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The Impact of Supermarkets' Mobile Application on Saudi Customer's Behavior during the Buying Decision Process

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The study has mainly focused on exploring the characteristics of mobile phone applications that correspond to the need of customers at various phases of Buying Decision Process (BDP). This was mediated with reference to the biggest e-supermarkets in Saudi Arabia. Methods: A two-phase methodology was implemented by combining qualitative and quantitative methods and evaluated 647 responses. E-supermarkets attempted to influence customers' behavior in all 5 stages of the BDP, as reflected in their mobile applications. However, some mismatches were found with customer expectations. The research increases understanding of the relationship between marketing activities on the e-supermarkets application and consumers' needs during the purchasing stages offering a new context.

Keywords: Decision Process, Mobile Application, Mobile Marketing, E-Supermarkets, Buying Decision

JEL Classification: M31

1. Introduction

The sales of international retail e-commerce sales had reached US\$1.915 trillion in the year 2016 (eMarketer, 2016). Moreover, the number of smartphones is likely to increase to 5.7 billion in 2020 from 1.9 billion at the end of 2016 (GSMA, 2017; Natarajan et al., 2017). In the end of 2018, m-commerce is expected to account for almost half of all e-commerce, given the rate at which retailers are integrating mobile sales into their shopping offerings (PWC, 2016). According to BMI Research (2017), the Middle East is the fastest growing market for e-commerce sales and platform investment. The increase in the number of mobile phones, widespread availability of 3G- and 4G-enabled mobile devices, and the rapid digitalization of business processes has resulted in the drastic establishment of mobile marketing.

The studies related to consumer behavior in this context is limited, despite of the potential effect of mobiles in the shopping process. Previous studies conducted by Holmes et al. (2013), Roy (2017), Anuja and

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Sharma (2018) are preoccupied with only the adoption and acceptance of mobile phone applications. In the similar context, the present study aims to increase the understanding regarding the impact of e-marketing and e-promotional activities on the attitude of customers about the increasing number of e-supermarkets. The study procedure is carried on by investigating the role of the features of smartphone applications in supporting customers at different phases of decision process (DP). The study's aim has been investigated firstly from the perspectives of providers and the biggest Saudi supermarkets. The offering of products, goods, and services is significantly affected on the basis of goals, capabilities, and perceptions of customer needs. The study has also examined the perceptions of supermarkets application features to investigate whether provision matches customers' perceived needs, and accordingly affect their behaviors. Following research questions have been addressed in the present study: *What is the extent to which the supermarkets application characteristics correspond to consumers' needs and affect their behaviors during their buying decision process?*

2. Literature Review

The strategies involved in a products' marketing need to be consistent with the needs, experiences, abilities, and knowledge of the consumers. Saudi Arabia is considered a wealthy and prosperous society. Chang and Makki (2015) study which assessed the escalated use of the smartphones highlighted the problems regarding marketing suitability. Previous studies have expressed questions regarding the appropriateness of smartphones application to Saudi customers (Algethmi, 2014; Aldhaban, 2016) and the impact of smartphones on purchase intention (Mohammed, 2018). Lee (2016) assessed the impact of the mobile application on shopping motivation and information quality. The theoretical evaluation of the regulatory services showed that insufficient attention is paid towards the fulfilling of customer need through mobile applications. The success of marketing is likely to affect the functional features of smartphones application. Hyman (2012) evaluation of the mobile applications highlighted the usability and influence of mobile website on mobile commerce. Similarly, the impact of mobile application among the hotels was assessed by Sarmah et al (2017), which revealed that mobile application serve as a hindering block in the success of the hotel marketing.

Previous studies have also shown that smartphone application' designers design more effective e-commerce applications when they are aware of the consumers' needs (Hyman, 2012; Doleman, 2017). Such as, Doleman (2017) investigated the use of mobile application among small businesses using the qualitative method. It conducted semi-structured interviews with small business marketers and found that the usage of the mobile application among SMEs is based on six themes i.e. strategic thinking, appropriate channel for engagement with the consumer, objective of mobile marketing, usage of the SMS and MMS service, along with computation of the value its usage provides. The integration of this theme allows the marketer to become aware of the customer needs.

Also, the study by Rao (2014) explored the impact of the social media website advertising on consumer buying behavior. It conducted a review of the previously studied and revealed that marketers who are using m-commerce need to understand elements that can affect customers' needs at different stages of their buying decision. This understanding help in designing and supporting effective application that matches the preferences of the target market (Rao, 2014). Wang, Cavusoglu, and Deng (2016) study aimed at qualitatively evaluating the entry barriers in terms of online marketing. The study results showed that major barriers in online marketing were lack of physical presence of products and physical interaction between the seller and customer. In such situations the features of smartphone application play an important role.

