Critical Success Factors of E-Government Services in Developing Countries
(A Case Study of NADRA Pak-Identity Service)

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Abstract

The aim of this study is to assess the perceived behavior of customers toward 'Pak identity service' by "National Database and Registration Authority" NADRA. Specifically, the citizens' perception regarding the newly offered e-government service (Pak-identity) will be measured in terms of navigation, personalization, and design as independent constructs in the current study. Methodology: To identify factors influencing customer e-loyalty, quantitative, questionnaire-based survey strategy will be followed as it helps to understand citizens' perceptions and behavior. On the basis of random sampling, the sample size of 383 was analyzed to align with the purpose of the study. Moreover, the scale was adapted in sustaining credibility and validity. Value: In terms of e-service evaluation in the country. The current study is unique as it is addressing the attributes regarding the quality of web-service for the citizens to improve its adoption and acceptance in the society. Finding: The result of this study revealed that how website design, navigation, and customization have an important role in the evaluation of customer intention to revisit. Specifically, the design is the strongest predictor of the citizen's behavior and adoption intentions, which is being followed by the navigation and the personalization / customization facilities.

Keywords: E-service, Pakistan, Website design, personalization, customization, NADRA, e-loyalty, Pak Identity.

1. Introduction

The rapid trend to use 'Information Communication and Technologies' (ICT) for service delivery has created a diverse range of opportunities for the service providers and the consumers (Lynn et al., 2014). It's the threshold requirement for every public and private sector firm to improve its internal and external relationships by adopting innovation and reducing cost and operation time in a unique manner for retention (Mohanty&Lakhe, 2008). Most of the researchers indicated e-services as deed efforts which backboned by information technology (including website, kiosk, mobile devices (Eng, 2008). In the process of communication, the delivering strengthen the relationship between stakeholders and website, as it works like a resilient bridge to link up. In the context of addressing the critical aspects to define mature website, the navigation, personalization and the design will be studied during the whole course of this document. Specifically, Navigation can be classified as the vital characteristic to facilitate the customer, and to give easy access (accessibility) to information while browsing the website and make his experiences enjoyable and purposefully acknowledge (HernáNdez, JiméNez, & Martín, 2009). Some researchers indicated that navigation provides a reliable link for providing information to the customer (Metzger, 2007).

To make a feel of control and to provide the desired information in an expected manner, the essence of customization gets value. Personalization makes the website easy to use and try to provide information to customers regarding his/her perceptions, needs his requirement (S. Kim & Lee, 2006; Palmer, 2002). In another aspect of the effective customization also focuses on individual differences and have the ability to provide a specific set of information to specific customer groups in a unique manner. The most important function of personalization is to make an interaction between a website and customers, which can affect the perception and intention of customers to revisit the service. Thus the customization has a strong influence on the website performance. The designers are also the most emphasis on customization to facilitate and to provide verities of information to the customer (S. Kim & Lee, 2006).

The appearance of website initiates the intentions to render with the website. The attributes of the color combination, arrangement of the information and visuals, description, and downloading speed directly affects users' revisit intentions. It is vital to discuss that the unfavorable users' perception leads to an unsatisfactory user experience with the website. Furthermore, this dissatisfaction decreased the retention, loyalty, and mindset about the websites' reliability. Thereby the first user interaction should be attractive to the customers to create a favorable opinion about the website. Website design should be self-explanatory to provide assistance and information to the customers as per their need and preferences(Constantinides, 2004).

1.2 National Database and Registration Authority (NADRA)

In 2000, after the state level initiative has deployed ICT based infrastructure for providing e-government service, enormous government-funded projects initiated; however, very few of them got matured with the passage of

time. Likewise, ICT adoption for e-government in other developing countries faces many unfavorable situations with less probability of project's success. In the first quarter of 2000, country triggered the project to offer Computerized National Identity Cards [CNICs] for citizens. With this digitalized intentions, National Database and registration authority of Pakistan (NADRA) was established. In the beginning, NADRA was employed to replace the paper-based system of issuance of NICs which was in operation since 1973 by advance computerized nation identity on. In a short life period, NADRA standardized its services and amazingly started to offer worldwide standard's Multi-Biometric National Identity Card system which delivered ID cards based on international standards. On the present date, NADRA is offering its services to other countries as well, i.e. Bangladesh, Kenya, Sudan etc. In terms of e-service innovation and e-government related development, initiatives can bring a positive reputation for the company as well as for the state.It can develop a good image of Pakistan the worldwide. It's the core aim of NADRA to facilitate citizens more and more to save their tangible and intangible resources (Malik, 2014; NADRA, 2015; Yawar, 2015). NADRA is offering a broad range of services for the citizens and the other stakeholders to contribute through innovation. A few of the market offering by NADRA are following:

1.2.1 NADRA E-Sahulat

To offer the payables platform which is very a convenient means for the citizens as such in the most recently NADRA introduce its E-Sahulat by franchising as a business model. Presently E-Sahulat is transacting around seven million transactions per month. Statistically, maintaining 23% of the utility bill of market share(Khan, 2015).

