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MOBILE APPLICATION AND CUSTOMER FULFILLMENT OF AIRLINE OPERATORS IN NIGERIA

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ABSTRACT
The study investigated the relationship between mobile application and customer fulfillment of airlines in Nigeria. The aim was to examine the influence of mobile application on customer fulfillment. In addition, based on the nature of the research, descriptive research design was adopted in accessing the research subjects. While the population of the study comprised of 547,972 passenger traffic of airlines in Nigeria, a sample size of 400 was determined with the help of Taro Yamene formula. Descriptive statistics such as tables, charts, percentages, averages etc; Spearman Rank Correlation Coefficient was used to test the various hypotheses. Cronbach Alpha test was used as a measure of reliability while face validity was conducted in order to scrutinize the instrument of the various constructs. The results indicated a significant positive and strong relationship between mobile application and customer fulfillment. Based on the findings in the study, it was concluded that mobile application significantly relates to the measures of customer fulfillment (Customer engagement, electronic loyalty, and electronic word-of-mouth). We therefore, recommends that, owners and managers of airlines in Nigeria should understand and develop a holistic approach of implementing an overall social media programme, as this research has confirmed its strategic importance in improving customer fulfillment.

Keywords: Mobile Application, Customers Fulfillment, Customer Engagement, E- Loyalty and E- WOM

INTRODUCTION
The transformation of customer experience in particular, and the aviation sector in general, is the cornerstone of digital transformation. With the help of digital marketing technologies, advertising practitioners now prepare numerous direct, online and experiential campaigns in order to create profitable relationship with customers. According to Nwokah and Gladson-Nwokah (2016), the rapid growth of online marketing has given a new dimension to the customer shopping experience. Hence, the influence of internet technologies in influencing customer purchase behaviour. These internet campaigns also include niche database advertising and award-winning card layouts, digital tape ads, pay-as-you-go online, rich text ads, branded web sites, viral ads, branded social networks, in-game ads, interactive & entertainment ads, SMS texts, online blogs, text, and e-mail (Westerman, et al, 2014).
Fundamentally, the application of digital marketing attributes in recent years has helped telecom organizations in reaching out to massive audience and has impacted positively on sales performance. According to Kaur (2012), digital marketing is a process that is used to identify, anticipate and satisfy customers using internet technology. To Joseph (2012), the strategy refers to all the activities of advertising, promotion that is geared towards

deciding the look and feel of the product, how it will be sold and sent to the customer. Hence, fast-food firms have identified digital marketing strategies as a major opportunity to manage changing customers' expectations effectively; customers' service experience; and to reengineer the overall business model in order to accommodate digital innovations (Nkpurukwe, et al, 2020; Nielsen Smartphone, 2020).

Stressing on the significance of mobile apps, (Bomhold, 2013) mentioned that mobile apps constitute more than 50% of time spent on digital media. Furthermore, in 2013, 56% of consumers who possessed a smartphone or tablet worldwide spent most of their time (80%) on their device within an app (Nielsen, 2018). Strategically, mobile app is vital to companies as most are actively engaged in creating mobile strategies with an app as the focus. Nkpurukwe (2020) predicts mobile strategies to continue to be a challenge and for branded mobile apps to be widely adopted in years to come. The author found that branded mobile apps has a huge influence on consumer purchase behaviour.

Consequently, a key business model that could help airlines have been reported to be digital marketing by Phillips Consulting (2020). The group suggests that digital marketing technique is a reliable means through which airlines can cushion the effect of the pandemic and re-build customers' trust while improving e-WOM among passengers. Again, the group reported the problem customer switching behaviour to different airlines thereby reducing customer loyalty to a particular airline. According to them, 62% of passengers of airlines strategies that they switch to other operators due to safety, service quality, and inconsistent ticket pricing issues. While the remaining 38% attribute theirs to time consciousness and effective communication. Issues of this nature resulted to declined patronage and preference of customers (Phillips Consulting, 2017).

In view of the above reviewed studies and other related ones, this research intends to examine mobile application with the intention of evaluating their influences on customer engagement e-loyalty, e-WOM and customer fulfillment as it relates to airline operators in Nigeria.

Hypotheses

In view of the specific objectives and research questions, the following null hypotheses was tested in the later part of this research:

H_{01}: Mobile application has no significant relationship with customer engagement of airline operators in Nigeria.