Smartphones application has been considered as an important aspect behind the success of m-commerce (Noh et al., 2016; Mohammed, 2018). Noh et al (2016) explored the mobile application quality interconnectivity with user acceptance by collecting data from 520 users, which showed that the acceptance of the application is influenced by attitude of the user, its information, and quality. Tam (2018) investigates the factors which stimulate the usage of the mobile application among the users. The study used the expectation-confirmation model to explain that consumers' intention to engage in online activities is affected by the features of smartphones application. Consequently, another study of Taylor and Levin (2014) can be considered which predicted the factors which affect the utilization of the mobile app in terms of purchasing and information sharing by using survey data of US retailers. There is positive association of customers' interest with their intention towards the usage of the application, purchasing of the product, and sharing of its information.

Noor (2013) used the model of the theory of planned behavior and the consumer's purchase decision to assess the consumer attitude in relation to their intention of purchasing. The results depicted that marketers are offered the opportunity to utilize a wide assortment of cues in their advertisements to attract consumers' attention and generate favorable attitudes through smartphone application. Arif et al. (2016), Liu (2016), and

Newman et al. (2018) found that there is significant impact of smartphones application design on purchasing intention of consumers. Another study by Manikam and Russell-Bennett (2016) attempted to examine the impact of specific features (record, reminder, share, and information) commonly used in social marketing along with text messaging tools. In it, the authors used the approach based on social marketing theory for planning interventions. The results revealed that design process must incorporate the prime consumer behavioral drivers in the mobile application.

The evidence for the salient roles of smartphone applications' features such as interface variables, usability, enjoyment, efficiency, errors, and flexibility of the m-marketing have been furnished by Hyman (2012) and Lua (2016). Such as Lua (2016) collected data from 84 smartphone user for understating the impact the mobile application enjoyment and mobility on the consumer intention of usage. The results showed that these two are the key drivers for promoting user's mobile application continual use.

Unique features including; "achievement", "badges", and "loyalty point features" are used by the smartphone applications that are likely to provide a sense of motivation and excitement to the users for achieving specific targets (Manikam and Russell-Bennett, 2016). Other important features include accessibility, the usefulness of smartphone's app feature, Siri feature, reliability, satisfaction, functionality, trust, and familiarity. The impact of trust and familiarity on the usage of the mobile application was explored by Idemudia and Raisinghani (2014), which showed that these features have an influence on adoption and continued use of smartphones. The impact of mobile application in the current era was explored by Ghose and Han (2014). The results revealed that there is increase in the app demand with the in-app purchase option. It offers the users to complete transactions within the app. On contrary to this, the results revealed significant decrease in the app demand decreases with the in-app advertisement option, where consumers are shown advertisements as they get engaged in an application. The new behavior, reinforce behavior, entertain, and use social networks are affected by these features, which is turn affects the behavior of consumers purchasing.

It is also evident from the study of Cakir and Eru (2013) which assessed the consumers' purchasing behavior with regard to the supermarket application. It found that supermarket application features are used to drive consumer affinity for their stores (Cakir and Eru, 2013). Tak and Panwar (2017) supported the importance of utilitarian features. The results depicted the strongest predictors of users' behavioral intention to use mobile application for shopping, which included the hedonic and habit. The facilitating conditions and the deals offered by the marketers also affect the customers. According to Angrisani, (2013), who wrote an article on the supermarket application for business, it was found that about 20% of consumers in the United States use food store application. This percentage was achieved by studying of 2,340 primary household shoppers. Majority of the respondents (80%) stated that they used supermarket application for coupons and 57% obtained price discounts that they used regularly at least twice a month. However, Goriparthi and Tiwari (2017) stated that an application is considered insufficient if it fails to match the consumer needs, even if it is well-designed.

In traditional market, there is a significant unanimity on the consumer's buying decision process (BDP). This result is derived from the study of Wright (2006) which made an attempt to explore consumer behavior with regard to their purchasing behavior. The marketing factor is also regarded as the stimulator by Kotler and Armstrong (2010), where they supplied their ultimate market principles. The study Esch (2012) also supports this point based on its evaluation of the factors which impact consumer decisions to buy, stating that there are certain stages which a consumer goes through before finalizing his decision for purchase. The consumers consider five stages before taking decisions; moreover, each of the taken decision is associated with a specific reaction. Figure 1 has illustrated the five stages based on the previous studies conducted by Wright, (2006), Kotler and Armstrong (2010), Blythe (2013), Catherine (2017), Solomon et al. (2016), and Nouraie et al. (2017). These stages are not defined and applied in general context; rather, they relate to online shopping (Park and Gretzel, 2010; Al-Debei et al., 2015; Arora and Aggarwal, 2018) and in mobile shopping (Holmes et al., 2013; Chen, 2018; Madan and Yadav, 2018).