1.2.2 E-Commerce

In the year 2006, NADRA launched the e-commerce platform with an intentions to provide ID-centric product to transfer money within the country while consuming less time and resources. Moreover, this platform is also providing facility to pay bills of cellular networks(Malik, 2014; NADRA, 2015).

1.2.3 Multi Biometric E-Passport

In 2004, NADRA launched the first multi-biometric e-passport service which facilitated to provide ICAO standard multi-biometric e-passport services to the citizens. Statistically, presently NADRA has issued more than seven million e-passports to the citizens (Khan, 2015).

1.2.4 Pak Identity online NICs service

In 2015, in order to address the need of the country, the innovative web-based service was introduced.. The 'Pak-identity' is an online ID issuance service which enables citizens to apply online for new ID card, modification, renewal, POC and FRC which will deliver to their doorsteps. As this concept is just in its initial phase and the growth is being expected in the near future. Presently around 100,000 citizens have used this service (Desk, 2015; Nawaz, 2015; Yawar, 2015).

1.3 Aim of the study

The virtual nature of the service demands to understand the citizens' perception in the initial phase, as the understanding about the citizens' need could drive the change in the 'Pak-identity' for its better adoption and acceptance among the citizens. Moreover, the current market offerings by NADRA to citizens are also having challengeable issues i.e. time-consuming stacks, rejection of application because of incomplete or inappropriate provided documents, inconsistency of service quality as the citizens have mixed opinions about the quality of service. In other words, this research will help to define citizen's perception regarding the design, feature and facilities of 'Pak-identity' service (specifically the navigation, personalization and design will be a focus)

In the current section of documents, the challenging environment for 'Pak-Identity' service has been discussed. This section regarding the purpose of the study is followed by the literature of 'navigation', 'personalization', and 'design' issues in the web-service which will be concluded in the form of a conceptual model for the current study. To achieve the purpose of the study by following the conceptual mode, methodology will be discussed after the literature review which will lead to the analysis and findings where the quantitative measures are observed to challenge the conceptual model. While doing the sum-up, implications and the conclusion from the current study will be discussed.

2. Literature Review

2.1 Website design

The conceptual and logical flow of the provided information is critical factor to define and predict customer's acceptance and adoption in the case of e-service. The website can be defined as the platform offered by the government to interact with the citizens(J. Chen, Zhang, & Huang, 2007). In terms of quality parameters to address, the website has also significant influence over the customer's adaptability, trust, satisfaction and usage. If the quality of website (which including website design) is attractive, catchy and appealing for the citizens so it can help to satisfy the customer's expectations and needs (Loiacono, Watson, & Goodhue, 2002; Winnie, 2014). It also can enhance the customer's intention to revisit and to adopt the related offered e-service by the service

providers. In the context of satisfaction and intention of revisit, the website have mix impacts over customer satisfaction(L. Chen, Gillenson, &Sherrell, 2002). For instance, if the websites have accessibility, usability, usefulness, and adequate load of information, adequate content, and appearance,it can create positive impacts over customer satisfaction (Eid, 2011; Reichheld, Markey Jr, &Hopton, 2000). In contrast, the absence of any of these factors can create negative impacts over customer's intention and perception about the revisit intentions of government e-services (Hernández-Ortega, Jiménez-Martínez, &Hoyos, 2007; Kumar, Mukerji, Butt, &Persaud, 2007). In the pool of existing literature, it is observed that the influence of the website design over customer's satisfaction (e-loyalty) have the significant impact. It is also argued that if the website design is unable to fulfill the customer's expectations and needs, it can affect the revisit intention of customers (Wolfinbarger& Gilly, 2003).

Interestingly, the current research regarding the quality of the website design and standards is still growing and need new dimensions to be re-discover. The quality of the website design can be determined by different factors such as good accessibility, loading speediness, internet quality, and better website supporting system (Subramanian, Gunasekaran, Yu, Cheng, & Ning, 2014). Despite it, for the fresh consumers, the attributes like color schemes and appealing graphic are also important to evaluate the website design(Rosen &Purinton, 2004). As color is effective tool for attracting consumer consideration, the color is also an impressive element on the displayed website (Clark, Buckingham, Fortin, Wiley, &Thirkell, 2004) to affect the mood of customers and the presentation of the website (e.g., likely or dislike) (Lightner& Eastman, 2002). The impact of the psychological attachment of individuals with any website also encourages the loyalty and positive intentions to use the e-service. For example: if the website has positively perceived color scheme, the preferred way of data presentation and favorable downloading speed so the higher chances of appreciation, referral promotion and loyalty will be observed (Gorn, Chattopadhyay, Sengupta, &Tripathi, 2004).

