, T. and T. Hughes, *Co-production and self-service: The application of Service-Dominant Logic*. Journal of Marketing Management, 2013. **29**(7-8): p. 861-881.
13. Quinn, J.B., T.L. Doorley, and P.C. Paquette, *Beyond Products: Services-Based Strategy*. Harvard Business Review, 1990. **68**(2): p. 64-68.
14. van Doorn, J., et al., *Domo Arigato Mr. Roboto: Emergence of Automated Social Presence in Organizational Frontlines and Customers' Service Experiences*. Journal of Service Research, 2017. **20**(1): p. 43-58.
15. Kelly, P., J. Lawlor, and M. Mulvey, *Customer Roles in Self-Service Technology Encounters in a Tourism Context*. Journal of Travel & Tourism Marketing, 2017. **34**(2): p. 222-238.
16. Sawhney, M., G. Verona, and E. Prandelli, *Collaborating to create: The Internet as a platform for customer engagement in product innovation*. Journal of Interactive Marketing, 2005. **19**(4): p. 4-17.
17. Meuter, M.L. and M.J. Bitner. *Self-service technologies: extending service frameworks and identifying issues for research*. in *American Marketing Association. Conference Proceedings*. 1998. American Marketing Association.
18. Berry, L.L., *Discovering the Soul of Service: The Nine Drivers of Sustainable Business Success*. 1999.
19. Curran, J.M., M.L. Meuter, and C.F. Surprenant, *Intentions to use self-service technologies: a confluence of multiple attitudes*. Journal of Service Research, 2003. **5**(3): p. 209-224.
20. Beatson, A., L.V. Coote, and J.M. Rudd, *Determining consumer satisfaction and commitment through self-service technology and personal service usage*. Journal of Marketing Management, 2006. **22**(7-8): p. 853-882.
21. Hsieh, C.-T., *Implementing self-service technology to gain competitive advantages*. Communications of the IIMA, 2005. **5**(1): p. 9.
22. Bitner, M.J., S.W. Brown, and M.L. Meuter, *Technology infusion in service encounters*. Journal of the Academy of marketing Science, 2000. **28**(1): p. 138-149.
23. Meuter, M.L., M.J. Bitner, A.L. Ostrom, and S.W. Brown, *Choosing Among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-Service Technologies*. Journal of Marketing, 2005. **69**(2): p. 61-83.

24. Wei, W., E.N. Torres, and 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**(6): p. 1599-1618.
25. Bilgihan, A., *Gen Y customer loyalty in online shopping: An integrated model of trust, user experience and branding*. Computers in Human Behavior, 2016. **61**: p. 103-113.
26. Nijssen, E.J., J.J.L. Schepers, and D. Belanche, *Why did they do it? How customers' self-service technology introduction attributions affect the customer-provider relationship*. Journal of Service Management, 2016. **27**(3): p. 276-298.
27. Mick, D.G. and S. Fournier, *Paradoxes of Technology: Consumer Cognizance, Emotions, and Coping Strategies*. Journal of Consumer Research, 1998. **25**(2): p. 123-143.
28. Thomas, A., *Multivariate hybrid pathways for creating exceptional customer experiences*. Business Process Management Journal, 2017. **23**(4): p. 822-829.
29. Ple, L. and C. Cáceres, *Not always co-creation: introducing interactional co-destruction of value in service-dominant logic*. Journal of Services Marketing, 2010. **24**(6): p. 430-437.
30. Liljander, V., F. Gillberg, J. Gummerus, and A. van Riel, *Technology readiness and the evaluation and adoption of self-service technologies*. Journal of Retailing and Consumer Services, 2006. **13**(3): p. 177-191.
31. Lin, J.-S.C. and P.-L. Hsieh, *The influence of technology readiness on satisfaction and behavioral intentions toward self-service technologies*. Computers in Human Behavior, 2007. **23**(3): p. 1597-1615.
32. Meuter, M.L., A.L. Ostrom, M.J. Bitner, and R. Roundtree, *The influence of technology anxiety on consumer use and experiences with self-service technologies*. Journal of Business Research, 2003. **56**(11): p. 899-906.
33. Wang, A.M., Z. Barua, and M.A. Uddin, *The Impact of Technology Trust and Technology Anxiety on Customer Satisfaction with Self-Service Technologies*. Proceedings of the 13th International Conference on Innovation and Management, Vols I & II, ed. R. Yusof, K. Kaminishi, and W. Amin. 2016. 258-263.
34. Wang, C., J. Harris, and P.G. Patterson, *Customer choice of self-service technology: the roles of situational influences and past experience*. Journal of Service Management, 2012. **23**(1): p. 54-78.
35. Demoulin, N.T.M. and S. Djelassi, *An integrated model of self-service technology (SST) usage in a retail context*. International Journal of Retail & Distribution Management, 2016. **44**(5): p. 540-559.
36. Curran, J.M. and M.L. Meuter, *Encouraging existing customers to switch to self-service technologies: put a little fun in their lives*. Journal of Marketing Theory and Practice, 2007. **15**(4): p. 283-298.
37. Dabholkar, P.A. and 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): p. 184-201.
38. Lee, H.J. and J. Lyu, *Personal values as determinants of intentions to use self-service technology in retailing*. Computers in Human Behavior, 2016. **60**(1): p. 322-332.