H_{02}: Mobile application has no significant relationship with e-loyalty of airline operators in Nigeria.

H_{03}: Mobile application has no significant relationship with e-WOM of airline operators in Nigeria.

Technology Acceptance Model

The theory upon which the present study was anchored is the Technology Acceptance Model (TAM) propounded by Fred Davis in 1989. While this theory has been widely used in technology adoption studies, its strength lies on the simplicity of its model. The idea of the TAM model is the combination of theory of reason notion (TRN) and Theory of Planned Behaviour (TPB). Basically, the TAM model was developed to determine user acceptance of a wide range of computing technologies (Davis, 1989). According to this author, two theoretical constructs were found useful in conceptualizing the TAM model. They are: perceived usefulness (PU) and Perceived Ease of use (PEOU). Both constructs according

to this affects the intention to use a system. The author defined PU as the degree to which a person believes that using a particular system would enhance his or her job performance. More so, PEOU was defined as the degree to which a person believes that using a particular system would be free from effort.
In relating this theory to the present study, underscores the importance of the use of digital marketing in shaping and directing subscriber purchase behaviour on one hand, and performance of the organisation on the other hand. The rate of adoption of digital marketing tools such as social media marketing, content marketing, mobile application, search engine optimization, and the rest of them; may be determined by PU and PEOU. This however goes a long way to determining their intention to patronize a particular marketer. The adoption behaviour determines the degree to which subscribers decide to use these technologies in their various activities. This is of primary concern to companies because if the adoption rate is not positive and favourable, then communicating product information and services to consumers via these systems may be hampered; hence, produces less result. It is however in view of this association; the researcher adopted the TAM as part our theoretical foundation.

Mobile Applications

In today's mobile world there are possibilities to use applications designed especially for mobile phones. These applications can be categorized and adjusted according to customer's needs (Budiu, 2013). Practically, mobile application otherwise known as "app" is designed as a software in a mobile device such as smartphone and tablet computer. While the applications are made user friendly and easy to access, different mobile applications can be found for free or be purchased (Chaffey, et al, 2009). Applications can be found in application stores; each phone with the operating system of Android, iPhone or Windows is required to get the application from each of their own application stores. (Chaffey, et al., 2000). The advantages of a mobile apps are that users are able to reach them anywhere and anytime; they are flexible, spread information and offer easy access to various services.
In addition, mobile apps are software that perform certain tasks for users through their mobile devices. According to Bomhold (2013). In fact, there are three distinct kinds of apps: native apps, web apps, and hybrid apps. Native apps such as the popular gaming app, Angry Birds, are developed for a specific operating system such as iOS, operating system for iPhone. Web apps like Financial Times are websites that favour the look of native apps; these apps are accessed through the mobile browser, in which the user is then given the option of installing the app onto their device (Rowley, 2011). Hybrid apps such as Banana Republic blend both the native app and web app (Budiu, 2013). Some of the task apps provide tools and productivity (calendar, notes, flashlight, weather), shopping (retail-based apps), and games and music (games, music player, radio). It is predicted that the annual number of apps downloaded will reach 268 billion by 2017 (San-Martín, et al, 2013).
Stressing on the significance of mobile apps, (Bomhold, 2013) mentioned that mobile apps constitute more than 50% of time spent on digital media. Furthermore, in 2013, 56% of consumers who possessed a smartphone or tablet worldwide spent most of their time (80%) on their device within an app (Nielsen, 2018). Strategically, mobile app is vital to companies as most are actively engaged in creating mobile strategies with an app as the focus. Nkpurukwe (2020) predicts mobile strategies to continue to be a challenge and for

branded mobile apps to be widely adopted in years to come. The author found that branded mobile apps has a huge influence on consumer purchase behaviour.
Branded mobile apps are downloadable software to a mobile device in which the brand identity is predominantly displayed usually through the combination of the name of the app and the brand logo or icon (Nyambu, 2013). Garner (2013) identified five types of branded apps: tool, game, social, design, and mobile commerce centric. Tool-centric apps are utilitarian based apps with the goal of identifying consumers' motivation and requirements in using a product or service as well as usage assistance. Game-centric apps are the opposite, possessing high hedonic value. Social-centric apps are simply web apps, which focus on socialization with others such as Instagram, Pinterest, and Facebook. Design-centric apps focus on creation and imagination. Finally, m-commerce centric apps are created with the goal of selling products. These apps utilize many features such as customization and personalization to achieve their objective (Garner, 2013).