In another aspect after discussing the criteria of a healthy and attractive website in terms of the website design, the individual first encounters with the website triggers the intention of revisit the value of e-service as the virtual shop set is connected to the edge, which the buyer encounters when visiting a website(Guo, Ling, & Liu, 2012; Tarafdar& Zhang, 2005).Thereby, it's associated with the first impression when the consumer visits a web site and experiences it. Because if the website design is good, it can attract consumers to make persist retention to stay and to interact with the website (Lee & Lin, 2005).

In the support of above-discussed issues and challenges regarding the website design, the most of the researchers argued about the strong positive relationship between the website design and thee-customer retention, the effect on customer's satisfaction and perceived quality of the website (Koo, 2006; Wolfinbarger& Gilly, 2003). Furthermore, (Floh&Treiblmaier, 2006) highlighted the effect of the website design over customer's satisfaction and need to readdress the website quality, which includes structure, web design, and contents as an important part of matrix of scale to measure the website quality. According to Law and Wong (2003), the e-commerce and e-value exchange procedures demand secure, reliable and consistent virtual platform for service offering. The study also concluded that the e-buying / e-shopping trend fluctuates on the basis of perceived security and trust (Bender Stringam&Gerdes Jr, 2010). Previous studies also identified the influence of the website design over the e-loyalty and perceived friendliness of the offered service (Caruana& Ewing, 2010), which is also supported by the past research by (Wolfinbarger& Gilly, 2003). The enriches of the associating website design in terms of color, design, the load of information and representation of multimedia, the current study is considering 'website design' as the strong predictor of the 'e-loyalty' in the case of 'Pak identity service' by NADRA. Specifically, the hypothesis is shown below:

H1: The website design of 'Pak identity service' by NADRA holds the strong positive impact on the citizen's loyalty with the offered e-service.

2.2 Navigation

The advancement of new tools and techniques of the website design is developing and driving new innovative ways to navigate. The new trend of offered e-service expects the smooth and hurdle free interaction between the website users and the offered platform in e-banking websites. The navigation, in terms of moving from one load of information to another, is getting faster, smooth and rapid. In terms of academic literature, the Navigation is essential to search task of website design to find and give access to all the required websites and information in the website (Lovink, 2014). That's why the efficient navigation is the most important feature in the quality apart from website design. In other words, the navigation has a significant and critical effect on customer satisfaction(Al-Kasasbeh, Dasgupta, & AL-Faouri, 2011; S.-E. Kim, Shaw, & Schneider, 2003). The navigation can also be defined as user facilitator to help the user to find their required information and destination. Purposefully, it also makes the website easy to use and try to create customer e-loyalty. Previous researchers explored that, apart from the overall website design, the navigation is a key feature of the website across various domains, i.e., e-health, e-learning, e-commerce, and e-government(Alshaali, 2011). In most of the cases, the navigation also covers the gaps in terms of user's disabilities and lacking, i.e. handicaps through prototype,

audio, hyperlink, video and different options like search, multi-web links, entry and exit options(Hillen& Evers, 2007; Yoo&Donthu, 2001). If a website navigates smoothly and efficiently in an effective and comfortable manner, it can improve the adaptability of e-service and customer e-loyalty. The structure, page and system level of the design are closely related to navigation effectiveness in general (Dailey, 2004; Verhagen& Van Dolen, 2009; Yang, Cai, Zhou, & Zhou, 2005).

All e-platforms demand the unique set of parameters and functions to entertain and address. Specifically in terms of functions, structure, and system. Each market offered website based solution expects browsing efficiency as the critical success factor. In literal meanings, it drives the importance of customization and transformation. Moreover, hardware-based support to provide the desired rate of acceleration is also the critical factor to address i.e. CPU requirements, supportive applications, plugins and browsers, and the capacity of the web application (Perkowitz&Etzioni, 2000). Thus, the personalization gives the users a feeling of being important and company probably to target directly to create one to one communication in an effective manner (Aaker &Joachimsthaler, 2012). The previous discussions in the current section raise the importance of navigation while addressing and measuring the consumer's e-loyalty and satisfaction. Preceding studies retracted that, the role of efficient navigation in customer satisfaction is still in the evolving phase to define set scales and fix set of values to be considered as the part of navigations. Oliver in 2014 concluded that for e-satisfaction, the attributes like the product knowledge, website design, navigation, are very crucial and dynamic in nature. In other words, the support by the offertory in terms of interactivity and the feel of being having two-way communication are drivers while defining the attributes of website interactivity(Oliver, 2014).