Park and Gretzel (2010) conducted a study on online consumer behavior, which showed that consumer before buying ponders upon his need, search for its advantages and then make a purchase. Similarly, Holmes et al. (2013) can also be studied in terms of assessing the impact of mobile shopping by conducting wide investigation in relation to the purchase of six products found in homes of majority of the families. This showed the significance of understanding and targeting all stages of the purchase process. Poor understanding of these stages is likely to undermine the developments taking place in the field of m-commerce. The identification of various stages of the customer's buying process help the marketing managers in designing smartphones application that promote their products, goods, and services throughout the entire customer's BDP. The information related to unique characteristics of m-commerce that offers to ways to the consumers for interaction was provided by Dahiya (2015). Mobile has become an indispensable part of their lives for majority

of the consumers, which explains the potential value of an approach for investigating supermarkets application in relation to different phases of the consumer decision process. However, none of the studies have addressed the impact of mobile application features on the consumer buying decision process.

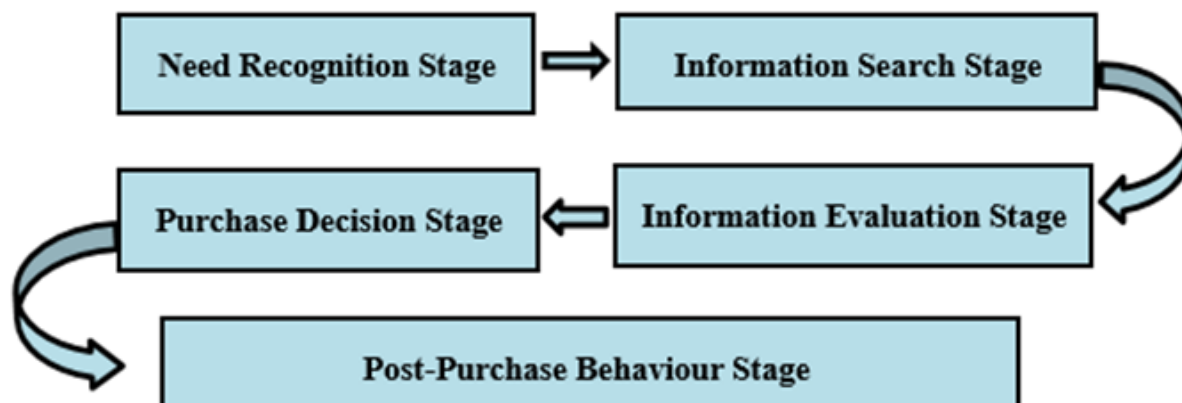


Figure 1. The customer's purchasing decision process

Sources: Wright, 2006; Kotler and Armstrong, 2010; Solomon et al., 2016

2.1 Hypothesis Development

It is difficult for the application managers to understand how 'their' consumers accept a specific new technology after going through five stages of the consumer's DP. The knowledge required for adopting strategies that lead to continued consumer adoption of smartphones application are lacking among the managers (Idemudia and Raisinghani, 2014). The information requirements and implications for each of the five stages of the buying decision-making process for adequate design has been discussed by Alhudaithy and Kitchen (2009). This information serves as a precursor to the introduction of the research model for this study.

2.1.1 Need Recognition Stage

Mobile application is capable of activating activate customers' interest in purchasing (Lee, 2016; Lurie, 2018) using advanced technology. This leads towards the development of a relationship with customers by using various incentives and identification of new services and products to motivate their behavior (Kim et al., 2016; Gong et al., 2018). Effective features of mobiles application include banners with short catchy graphics on a web page, or unique pictures and sound to draw attention of the consumers at lower levels of arousal (Bart et al., 2014; Varshney and Joy, 2015; Hussain et al., 2018). Furthermore, the marketers are provided the opportunity to utilize a wide assortment of cues such as colors, images, and sounds to attract consumers' attention and generate favorable attitudes through the mobile applications. A brand is likely to get strengthened and build image of itself in the consumer's mind through corporate application (Magrath and McCormick 2013; Confos and Davis, 2016). Shankar et al. (2016) highlighted the need recognition aspects demonstrating that use of browsing history allows the app to identify the needs of the consumer, find apps or store locations, promotional offers and more, which makes user experience pleasant. Ericson, Herring, and Ungerman (2014) have further emphasized that this need recognition allows convenience and at times saving which act as the motivator for the consumer to use these apps. Given this, the study hypothesis that behaviors of the consumer for the continual usage of app improves with its need recognition feature.

H1: The need recognition feature of the mobile applications promotes it usage among the consumers.

2.1.2 Information Search Stage

The two dimensions that help in differentiating mobile from the sources of traditional information include; information accessibility and information flexibility (Yousif, 2012). The ability for tailoring the information to the needs and desires of receiver is attributed to information flexibility. Similarly, the ability of users to control when and where information is available is referred to as information accessibility. The service of different functions ranging from basic information provision to full transactional capability, use these features. Clearly, the ease of use to access and direct a wide range of desired information through a mobile application is considered as an important determinant of consumers' purchase behaviors. Lee (2016) found that information quality on mobile was the most influential factor in consumers' shopping attitude and intention because of the unique characteristic in these devices. Kim, Wang, and Malthouse (2015) demonstrated that

information lookups in the mobile applications instigates the consumer towards its adaptation. It is because this keeps them updated and also provides them with the relevant information in little time.