Concept of Customer Fulfillment
Customer fulfillment is categorised under the following sub headings:
Customer Engagement
The concept has evolved among practitioners as well as academics. A collection of definitions suggests that there are differing conceptualizations of the term customer engagement. Practitioners look at customer engagement from the perspective of the organization and defined it as activities facilitating "repeated interactions that strengthen the emotional, psychological or physical investment a customer has in a brand" (Sedley, 2010). But academics in information systems look at customer engagement as the "intensity of customer participation with both representatives of the organization and with other customers in a collaborative knowledge exchange process" (Wagner and Majchrzak 2007). A more recent framework of customer engagement in marketing segments existing customers based on their transactional relationship with a brand (Bowden 2009). Bowden (2009) provided a conceptual framework of customer engagement that, although focusing only on existing customers, suggests that customer–brand relationships and strategies for engaging customers might differ based on whether the customers are first-time or repeat purchasers. Considerable conceptual and descriptive work on engagement across various disciplines exists. However, there are gaps as to what engagement means to marketing and its stakeholders. It is evident from the review of the literature that no agreement exists as to the exact nature of engagement and its role in marketing. However, practitioners appear to relate it to building relationships with customers through programs aimed as getting individuals involved with and connected with their brand.

Customer Commitment
More attention is being directed towards researching commitment and the implications that it has for studying engagement. Organizational commitment can be defined as the degree to which an individual identifies with his or her organization (Buchanan, 1974; Meyer and Allen, 1991; Mowday & Steers, 1979). In the customer context, the definition of commitment is applied to understand the degree to which customers have a psychological attachment with a business in which they transact. Even though previous research has identified commitment as being a unidimensional construct (e.g., Blau, 1985), additional research has identified three distinct themes present in commitment (Allen and Meyer, 1990; Meyer and Allen, 1991). Specifically, they were identified in Meyer

and Allen's Three Component Model of Commitment (1991), which includes affective, continuance, and normative commitment. Affective commitment refers to the affective attachment one has to an organization, in which individuals stay with an organization because they want to. Continuance commitment was identified as the perceived cost of leaving the organization, in which individuals remain at or transacting with an organization because they need to. Normative commitment refers to the perceived obligation to remain with the organization, in which individuals stay with the organization because they feel that they ought to.

Brand Engagement

Brand engagement' in the present research is defined as 'the level of an individual customer's motivational, brand-related and context-dependent state of mind characterised by specific levels of cognitive, emotional and behavioural activity in direct brand interactions. The concept of 'brand interactions' refers to customers' contact-based interactions with a focal brand, as opposed to indirect brand interactions that may occur, for example, by observing a brand through mass communications (Brakus, Schmitt, and Zarantello, 2009). Examples of customers' 'cognitive' brand-related activity include the individual's level of concentration and/or engrossment in the brand, while 'emotional' activity may be represented by a customer's level of brand-related inspiration and/or pride (Schaufeli, Mart´ınez et al., 2002; Schaufeli, Salanova et al., 2002). Further, customers' 'behavioural' brand-related activity may be expressed through a customer's level of energy exerted in interacting with a focal brand (Patterson et al., 2006).

Customer Involvement

Customers have certain preferences when they are partaking in a purchasing process. For instance, when gathering product information or making a purchasing decision, customers may have certain preferences for using online or offline mediums. Equally, customers will have different degrees of involvement ranging from wanting a seller to recommend a product to gathering information themselves to make an informed purchasing decision. Customers would have low involvement when they are not actively gathering product information to make a purchasing decision and instead would rely on the input of a seller for information. Customer involvement differs from employee involvement as customer involvement focuses on the degree of effort the customer takes responsibility for in a purchasing process. As a result, understanding the role of customer involvement in the engagement model is important. In the consumer behaviour literature, involvement is comprised of two key components, motivation and relevancy. Involvement is defined as goal-directed motivation towards a decision that is viewed as being personally relevant to the customer (Mittal and Lee, 1989).