Furthermore, it's mostly observed that the customers mostly prefer the services which have more essences of interactivity, easy to navigate, rapid, offering the facility to search and uncluttered ((Hirst& Humphreys, 2013). Navigation helps to search the required information over the website. In this context, the most of the customer just emphasis on the point to point barriers experienced while rendering the website and evaluate the website service quality on the basis of the perceived and observed experience(Román, 2010). If the website has friendly uninterrupted navigation while serving the customer during entire point to point journey, so it can create favorable customer perception regarding the service and can help a catalyst to trigger e-loyalty of customers (Madu&Madu, 2002; Swaid& Wigand, 2009).

While overlapping of inter-related disciplinary researchers, the attributes like 'usability' are also reflecting the resembling purpose of studying the website quality and adoption behavior of individuals towards innovation(Huizingh, 2000).The website usability emphasized on customer perception about website friendliness and easy to use while using the website(Hernández-Ortega et al., 2007; Kumar et al., 2007). Thereby the quality of website content and pay-loaded information also influences customer's perceptions regarding website usefulness. It can be concluded that the navigation has important role in any service's successful adoption and appreciation by the end users. If the customers are the uneasy experience so it can affect the service adoption rate and the business to grow and survive and to satisfy critical stakeholder's expectations (Kumar et al., 2007; Reichheld et al., 2000).

It has been suggested by (Reichheld et al., 2000) that the factors like the high rate of website complexity, uneasily accessibility, slow and difficult to navigate within the internal and external scope can indirectly negatively affect the growth of the business. It's important for e-service website to give pleasant experience for the new user regarding website contents as reveal by (Udo, Bagchi, &Kirs, 2010) suggested website contents plays the central role in customer satisfaction. In other words, if end-user fail to find their required information and expected value may affect the customers revisit intentions to the website. Similarly, (Cheung & Lee, 2005) revisited the impact of negative website attribute, performance (or low system quality) on customer's satisfaction and concluded 'navigation' as the highly influencing factor for e-service adoption in the current pace of e-service environment.

On the basis of previously researched case studies and surveys, it is comprehensively conclusive that the navigation has important role in customer e-loyalty (Cyr, 2008; Hernández-Ortega et al., 2007; Verhagen& Van Dolen, 2009). The current study will emphasize navigations as a construct to predict e-loyalty. Specifically, the hypothesis is listed below:

H2: The strong influence of independent construct 'navigation' is increasing 'e-loyalty among citizens in the case of 'Pak-identity service' by NADRA.

2.3 Personalization
Every individual in the digitalized world expects special attention and the fell to be the center of the innovation, to address such feel the word personalization is coined in the digital world. In the context of web-service, it can be written as a process to get user information of using website including their characteristics, preferences, and needs and try to provide effective and efficient service to the end-users while giving the feel of receiving especial attention(S. Kim & Lee, 2006). The personalization also tries to improve the interaction between users and website (live chat, via email) and try to make it easy and faster to provide and serve the unique set of values

to the end-users. The alternative benefit which can be achieved through personalization is to make the psychographic profile of the end-users (Lee & Lin, 2005)

For example it can help to understand the users' need, the expectation to satisfy and to make service most favorable for the customers to revisit and provoking loyalty. Most of existing literature pool set argued regarding the purpose from the demand and supply perspective. As it can provoke the customer driven market offerings (Yang & Jun 2008). It's also important to mention that personalization has different role in various e-services regarding customer satisfaction. Personalization has enough potential to change customers perception to which a virtual shops provide distinguished services to satisfy particular customers need and preferences (Caruana, 2002; Parasuraman, Zeithaml, & Berry, 1994).

In a marketing perspective, the purposes of applying personalization in innovation based market can be beneficial in the following ways (1) Well serve the customer by expecting necessities triggers positive attitude of individuals and can promote by word of mouth; (2) and to create efficient interaction and try to fulfill the expectation which could satisfy both parties which can increase the height of barriers to enter the market and helps to differentiate the offered product among existing competitors (3) and that satisfaction can strengthen the relationship between the market offers and the end-users to increase the customer lifetime value with the market offers (Ashill& Jobber, 2014; Kotler, 2009).

In other words, the building user one-to-one relationship is to have its reflections on the customers' satisfactions while using website. Most of the researchers found that the personalization is an important feature of the website which facilitates customers to provide the require information and to save their tangible and intangible resources by providing easy and faster modes(Adomavicius&Tuzhilin, 2005; Lu, Ruan, Zhang, & Zimmermann, 2007). On the basis of above discussion, it indicated the vital role of personalization in the case of web services and its influence on customer satisfaction. The customer's unpleasant visit to the website by finding irrelevant and undesired offered values can lead to the negative perception and opinion about web-service. The essence of personalization, however, can reduce the negativity in an opinion by experiencing soft interaction. Some of the researchers also supported that personalization of website has significant influence over customers satisfaction (in use and adaptability of e-service). For instance, researchers expressed that web-service efficient personalization can promote customers satisfaction which can further lead to loyalty and favorable opinion about online service. It's not only limited to goods and services, but also payment transactions and delivery in the services process (during the whole circle of physical and virtual communication) can entertain the personalized essence to fulfill the needs and preferences of consumers (Li, Liu, & Suomi, 2009). A large number of researches and surveys also conducted to know the role of personalization in e-business, e-commerce, e-shopping and adoption of e-service and customers' satisfaction (Li et al., 2009; Lu, 2003).