H2: The improved information search feature of the mobile applications promotes its usage among the consumers.

2.1.3 Information Evaluation Stage

A number of methods are likely to be offered by the mobile application contents that help in facilitating the information evaluations (Hazarika, 2016). This facilitation include access to related pages that result in the evaluation of information, organizing a wide range of categories, presenting well-designed featured products, helping with service and product selection by presenting trustworthy recommendations, and providing extra services information (Chen et al., 2012). The customers would have the opportunity to raise queries, ask for explanation and confirm their understanding in order to make the information clear. For this purpose, the mobile applications need to develop a well-designed set of communications that is accompanied by clear interaction opportunities for the consumers.

H3: The information evaluation feature of the mobile application promotes its usage among the consumers.

2.1.4 Purchase Decision Stage

The performance expectancy, social influence, price saving, perceived risk, perceived trust, and prior usage habits are considered as significant predictors of using the mobile application for executing transaction (Gupta et al., 2018). The likelihood of consumers to perform transaction through a mobile application depends on consumer trust. Other factors including; the perceived waiting time, enjoyment, perceived risk, perceived fee and perceived difficulty negatively affect the extent to which consumers participate in mobile application shopping (Xu, 2013). The designer of mobile application needs to make the customer feel that the application is simple, secure, and reliable for making transactions (Yang, 2015).

H4: The decision-taking feature of the mobile application promotes its usage among the consumers.

2.1.5 Post-Purchase Behavior Stage

Mobile application is considered as a useful medium to increase the post-satisfaction of consumers through support broadcast, one-on-one communications, reassurance help, and providing support via application features (Tam et al., 2018; Thakur, 2018). In the next step, the marketers use the consumer feedback for gauging customer satisfaction or dissatisfaction. This helps in identifying appropriate corrective action where necessary (Thakur, 2018). The present study has proposed five hypotheses for examining the significant predictors of intention to continue using e-supermarkets application, relating to the five stages of the decision process:

H5: The perceived mobile application features related to post-transaction behavior improves the consumer intention for continual usage of the e-supermarkets application.

3. Methods

The study has employed qualitative and quantitative approaches following the previous studies (Carter and Amy, 2016; Kim et al., 2016; Nia, 2017). The study was based on following two phases:

- Phase 1, which mainly focus on the providers of e-supermarkets application services
- Phase 2, which mainly focus on the application customers who actually use these services.

3.1 First Phase

The first phase was concerned with conducting the semi-structured interviews with six application managers. The shortest interview lasted for 5 minutes; whereas, the longest interview lasted for 42 minutes to representing biggest e-supermarkets in Saudi Arabia. These supermarkets were ALOTHAIM, CARREFOUR, PANDA, TAMIMI MARKETS, DANUBE, and BINDAOOD. In relation to the stages of the consumer's buying decision process, the interviews helped in exploring the considerations influencing supermarkets application designs. Content analysis of supermarkets application was carried out to see how the managers' claims were interpreted and reflected in application feature.

3.2 The Second Phase

The semi-structured face to face interviews were conducted in the second phase that were based on pre-prepared general questions. The interviews were held with Saudi customers who already used

supermarkets application services, to see how they perceived application characteristics. Twenty interviews took place in June 2018. The choice was made deliberately after considering the diversity of gender, age, income, workplace, and social status to reach a greater diversity of respondents' information, enriching their responses. The interviews with males were conducted face-to-face; whereas, interviews with the women were taken on phone that lasted 14-22 minutes. Further data for ease of use, low overhead cost, and reliability was collected through an e-mail survey of application customers. The 'impersonal' questionnaires were equally important as they are concerned with social mores with the Saudi female consumers. The survey targeted customers of ALOTHAIM and DANUBE. These two are large and popular supermarkets with a varied client base. An invitation to participate, including the link to the questionnaire, was distributed by the supermarkets in a series of mass mailings, which resulted in gathering a total of 647 responses.

4. Results

The results depicted that characteristics of perceived application were significant predictors of intention; however, it was not associated with recognition or post-purchasing behavior.

4.1 Interviews with Supermarkets Application' Managers and Application Content Analysis

Questions posed to application managers investigated issues arising at each stage of the decision process, beginning with need recognition. All supermarkets interviewees claimed to study clients' needs continuously, mainly by survey and by benchmarking against competing supermarkets. Reference was also made to strategic partnerships to gain from the experience of international supermarkets such as Carrefour. Customer segmentation was used to identify potential customers for specific services. There were also institutional obstacles that might restrict the services offered. Supermarkets application features were widely employed to motivate customers' needs. However, most used these mechanisms separately or combined with broader-based integrated campaigns including SMS, promotional literature, and mass media advertising. Supermarket favored financial incentives such as coupons and discounts, as promotions trigger customers' needs and stimulate mobile shopping buying behavior.