Mobile Application and Customer Fulfillment

Scholars have explored the nexus between mobile application and various business outcomes. Christ (2011) for instance, evaluated the impact of mobile webs on user patronage. Result revealed that respondents whose age fall between 20 to 35 years use different website on their mobile device and tend to buy goods and services over the internet. The study further revealed that user attitude and awareness are influenced by mobile communication medium, which in-turn improved user patronage. More so, Akin, (2010) investigated the usage of mobile marketing services and evaluation of potential

future applications. The author adopted SMS and mobile apps as sub-variables of mobile marketing, and their effect on customer patronage and loyalty. Result indicated that SMS and mobile apps both have a significant influence on customer patronage and loyalty.
Another study by Srinivasm et al., (2002), shows that about 500 million people accessed mobile internet across the world in 2009, and by 2014 the number moved up to about one billion. This however shows clearly that mobile web has a way of influencing customer patronage, because the growth in the usage of the system comes with knowledge about products and services of these firms. Bellman et al (2011), in their study mentioned that the usage rate of mobile devices in transacting business is increasing geometrically. They stated that service organization must see mobile web as a pipeline for seamless engagement with users and this engagement level brings about the desired response from users in terms of purchase intention and word-of-mouth referrals.
Azlin (2018) studied the usage of mobile application and customer loyalty**.** A total of 60 sets of questionnaires were distributed as this research is only a pilot study. From this study, it has identified the relationships between mobile application cues (layout, information and privacy), repurchase intention and customer loyalty are positive, strong and significant. Questions were derived from previous studies and Generation-Y was the selected sample for this study. Result indicated that mobile application has a positive and significant relationship with customer loyalty.
Nkpurukwe, et al, (2020) empirically examined the relationship between mobile marketing strategies and customer patronage of mobile telecommunication services. The study applied a cross-sectional survey design in a structured questionnaire to collect data from 400 accessible telecom subscribers across the 4 major telecom operators which include; MTN, Glo, Aitel, and 9 Mobile. A total of 4 hypotheses were proposed and Spearman's Rank Correlation Coefficient tool was employed with the help of SPSS version 21.0, in statistically testing them. Findings revealed a positive and significant relationship between the dimensions of mobile marketing strategies and measures of customer patronage. The study, therefore, concludes that mobile marketing is an effective tool in improving purchase intention and referral. Therefore, the research recommends that telecom operators who want to improve patronage of subscribers should adopt mobile websites and SMS marketing; as these tools have been further verified to have a huge capacity to enhance purchase intention and customer referral.

METHODOLOGY

The research design adopted for the study is the cross-sectional research design. The population of this study comprises of flight passengers in the Port Harcourt international airport, which according to FAAN (2020) has 547,972 passenger traffic. In view of the above population figure (547,972), this research adopted Taro Yamen formula in determining the sample size of 400 passengers. To obtain relevant and reliable information needed for this study; both secondary and primary data were used. The secondary data were collected from newspapers, academic journals, periodicals, text books, internet publications, etc; while primary data were sourced from the field through the use of fully structured questionnaire. The Cronbach Alpha test of 0.70 (Nunnaly, 1978) were used to measure the study variables in order to ascertain the reliability of the instrument.

Table 1:Summary of Reliability Analysis

Constructs	N	No. of items	Cronbach Alpha
Social Media Marketing	**25**	4	0.880
Customer Engagement	**25**	4	0.819
E-Loyalty	**25**	4	0.833
E-WOM	**25**	4	0.861

Source: Cronbach Alpha output, 2021

Results

Test of Hypothesis one

H_{01}: Mobile application does not significantly relate with customer engagement of airline operators in Nigeria.

Table 2 Correlation Analysis showing the relationship between of Mobile Application and Customer Engagement

Correlations

			Mobile App	Customer Engagement
Spearman's rho	Mobile App	Correlation Coefficient	1.000	.920*
		Sig. (2-tailed)	.	.000
		N	332	332
	Customer Engagement	Correlation Coefficient	.920*	1.000
		Sig. (2-tailed)	.000	.
		N	332	332

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Field Survey Data, 2021, SPSS 20 Output

Decision: Table 2 above reveals a spearman rank correlation coefficient of 0.920 and probability value of 0.000. This result indicates that there is a positive and significant relationship between mobile app and customer engagement towards airline operators in Nigeria. Therefore, we reject the null hypothesis and accept the alternate hypothesis, because the PV (0.000) <0.05 level of significance.