The previous researchers also concluded that the probability that if the information quality of the website is better than other competitors that users will trigger loyalty among end-users towards offered web-service. In virtual business, the desires to stick with any specific e-service depends on the quality of offered information as well (Ameen, 2014). For instance in online banking services many banks initiated to improve their customer satisfaction by improving website usability and personalization (Casaló, Flavián, &Guinalíu, 2008; RANGRIZ & KARAMI, 2012).

For example, while considering the strategies for cross-selling, up-selling and product bundling the lead generated recommendations usually are based on real-time analytical data which improves the overall service quality perception. Personalization in the case of online shopping usually involves the individualized consideration, personal greetings while communicating from virtual stores, and the availability of communication platform for consumer queries or remarks McCarthy & McCarthy (2005). Arches have explored that the personalization indirectly secure consumer's e-loyalty. However, the mixed opinion is recorded which mentions the indirect association between personalization and users e-loyalty (Lee & Lin, 2005). The customer satisfaction is mostly based on personalization level the technologies can assure customers to create e-loyalty (Lee & Lin, 2005). The current research is employed to find out the influence of personalization on over customer loyalty in e-government service. Specifically, the hypothesis regarding personalization is written below:

H3: The positively perceived level of personalization increases the loyalty of citizens towards offered e-government service in Pakistan (especially in the case of 'Pak-identify service' in Pakistan.

2.4 E- Loyalty

The e-service based website delivery through the internet to make service efficient and effective. The aim of these e-services is to build customers e-loyalty, satisfaction and interaction through the internet (Kassim&Asiah Abdullah, 2010) .Most of the e-services provided by government as well private sectors which aimed to deliver e-services to facilitate customers as like e-taxation, e-banking, e-procurement, e-shopping, e-commerce etc.(Paulos, 2015) In another aspect the e-service is replacement of traditional service to involve technology to interact with customer in delivery of services without the barrier of opening hours and distance. In this context,

the quality of e-services has significant importance in customer satisfaction (e-loyalty) because if the customer finds the service is difficult to use then it can affect customer perception to revisit the website and adaptability of e-services. The e-loyalty is the important feature of e-service adoption the e-loyalty can be explained as "customer's favorable approach towards an online commerce, resulting in repurchasing intentions"(Prybutok, 2012).

Researchers argued that e-service quality has strong impacts on customer satisfaction even on the performance of companies. Enhancing e-service quality is to satisfy and to gain customers retention is becoming a crucial issue (Rao, Goldsby, Griffis, &Iyengar, 2011). According to (Law, Qi, &Buhalis, 2010)discussed that the overall perception and customer loyalty and their revisit intention to service generally evaluated the effectiveness of website

Thereby the customers revisit intention to the same website is based on online customer's satisfaction about the past purchasing experiences(Gounaris, Dimitriadis, &Stathakopoulos, 2010). But e-banking the e-loyalty is the word-of-mouth, future purchase intention, and complaining behaviors are the drivers of customer e-loyalty. Online word-of-mouth refers to the content of the shared information(Toufaily, Ricard, &Perrien, 2013). Future purchase intention has been found to be linked to previous purchase intention (Esch, Langner, Schmitt, &Geus, 2006).

3. CONCEPTUAL FRAMEWORK

The conceptual framework for the current study is shown in figure 1 below, where the website design, navigation and the personalization facility are considered as the independent variables to define the e-loyalty among citizens of Pakistan towards offered e-government service (Pak identity by NADRA).
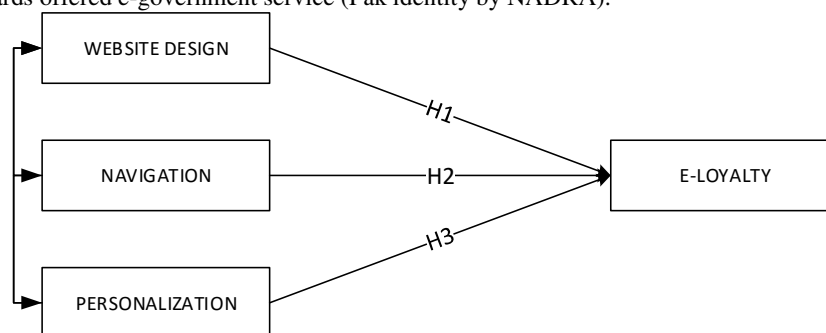

Figure 1: Conceptual model.