The managers asserted the importance of simplicity of information and ease of navigation. The scope of information available varied with two supermarkets hosting specialized health advice section and providing extraneous information such as green diet and international recipes to attract attention and loyalty to the application. The research tools included search engines, departments' map, and demos, help desk, and talk to our features. All supermarkets application provided customers with support in evaluating information, goods, and services. Nevertheless, application managers clarified that such communication was rarely performed via the application because of cultural preference for human voice contact or face-to-face contact. It was generally agreed that some mechanisms are not available through application because of lack of experience. All supermarkets application provided information on their achievements and their products in simple methods. However, all supermarkets application provided either a facilities or mechanisms to compare goods helping the customer to evaluate their information and choices.

Regarding the purchase decision stage, the discussion focused on security concerns and client trust in supermarkets application reliability. All interviewees stated that careful consideration was given to payment methods and security. They called on international as well as local expertise for guidance in this area. Supermarkets application sought to gain and retain customer trust by such devices, as well as by procedures such as initial registration and confirmatory e-mails or SMS messages, and provision of information on a recent purchase. However, the post-transaction doubt was allayed by mechanisms such as assigning reference numbers to each purchasing transaction, confirmatory messages, print-out of receipt details, and support (e.g. help desk/ call center) for post-transaction queries. Several methods were in use to investigate customer satisfaction, including quick polls via an application or through the call center, surveys, and consultant reports. Supermarkets also drew inferences from gaining regional awards from the increase in customer number and business volume and directly from customer complaints and feedback.

4.2 Phase Two: Interviews with Customers

Regarding the provision of five decision stages, supermarkets application customers revealed interesting similarities and differences in perception. In relation to need recognition, they were impressed by the quality and aesthetic quality of information available through the application and were particularly attracted to flashing icons. They were interested in promotional offers, especially instant rewards such as discounts. However, in relation to information search, users relied less on the application, where they felt the information was not quick and easy enough to find and more on their reference group. Their use of information search tools

was constrained by a lack of understanding of the use and functionality of such tools and confusion over terminology and names. They were also dissatisfied with interaction with supermarkets, complaining of delayed response and insufficiently knowledgeable staff. Such feelings extended to the information evaluation stage, where the majority of the respondents preferred to ask family and friends for information. They preferred to speak to an individual rather than look for information via the application if they directed queries to the supermarkets. However, the consumers using market application receive added value in the form of more specialized analytical information and tools that help them in calculating and decision making.

Use of supermarkets application, as a medium for performing purchasing goods, depended in the characteristics of the transaction and the expertise of the user. Supermarkets application was more likely to be used for frequent transactions including simple processes, low risk, and high outcome certainty, e.g. buying grocery goods and repeated products. The purchase of products that require high level of interaction between supermarkets and customer should not be made using online application; although, they were available on the supermarket's application. Customers who had a longer experience of supermarkets application were more inclined to trust it and perform a wider range of buying products using their mobiles. Surprisingly, customers were not free of post-purchase doubts, despite the measures employed by supermarkets application to reduce such concerns. Post-purchase doubt was attributed by customers to mistrust the whole application system, lack of knowledge about the meaning of some of the measures employed, and not knowing what to do if a transaction did not proceed smoothly. However, such doubts were reduced as customers gained more experience with supermarkets application. One interviewee had abandoned supermarkets application, due to dissatisfaction with the service.

4.3 The Online Survey

Principal component factor analysis was conducted on twenty items with Oblimin rotation. This was designed for investigating perceived application characteristics that helped in determining the underlying related factors. The initial analysis resulted in the removal of one item and the revised nineteen-item scale yielded five distinct components, corresponding to five stages of the decision process, which together accounted for 74.24% of variance to continue using application. The summated measures for each variable at the decision stage were calculated through the mean value of all items contributing to that particular variable. These scores were used to test the relationship between perception of website features related to each decision stage and intention to continue using supermarkets application using multiple regression analysis. R^2 value was 0.174 indicating that the independent variables (application features at each decision stage) explain 17% of the variance of the dependent variable (intention to continue using supermarkets application) ($F = 27.24$, $\text{sig} = .000$). The importance of each variable has been shown by the betas in table 1.

Table 1. Coefficients Related to the Five Stages

Supermarket's apps user model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
Constant	2.909	0.158		18/378	0					
S1	0.0170	0.039	0.022	-.449	0.633	0.253	0.018	0.016	0.543	1.840
S2	0.235	0.050	0.289	4.651	0	0.352	0.180	0.166	0.331	3.022
S3	-0.130	0.036	-0.195	-3.580	0	0.206	-0.140	-0.128	0.432	2.320
S4	0.246	0.047	0.255	5.246	0	0.358	0.202	0.188	0.543	1.840
S5	0.036	0.032	0.057	1.140	0.255	0.285	0.045	0.041	0.515	1.940

5. Discussion

The present study has investigated how the presentation of supermarkets serves customers at different stages of the DP. The features of supermarket application are made relevant at each stage of the process, which has significant influence on the decision of the consumers to either use or do not use the supermarkets application.