Test of Hypothesis Two

H_{02}: Mobile application does not significantly relate with e-loyalty of airline operators in Nigeria.

Table 3: Correlation Analysis showing the relationship between of Mobile App and E-Loyalty

Correlations

			Mobile Application	E-Loyalty
Spearman's rho	Mobile Application	Correlation Coefficient	1.000	.922*
		Sig. (2-tailed)	.	.000
		N	332	332
	E-Loyalty	Correlation Coefficient	.922*	1.000
		Sig. (2-tailed)	.000	.

		N	332	332

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Field Survey Data, 2021, SPSS 20 Output

Decision: Table 3 above reveals a spearman rank correlation coefficient of 0.922 and probability value of 0.000. This result indicates that there is a strong, positive and significant relationship between mobile app and e-loyalty towards airline operators in Nigeria. Therefore, we reject the null hypothesis and accept the alternate hypothesis, because the PV (0.000) <0.05 level of significance.

Test of Hypothesis three

H_{03}: Mobile application does not significantly relate with e-WOM of airline operators in Nigeria.

Table 4: Correlation Analysis showing the relationship between Mobile Application and E-WOM

Correlations

			Mobile App	E-WOM
Spearman's rho	Mobile App	Correlation Coefficient	1.000	.917*
		Sig. (2-tailed)	.	.000
		N	332	332
	E-WOM	Correlation Coefficient	.917*	1.000
		Sig. (2-tailed)	.000	.
		N	332	332

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Field Survey Data, 2021, SPSS 20 Output

Decision: Table 4 above reveals a spearman rank correlation coefficient of 0.917 and probability value of 0.000. This result indicates that there is a positive and significant relationship between mobile application and e-WOM towards airline operator work with time in Nigeria. Therefore, we reject the null hypothesis and accept the alternate hypothesis, because the PV (0.000) <0.05 level of significance.

Discussion of Findings

Positive relationship between mobile application and customer fulfillment

Mobile application was statistically tested against the measures of customer fulfillment Spearman Rank Correlation Coefficient analysis tools. Result from hypothesis one (H_{01}) showed the existence of a significant relationship between the variables (rho=0.889). Our analysis revealed the existence of a strong, positive and significant relationship between mobile application and e-loyalty.

Hypothesis two (H_{02}) examined that the extent of relationship between mobile application and customer engagement of airlines firm in Nigeria. The outcome of the result revealed the existence of a significant and positive (rho=0.885) relationship between mobile application and e-loyalty.

Hypothesis three (H_{03}) examined that the extent of relationship between mobile application and e-WOM of airlines in Nigeria. The outcome of the result revealed the existence of a significant and positive (rho=0.893) relationship between mobile application and of e-WOM of airlines in Nigeria.

Based on the above, our findings were in line with that of Christ (2011) who evaluated the impact of mobile webs on sales volume. Result revealed that respondents whose age fall between 20 to 35 years use different website on their mobile device and tend to buy goods and services over the internet. The study further revealed that user attitude and awareness are influenced by mobile communication medium, which in-turn improved sales volume.

CONCLUSIONS

Digital-driven technologies have come to stay based on our findings. Therefore, organisations that want to remain competitive may need to key into the trend and outsmart others. Mobile application has become a crucial technology that drives enormous value to customers and users of a computerised device. It has helped to facilitate online transactions and positive reviews from customers. This is because customers are disposed to systems that are user-friendly and entertaining. However, digital marketing strategies is greatly affected by the prevailing orientation of the organisation.

RECOMMENDATIONS

Based on the findings and conclusions of this study, the following recommendations were made available for customers/passengers of airline in Nigeria for effective implementation.

1. Strategists of airline firms should pay adequate attention to digital content creation and deployment especially on all digital fonts. This study has made us understand the strategic prowess of digital contents in impacting on customer engagement.
2. The study further recommended the design and use of mobile apps in communicating products and services features to customers and/or users due to its strategic benefits to the organization, in terms of booking/purchasing of flight tickets, review of service experience, and other digital transactions.
3. Lastly, given the research evidence we have so far with respect to the rate at which customers prefer friendly and entertaining websites, we therefore advice management to optimise their search engine systems; which in-turn improves user loyalty and positive WOM.

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