4. Research Methodology

To achieve the prime objectives as discussed in the introduction, the authentic and credible methodological approach is required, to discuss the methodological aspects, the current section will discuss the authenticity of instrumental scale, data collection, and analysis method. In the current study, the quantitative questionnaire survey conducted while considering study as interpretive and deductive in nature and per defined set of constructs used to elaborate the scenario.

The Likert scale approach with 5 distinct units from strongly disagrees to strongly agree were adopted as it helps to measure individual's behavior and perceptions (Saunders, Saunders, Lewis, & Thornhill, 2011). The scale is credible and authentic as each of the section's (construct) items is adapted from the existing pool of studies. Specifically, the questions regarding Website design by (Hasan, 2016; Ludin& Cheng, 2014), Navigation by(Hasan, 2016), Personalization by (Srinivasan, Anderson, &Ponnavolu, 2002) and LOYALTY by (Chang, Wang, & Yang, 2009; Kassim&Asiah Abdullah, 2010) is observed in the current study. For the further briefing, the scale has been discussed in Appendix A.

For the purpose of data collection, the random sampling method recorded where the people from the urban area specifically (Islamabad, Lahore, Karachi, Multan, and Peshawar) were used as the sample cases. Initially, 630 individuals approached as a request to involve in the survey voluntarily. However, 383 responses were considered as diplomat sample from the responders.

Generally, regression analysis can be conducted from two approaches, based on the nature of the study, namely it can be single or multiple analysis. If there is single independent variable in the study than the single regression analysis is most appropriated, whenever if independent variables are more than one than multiple regressions analysis is suitable (Hair, Anderson, Tatham, & William, 1998). In the current study the data analyzed by using multi aggression model approach and utilizing SPSS tools as a tool to perform statistical operations. The multi-regression test has been employed to measure the significance, an influence of multi independent variables on the dependent variable and to challenge the hypothesis.

5. Results and Discussions

As the primary descriptive findings from the current study, the observed trends on the basis if demo and socio-graphic are discussed and presented in the table below.

Table 1:Demographic information of respondents

Item	Frequencies	Percentage
Gender		
Male	266	69.46%
Female	117	30.54%
Age		
18-15	58	15.14%
16-25	137	35.77%
26-30	86	22.45%
31-40	46	12.01%
41-45	35	9.13%
46-above	21	5.4%
Education		
Primary-secondary	19	4.96%
Matric- Intermediate	125	32.63%
Graduate –postgraduate	208	54.30%
Ph.D.-above	31	8.093%
City		
Peshawar	69	18.01%
Multan	28	7.31%
Lahore	125	32.63%
Islamabad	161	42.03%
Profession		
Unemployed	102	26.73%
Employee	172	44.90%
Self-employee	87	22.81%
Retired	22	5.82%
Monthly income		
Under-15000	13	3.39%
16000-25000	60	15.67%
26000-40000	233	60.83%
41000-above	77	20.10%
Internet usage		
Daily	193	50.39%
Weekly	117	30.55%
Monthly	61	15.92%
Yearly	12	3.13%
E-service using Experience		
Less than 1	29	7.57%
1-2	273	71.27%
2-5	57	14.88%
5-above	24	6.27%

The current data shows that out of the entire collected data from respondents, the potential users of the e-services are majorly male (69.46%) and less female (30.54%). The Data shows that the majority of research respondents belongs to the age group of 16-25 (35.77%); while (22.45%) of respondents are observed from the age range of 26-30. The subgroup from sample who are highly educated, with the majority of the respondents (54.30%) holding graduate and post graduate degrees awhile only (32.63%) are having matriculation and intermediate qualification. Most of the research respondents belong to the capital of the country (42.03%) provincial capitals i.e. Lahore (32.63%). Overall (44.90%) of the respondents are employees, (26.73%) are unemployed and only (22.81%) of respondents having their own self-businesses. The result indicated that (60.83%) of respondents monthly income is higher than Rupees.25000. The study summarized that (50.39%) of respondents are using the internet on daily bases and (30.20%) of the respondents are using internet weekly.

In response to the frequency of NADRA e-service, the respondents of this study are quite familiar with NADRA e-service environment, as (71.27%) of respondents have e-service experience for more than 1-2 times and (14.=8%) of the respondents have e-service experience of more than 2-5 times. Whereas, only (6.27%) of the respondents are experiencing e-service for more than 5 times.

Statistical analyses adopted in the current study followed three distinct steps. First, the method was

conducted to measure to variance described by using varimax rotation method to extract constructs. In previous studies, most of the researchers adopted 0.5 as starting point of the main loading as Chen et al. (2000) adopted in his studies intensively.