5.1 Perceived Features of Supermarkets Application Related to Need Recognition

The first stage of consumer DP is known as need recognition. According to the present study, the perceived features of the application help in recognizing the consumer and promotes its continual usage. The results revealed that majority of the supermarkets application used a number of features for attracting the

attention of customers. These results are corroborated by the finding of Oh and Min, (2015) which indicated that these applications help in stimulating consumer awareness of their needs either for the app itself as a new service channel or the variety of supermarkets goods and services. The present study also found that banner ads on the pages, pop-ups ads, promotion incentives, discounts, rewards, offers, special offers, notifications, reminder operations, and green trolley are popular and important features that help in grasping consumers' attention. These results are found consistent with Magrath and McCormick, (2013), who assessed the mobile fashion retail applications. The study results of Carter and Amy, (2016), and Beeck and Toporowski (2017) also align with the present study findings.

The results of current study have also shown that the features such as banner-ads and flashing icons are remembered by the customers. However, at times these customers may be counterproductive and they find these banner-ads and flashing icons to be annoying and obtrusive. This is because, overuse of these features tends to create a feeling of over-stimulation or information overload. It distracts the users and make the use of supermarket's application more stressful. There was no significant effect of these approaches on the intention of continue using the supermarkets application. The incentives on supermarkets application become irrelevant for medium and heavy users, who already appreciate supermarkets application.

5.2 Perceived Features of Supermarkets Application related to Information Search

In the current study, the searching information is included as the second stage of the DP, in which a variety of information about the products and goods of interests is gathered by the customer. The discussion with the marketers in the present study revealed that it is likely to aid the process by providing appropriate information and interface of the available characteristics to the consumer. These outcomes are parallel to the study findings of Li (2014) which list information search as a contributing factor for the successful usage of the mobile banking application. Several other researchers have also reported similar findings (Kulemeka 2015; Copeland 2016), endorsing the current study findings.

Reflecting upon the interview sessions in the present study, it was revealed that Saudi supermarkets paid attention to simplicity and ease of navigation. The supermarket application use features that include; lists of products, departments' classifications, contact details, and help desk. They considered the supermarket application used in Saudi Arabia as informative, rather than being just interactive. The current study also highlighted the concern stating that it not possible to gather information quickly without application and customers being familiar with the functionality of information search tools. The rationale behind this is provided by Noh and Lee (2016) stating that customers are likely to get discouraged from using supermarket application in the absence of interactivity in majority of the supermarkets' application.

The results of the current study further revealed that supermarkets application information search tools were important to customers. It found that consumers especially welcomed departments' classifications that could be shown through all application. This statement is corroborated by the studies of Ford (2012) and Ghose and Han (2014) which revealed that product information organized in the list format was conducive to effective browsing customers' satisfaction. Previous findings highlighted that intention of customers to use supermarket application is positively affected with the presence of search engines, application maps, and help desk features (Ghose and Han, 2014). Moreover, the information about positive association between the amount and quality of information and increased customer acceptance was also revealed by Mishra (2011).

Given the importance of information search in consumer buying practices, its usage for the supermarkets' application is not considered helpful, given its difficult accessibility. This is by no means indicate that these are limited to just the supermarket or within the region of Saudi Arabia only. This is evident from the research of Chen et al. (2012) who showed that mobile phone applications used as innovative marketing tools for three international hotels cannot be utilized as devices if they are not represented in easy and adequate manner. Similar results were presented by Thakur (2018) as the results showed improved accessibility of the users through navigability along with providing adequate information.

5.3 Perceived Features of Supermarkets Application related to Information Evaluation

The present study has reported information evaluation, customers' analysis, and interpretation of information as customer platform for decision-making in the third stage of the customer DP. It found that at this stage, the supermarkets application could help the customers by providing clear and accurate information about the supermarket's goods and services, comparing tools, clear purchasing steps, rapid response to queries, and helpful decision tools. These findings are similar to various earlier studies which reported same results while assessing the information evaluation impact on consumer buying behavior (Patel, 2012; Kalnikait et al. 2013).

The rationale behind it is that it promotes the willingness of supermarkets to help the customers by providing them with certain information evaluation. However, the rapid diffusion and the development of the supermarket's application as a marketing channel is likely to be impeded because of cultural preference for face-to-face contact for purchasing process in Saudi Arabia. The interview with managers believed that Saudi consumers would gradually prefer using supermarkets mobile application based on their improved familiarity with this technology. These are consistent with the findings of Idemudia and Raisinghani (2014) which listed familiarity as the catalyst for the purchase decision making and application usage of the consumer.