39. Wu, W.Y., P.T.P. Quyen, and A.A.A. Rivas, *How e-servicescapes affect customer online shopping intention: the moderating effects of gender and online purchasing experience*. Information Systems and E-Business Management, 2017. **15**(3): p. 689-715.
40. Lee, L.Y.S., *Hospitality Industry Web-Based Self-Service Technology Adoption Model: A Cross-Cultural Perspective*. Journal of Hospitality & Tourism Research, 2016. **40**(2): p. 162-197.
41. Anton, J., *The past, present and future of customer access centers*. International Journal of Service Industry Management, 2000. **11**(2): p. 120-130.
42. Wang, C., J. Harris, and P.G. Patterson, *Modeling the habit of self-service technology usage*. Australian Journal of Management, 2017. **42**(3): p. 462-481.
43. Lee, J. and A. Allaway, *Effects of personal control on adoption of self-service technology innovations*. Journal of Services Marketing, 2002. **16**(6): p. 553-572.
44. Füller, J., H. Mühlbacher, K. Matzler, and G. Jawecki, *Consumer empowerment through internet-based co-creation*. Journal of Management Information Systems, 2009. **26**(3): p. 71-102.
45. Bauer, H.H., M. Hammerschmidt, and T. Falk, *Measuring the quality of e-banking portals*. International Journal of Bank Marketing, 2005. **23**(2): p. 153-175.

46. Shamdasani, P., A. Mukherjee, and N. Malhotra, *Antecedents and consequences of service quality in consumer evaluation of self-service internet technologies*. The Service Industries Journal, 2008. **28**(1): p. 117-138.
47. Lin, J.-S.C. and P.-L. Hsieh, *Assessing the Self-service Technology Encounters: Development and Validation of SSTQUAL Scale*. Journal of Retailing, 2011. **87**(2): p. 194-206.
48. Considine, E. and K. Cormican, *Self-service Technology Adoption: An Analysis of Customer to Technology Interactions*. Procedia Computer Science, 2016. **100**: p. 103-109.
49. Dean, D.H., *Shopper age and the use of self-service technologies*. Managing Service Quality: An International Journal, 2008. **18**(3): p. 225-238.
50. Eriksson, K. and D. Nilsson, *Determinants of the continued use of self-service technology: The case of Internet banking*. Technovation, 2007. **27**(4): p. 159-167.
51. Dabholkar, P.A., L. Michelle Bobbitt, and 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): p. 59-95.
52. Weijters, B., D. Rangarajan, T. Falk, and N. Schillewaert, *Determinants and outcomes of customers' use of self-service technology in a retail setting*. Journal of Service Research, 2007. **10**(1): p. 3-21.
53. Blut, M., C. Wang, and K. Schoefer, *Factors Influencing the Acceptance of Self-Service Technologies: A Meta-Analysis*. Journal of Service Research, 2016. **19**(4): p. 396-416.
54. Elliott, K.M. and M.C. Hall, *Assessing consumers propensity to embrace self-service technologies: Are there gender differences?* Marketing Management Journal, 2005. **15**(02): p. 98-107.
55. Marr, N.E. and 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**(1): p. 3-10.
56. Lee, E.J., J. Lee, and D. Eastwood, *A two-step estimation of consumer adoption of technology-based service innovations*. Journal of Consumer Affairs, 2003. **37**(2): p. 256-282.
57. Walker, R.H. and L.W. Johnson, *Why consumers use and do not use technology-enabled services*. Journal of Services Marketing, 2006. **20**(2): p. 125-135.
58. Hilton, T., T. Hughes, and D. Chalcraft, *Service co-creation and value realisation*. Journal of Marketing Management, 2012. **28**(13-14): p. 1504-1519.
59. Galdolage, B.S., *Value co-creation intention, practices and experience in self-service technologies*, in *Business School*. 2018, University of Hull: Hull. p. 405.
60. Cho, H. and S.S. Fiorito, *Self-Service Technology in Retailing. The Case of Retail Kiosks*. Symphonya. Emerging Issues in Management, 2010. **1**(1): p. 43-55.
61. Picot-Coupey, K., E. Hure, and L. Piveteau, *Channel design to enrich customers' shopping experiences Synchronizing clicks with bricks in an omni-channel perspective - the Direct Optic case*. International Journal of Retail & Distribution Management, 2016. **44**(3): p. 336-368.
62. Sekaran, U. and R. Bougie, *Research Methods For Business: A Skill Building Approach*. 2016: Wiley.
63. Malhotra, N.K. and D.F. Birks, *Marketing Research: An Applied Approach*. 2007: Prentice Hall/Financial Times.
64. Palinkas, L.A., et al., *Purposeful sampling for qualitative data collection and analysis in mixed method implementation research*. Administration and policy in mental health, 2015. **42**(5): p. 533-544.
65. Venkatesh, V., M.G. Morris, G.B. Davis, and F.D. Davis, *User acceptance of information technology: Toward a unified view*. MIS quarterly, 2003: p. 425-478.
66. Venkatesh, V. and H. Bala, *Technology Acceptance Model 3 and a Research Agenda on Interventions*. Decision Sciences, 2008. **39**(2): p. 273-315.