The table below, it is revealed that the high construct validity of intended factors is observable. After all, measurements loaded on all intended factors the result shows a high value above .5; indicating high constructs validity. The internal consistency reliability employed the Cronbach's α value to examine the data. The table 2 below, illustrated Cronbach's α value fluctuated from 0.726-to-0.916 the value indicated the great internal reliability as well. Its concluded that the intended factors construct have high validity and also have strong internal consistency and reliability as the Cronbach's α values are high than 0.70, recommended by (Hair et al., 1998).

Table 2:Factor loadings and reliability measurement of the constructs

Items	Website	Navigation	Personalization	E-Loyalty
Alpha Cronbach (α)	**0.916**	**0.884**	**0.726**	**0.899**
WB1: The color scheme of NDRA website is pleasant.	.873			
WB2: In slow net connection loading speed of a website is good.	.977			
WB3: The available (NADRA) e-service using Description is readable.	.795			
NG1: The website helps to find the required information within one page.		.668		
NG2: The steps to complete a task are clearly defined.		.909		
NG3: E-transition of one page to another inconvenient.		.847		
PNL1: Ability to customize your use of the site.			.891	
PNL2: Degree of personalization that is available.			.891	
LTY1: The e-service experience was better than my Expectation.				.583
LTY2: I will suggest and recommend this website to anyone who seeks my advice.				.994

To statistically measure the relationship and strength among the independent variables, the correlation test was conducted in this study. The values of correlation given in table 3 which shows the strength of relationship among variables the values are ranged between .534 to .658 at the significance level of P <0.01.

Table 3:Correlation matrix

		WB	NG	PNL
WB	**Pearson Correlation**	1	.658**	.571**
	Sig. (2-tailed)		.000	.000
	N	383	383	383
NG	**Pearson Correlation**	.658**	1	.534**
	Sig. (2-tailed)	.000		.000
	N	383	383	383
PNL	**Pearson Correlation**	.571**	.534**	1
	Sig. (2-tailed)	.000	.000	
	N	383	383	383
**. Correlation is significant at the 0.01 level (2-tailed).				

The result revealed that there is the strong relationship between independent (website design, Navigation, Customization) variables. It can be seen the correlation coefficient (r) equals .658** shows the strong relationship between website design and navigation as independent variables as mentioned earlier. The Pearson correlation coefficient r value .571** which is the sign of correlation coefficient is positive. It concludes that there is the strong correlation between navigation and customization variables. The correlation coefficient r value 534** represents that there is a high correlation between web design and customization as well.

The regression test was conducted to measure and to predict e-loyalty (Dependent Variable) based on (predicted variables) website design (IV1), navigation (IV2) and customization (IV3). The regression value was found significant (F (3, 67) =50.823, P< .000) with an R2 of.695. Participant predicted is equal to .729+ .556 Iv1+ .199iv2+.194 iv3 (website design, Navigation, Personalization) [e-loyalty DV measured] by satisfaction of users when [independent variables] is measured in [unit of measure].

Table 4:The result of multiple regression of IVs on DV (Loyalty).

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.834[a]	.695	.681	.97749
a. Predictors: (Constant), WB, NG, PNL				

H1; the statistical data summarized the relation between the website design towards the users e-loyalty was challenged through the collected data sample, the significant positive relation has proved through the coefficient of .695 (p<0.000, n=383). The result illustrates that the website design of Pak identity website has the positive relationship with revisit intention of service users.

Table 5:Significant of IVs on DV (loyalty)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	145.710	3	48.570	50.832	.000[b]
	Residual	64.018	67	.955		
	Total	209.728	70			
a. Dependent Variable: LTY , Predictors: (Constant), WB, NG, PNL						

H2; which was challenging the association between the navigation towards retention behavior of users, was challenged through the collected data sample, which recorded significant positive relation through coefficient values is .729 (p<0.000, n=383). This indicated that the navigation is second influential factor to define the user intention of revisit;

Table 6: Regression analysis and significant of IVs on DV (Loyalty)

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	.729	.398		1.832	.071	-.065	1.524
	WB	.556	.096	.552	5.776	.000	.364	.748
	NG	.199	.086	.214	2.309	.024	.027	.370
	PNL	.194	.091	.182	2.138	.036	.013	.376

a. Dependent Variable: LTY

H3; the recorded statistical data reveals the association between personalization of website toward retention behavior of customers, It is observed to have the positive relation with the recorded value of .556 as the coefficient (p<0.000, n=383). This concludes that the personalization of Pak identity website has significant positive relation with retention behavior of customers. The entire hypotheses are proved statically significant and the (IV123) factors have the strongest influence on (DV) customers' loyalty. As the collective summary of the challenged hypotheses, the table below is shown the results regarding each of the hypotheses in the tabular format. Interestingly each of the proposed independent constructs has the effect on the e-loyalty to adopt or reject e-service in the regional perspective as supported by the existing pool of literature as well as shown in the table below.