Moreover, the current study also stated that the continuous endeavor of promoting incentives would be beneficial in changing consumer behavior, which may be more important for some purchasing transactions than others. In agreement to this, Yang (2016) revealed that face-to-face interaction for purchase of simple products is not needed; however, there is increased importance of the role of face to face interaction as there is increase in the product complexity.

The present study illustrates clear demand for information evaluations tools (e.g. comparing tools, clear purchasing steps, and rapid response to customer queries) from supermarket customers while suggesting that many customers would find supermarkets application information helpful and acceptable. Moreover, the current findings have shown that customers look for mobile application characteristics would help in product information evaluations. Moreover, this also leads to creation of two-way communication considering the supermarket's responsiveness which significantly affects consumer level of adoption.

5.4 Perceived Website Features Related to Decision-Making

The interviews in the current study highlighted key issues at this stage; namely, security, trust, and payment presses. There is significant influence of security in the customers' perceptions; therefore, it is considered as the most significant attribute. Majority of the users of supermarkets application depend on supermarkets because they are confident that supermarkets have sophisticated systems for protecting their databases. However, the risks regarding application, the Internet, and their mobiles are not known by majority of the customers. According to the present study, Saudi supermarkets pay significant attention towards the security issues related to smartphones' applications. The Saudi supermarkets do not just have to protect themselves, but also protect their customers and convince them about the effectiveness of the measures taken.

The Saudi supermarkets provided informative tools for enhancing the level of awareness among the customers. Strict conditions were applied to provide extra protection for customers. Moreover, the security level of application transactions and simplification the payment process was provided by adopting these processes. Approaches reported were similar to those taken by supermarkets in other countries, for example, as reported by Hobbs (2016) in the UK, and Goriparthi and Tiwari (2017) in India.

According to the present study, the powerful reasons for customers perceiving application suitability for performing transactions included stated security, service trust, and ease of use. However, it revealed that such feeling was related to customers' experience with mobile application generally and supermarkets application in particular. Positivity and trust toward using supermarket application was observed among the respondents, who had been using mobile application for business since long. The concerns about security, trust, ease of use, and privacy were fewer among this group of people as they were not doubtful about the lack of human interaction, obtaining receipts, or possibility that something might go wrong. The doubts were increased among the less experienced customers.

The security issues play an important role in adopting supermarket application. Moreover, it was shown that the factors considered most important in relation to application design were related to security. The perception of application features affects the decision of performing transaction through supermarkets application. There is positive effect of these perceptions on the intention of customers to continue using that specific application. These findings were in agreement with the study conducted by Staykova and Damsgaard (2016). According to the results of present study, there are only few solutions to attract great number of users, despite of increase in number of mobile payment applications. These are parallel to the several research reporting such as Yang et al., (2015); Güngör (2017) and Saprikis et al., (2018). These studies have revealed that customers' trust to use mobile application increased by improving levels of perceived elements and tools related to security, privacy, ease of use, and payment process. This approach is equally important for complex product offerings, where customers have a greater need for reassurance in the impersonal and intangible nature of application transactions (Holmes et al., 2013).

5.5 The Perceived Website Features related to Post-Buying Behavior

The feelings of doubt experienced by the customers after online purchasing is included in the fifth stage of the customer's DP. For instance, the customer feels that the purchased product does not conform to

expectation in some way. The relationship with customers is maintained and their loyalty is likely to be secured through post-buying services such as inquiry and complaint handling, instant support, and measurement of customer satisfaction. The present study has also showed that while using mobile application, consumers' post-transaction satisfaction can be increased by support broadcast, direct communications, and support via e-mail. This would also help in enhancing loyalty and creating a long-term relationship between the buyer and seller. The supermarkets need to design their application in an effective way that is capable of gauging customer satisfaction/dissatisfaction and also identify proper corrective action.

The managers interviewed in the present study stated that Saudi supermarkets have started using "talk to us" section through mobile application to provide technical support through different ways. The importance of such support is endorsed by Holmes et al. (2013); Mahapatra (2017) and Saprikis et al. (2018). The present study also assisted in measuring the satisfaction level of its users, who were involved in mobile shopping industry and applied by a number of supermarkets. A variety of transaction confirmation procedures dealt with the post-purchase doubt. However, these efforts did not succeed in allaying cognitive dissonance as its meaning and significance was not understandable by the customers.

However, this stage of DP has created a lot of ambiguity based on the present study findings. For instance, providing access to complaints was ranked fourth and providing application technical support was ranked fifth. However, there was no significant impact of these features on the intention of consumers to continue using the application services. The results have shown that only few customers had abandoned supermarkets application due to dissatisfaction. The result may be supported by the fact that the stage was outweighed by the factors that relate to other stages. This is the reason customers remain happy with the way their information is searched and evaluated even in the face of post-transaction difficulties. At this stage, the customers accept that there is no alternative and the available alternatives are not satisfactory. Once the customer becomes an established and experienced application user, post-transaction concerns do not rise to any great extent.

It is not possible for the customers to use other supermarket channels for complementing the process with using applications; for instance, sending e-message, visiting help desk, or using phone. A further possibility is that some forms of support and reassurance are actually provided by the customer's reference group, such as friends and family. Therefore, there is less need to rely on the features provided by the supermarket app itself.

There is shift in the usage of super market application and customer behavior research from technological developments towards how the features affect customer behavior. This is because there is no worth of the technological developments unless the customers both like and adopt them. It is also important for the markets to understand e perceptions, attitudes, and needs of existing and potential customers so that they are able to gain benefit from the underlying technological developments. This approach holds significant importance in developing effective marketing strategies. The study implies that the supermarkets must initially be focused on their in-store experience by highlighting the various components of their application, and its various stages. This keeps them intrigued and promotes their exploration. Moreover, the findings of the study also emphasize that designing of the application alone is not sufficient as the supermarkets must also make efforts for sustaining effective navigating and easy to adapt format. This not only helps in the consumer in the exploration of the offered product but also sustains their continued usage of the application.

6. Conclusions

6.1. Theoretical Contributions

Several theoretical contributions are made particularly based on the findings of study. Firstly, perceived website features and buying decision behaviors are demonstrated through theory of planned behavior. Secondly, this study has identified the behavioral mechanism that led to escalated purchases. It has been observed that distraction leads to escalated purchases as customers divert from their traditional shopping loop, spend more time to examine prices/products on shelves, and spend more time in the store. Thirdly, this study has revealed several boundary conditions. This study has extended previous literature by emphasizing how and when supermarkets mobile phone use results in increasing purchases. Customers are less prone to communication and to marketing stimuli produced in the retail environment using their supermarkets mobile phone. Supermarkets promotion can be a beneficial aspect for the retailer as mobile applications can possibly protect them from unplanned purchases encouraged by such aspects. The findings have further suggested that retailers should be careful for using a mobile device application as it fails consumers to purchase products that they aimed to purchase. In addition, customers might leave planned items on the shelf and spend less time overall along with the reduced effectiveness of the communication of a retailer.

It is important for customers to understand how these mobile device applications affect daily lives and the ability of customers to perform their tasks as they use these devices for more than just texts or voice calls. Significant research has recommended ways to use mobile technology for communicating with customers, but minimal investigation has still demonstrated how customers performance of conventional activities are interfered through general mobile phone use.

6.2. Managerial Implications

Recently, all types of products are available to customers using mobile device applications. Significant considerations are given to the way customers use their mobile device applications for shopping related objectives. Customer marketers should adapt to this change as more customers use mobile phones for shopping. The study findings will be specifically appropriate for organizations that are planning to introduce mobile device applications for communicating with their customers. They will achieve potential benefits on the customers' behavior when using mobile device application for shopping. Companies will be benefitted with changing retailing environment and will be improving their digital marketing strategies to understand how, what and where customers are going with their mobile phones. This study will provide companies with the important evidence about the customer behavior and the effects of mobile technologies on the customer behavior. The study findings indicate that purchases can be increased by retailers by stimulating customers to involve with their mobile device applications while shopping such as quick-response codes that allow customers to acquire beneficial information using their mobile devices and wi-fi. It has been observed that the effects of supermarkets mobile device application use on the behaviors of customers do not affect their satisfaction with the shopping experience. Supermarket purchases can be increased from the shopping experience and mobile applications use of customers.

The five stages of the customer's purchasing decision process explained in the presents study have specified application features as a multidimensional construct. Separate analysis of each dimension is likely to help in understanding the meaning and consequences of the characteristics of online buying behavior in the present study. The study results are helpful for the supermarket managers in understanding the usage of technology among the customers. It is clear that appropriate support through mobile application can contribute to intention to continue using supermarket's application, and facilitate a long-term relationship between supermarkets and customers. However, the future studies need to focus on the factors that help in establishing long term relationship between supermarkets and customers.

6.3. Limitations and Future Recommendations

There are several limitations in spite of the valuable contributions made in this study. firstly, some limitations are related with the store-intercepted survey research, which include interviewer effects and measurement error. Participants might be influenced by the presence of interviewers and then distorted not to appear impulsive purchasers. Generalizability is another limitation of this study. The sample size is too small to be considered for larger population. This study; however, wants to be a first investigation regarding the influence of mobile device applications in supermarkets on customer behavior during the buying decision process in the context of Saudi Arabia. It is only a first step, which will allow consumer marketers an opportunity for future research. This study aims to enlarge the sample of buyers interviewed and examine the phenomenon comprehensively. Consequently, the differences in shopping behavior between task-unrelated and task-related mobile device use. In addition, the influence of mobile device use on purchases will be explored in future research at the boundary conditions. However, the mobile device use can reduce the checkout effectiveness to influence unplanned purchasers as customers use the mobile to distract the wait and pay less attention to the items displayed.

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