Table 7: Summary of hypotheses testing

Hypothesis		Observed β value	Result	Supported Literature
H1	The website design has significant influence over customer's e-loyalty.	0.552	Supported	(Inês Bettencourt Sardinha 2015), (Winnie, 2014) , (Li-Chun Hsua*, et al 2011), (Baraghani, N.S 2008), (Ellinor Hansen and Erika Jonsson 2013), (M.Asim., Y, Hashmi 2005).
H2	The navigation of website has significant influence over e-loyalty.	0.214	Supported	(Verhagen, T 2009),(Cyr, 2008), (Hernández-Ortega et al., 2007), (De Wulf, Schillewaert, Muylle, & Rangarajan, 2006),(Ludin & Cheng, 2014) (Yang, X, Ahmad, Z. et al 2003), (Olson, J.R., & Boyer, K.K. 2005), (Palmer, H.W 2002), (Srinivasan et al., 2002).
H3	The personalization has significant influence over e-loyalty.	0.182	Supported	(Pratminingsih et al 2013), (Swaid & Wigand, 2009) ,(Lee & Lin, 2005), (Adomavicius & Tuzhilin 2005), (Ludin & Cheng, 2014), (Chen et al., (2004), (Srinivasan et al., 2002).

6. Conclusion

The current study was the initiative to understand the citizens' perception regarding the innovation adoption and the possibility to influence citizens to stick with the innovation in the form of loyalty and satisfaction. Specifically, the Pak-Identity e-service targeted as the experimental ground. By the support of statistical tools and techniques (correlation and regression) after evaluating internal and external reliability the current study concluded that the design and the navigation are the strong predictors of e-loyalty among citizens. In other words, the intentions are heavily influenced by the level of experience citizens have with the innovation in the past. Moreover, while interacting with other constructs, the impact or influence of website design over the personalization and the navigation is much more observable in contrast of the constructs. In the context of the regional context, it is also been concluded from the current study that the educated sub-segment are more attracted towards this e-service / innovation as compared to the rest. Although this e-service offering by NADRA is the recent development, but the appreciation and acceptance of the innovation among society in generic perspective is quite low. As the overall performance of NADRA in the form of market offerings in different forms and formats having the mixed opinion from the citizens. As a part of introductory phase of Pak-Identity in Pakistan, the current study is supporting and appreciating the government initiative however the further challenging environment in terms of customer's feedback need to be entertained in the positive manner to increase citizen's retention, pushing the satisfaction to the higher level and maximizing the loyalty by dealing with their suggestions.

6.1 Limitations of the study

The quantitative research in the scattered geographical region usually experiences slow pace of data collection. While listing the issues and challenges the current study experienced are following: (1) This study has faced some limitation because of less available infrastructure in the target society, so due to low internet usage in developing countries it was quite difficult to find the concern respondents and their timely responses. (2) The second limitation of this study can be labeled as the lack of awareness and interest among respondents regarding the issue as most of the times the respondents consider the questionnaire as the legal document and they hesitate to respond with excuses. (3) The third limitation was regarding the limitation of time and financial resources which make study limited to three exogenous variables which are still arguably to evaluate the e-service website and to get enough information regarding customer's e-loyalty.

6.2 Research Implications

In this geographical region, then the e-government and e-readiness ranking of the country is getting low and criticized over the international platforms, the findings from the current study can be the list of future suggestions for the e-government and innovative services for the citizens. The uniqueness and up to date findings of this study can be considered as the valued suggestions for future researchers and academician. The current study investigated that how the website factors (website design, personalization, navigation) play the main role in the overall assessment of e-service loyalty. After the detailed statistical analysis of this study, it can summarize that citizen assessment of website design factors (website design, personalization, navigation) can create bias in the future assessment of consequences service e-loyalty. The results of this study have implications for administrative and governing institutes as well, as it's important for Administrative authorities of NADRA to get information about the feedback and perception of their customers. The evaluation and success of e-service are based on overall satisfaction of customers. If customers have low scored experience or feedback regarding website design, personalization, and navigation. Organization need to make sure that website is well designed and easy to use because If customers observe that an organization's website less responsive, not user friendly and don't take into consideration to provide unique services for each user regarding their needs and preferences then customers are possible to escape organizations' websites, it can summarize that these factors have important role in user e-loyalty. There are several paths of future research.

6.3 Future research

The rapid progress of e-service in both public and private sectors are based on access and adaptability of the internet. The finding of this study is unique in its nature which can be utilized in upcoming studies regarding an evaluation of web-based e-service, measuring determinants of customer's retention (loyalty) within another e-service context. Similarly, the different statistical skills have been used for measuring aspects of e-loyalty are related to existing scales. Future study can develop advance measures techniques for predict and understand the factors affecting e-loyalty. Finally, the comparative importance of evidence exists for possible importance of e-loyalty and web design might be different in other countries e-services. Thus the research could be replicated in web based e-services of different countries.

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