

Analysis of User Interaction on Web Pages in Organizations Located on the Border Between Ecuador and Colombia

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ABSTRACT

Communication through web pages has created a change in the interaction with users. This change in the financial institutions of a region and those located on the border between Ecuador and Colombia, arouses the interest of this study, since it was hypothesized that the best-known institutions in the city of Tulcán do not have significant differences in their web pages. A survey was carried out with clients of the two institutions that have used the website, organizing the survey in four aspects: personalization flow, participation functionality, Prediction feedback and Peer to Peer loyalty. The results using the student's t test show that the two institutions analyzed do not present significant differences in their Web pages.

Keywords: Web pages, Financial institutions, User interaction, Ecuador-colombia border

INTRODUCTION

Humanity throughout history has struggled with infectious outbreaks, as was Ebola, SARS, MERS and, today, COVID-19. The COVID-19 pandemic triggered the global health risk by spreading so quickly and uncontrollably, being new evidence of the spread of the virus from animals to humans (Singh & Mishra, 2021). In this context, the actions taken by governments have impacted to a greater or lesser extent the multiple sectors of the economy, particularly the service sector, because by requiring human interaction, it has been limited, triggering a change of institutional strategy to deal with the interruption of a pandemic and generate resilient strategies (Mishra, 2021).

During the pandemic the number of online shopping increased, due to restrictions, high level of contagion, social care, distancing and staying at home. This generates a change in consumer behavior in online shopping

(Safara, 2020). Understanding consumer behavior is a task of the knowledge-based economy, particularly in online shopping apps where all transactions and consumer opinions are recorded.

The opportunities offered by technologies and the challenges they generate in the market are different in online consumers, since their needs must be identified, the factors that influence their behavior, therefore, choosing appropriate strategies to meet their needs, considering the functionality characteristics of the website and the security in each transaction (Davičienė et al., 2019), is the most important measure for the online customer (Suchacka & Chodak, 2017).

Online consumers are influenced by the stability of the environment, however, in times of crisis changes in their behavior are observed, as consumers respond to the crisis in various ways. Undoubtedly, these changes must be identified by companies. Online searches are the input to forecast future demand by performing statistical analyses on available data from previous periods (Dionysiou, Fouskas & Karamitros, 2021).

The characteristics of consumers change from one country to another. Thus, consumers living in Ecuador, a small developing country located in Latin America, have differences for each region and particularly consumers located on the border with Colombia. These differences aroused the interest of this study since the objective is to analyze the Web pages of two financial institutions in the city of Tulcán (border city with Colombia) and it was hypothesized that the best-known institutions of this city do not have significant differences in their Web pages from the vision of their clients.

RELATED WORKS

The development of Web pages using HTML5, JavaScript and CSS3, as dynamic languages, by analyzing psychological factors, composition, and colors, presented that the most popular color for dynamic web pages was dark royal blue, followed by dark cyan. Thus, dynamic web page designs allow easier reading and are more effective in attracting the attention of users. Through its visual composition, its quality and emotion are exposed (Kuo, Chang & Lai, 2021).

From the study conducted by Jahanian, Keshvari & Rosenholtz (2018), they showed that participants in a single fixation of 120 ms, could categorize a Web page, affecting its use and permanence in it. On the other hand, extracting features relevant to the target immediately will speed up the search, something that is directly related to the design of the Web (Owens, Chaparro & Palmer, 2019).

METHODOLOGY

For this research, a survey was conducted with customers of two cooperatives in the city of Tulcán. For the statistical analysis of the sample, we had 96 valid data, which knew and have used the website of the cooperative of which they are customers. The representation is 50% of both men (48 participants) and women (48 participants). In addition, the age of customers was segmented

Table 1. Age.

Valid	Frequency	Percentage	Valid Percentage	Cumulative Percentage
15 years to 24 years	19	19,8	19,8	19,8
25 years to 34 years	34	35,4	35,4	55,2
35 years to 44 years	25	26	26	81,3
45 years to 55 years	18	18,8	18,8	100
Total	96	100	100	

Table 2. Media.

Valid	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Mobile Device	66	68,8	68,8	68,8
Computer	30	31,3	31,3	100
Total	96	100	100	

into four ranges. 35.4% of customers are in the 25-34 age range, as presented in Table 1.

The means most used by the participants to enter the website of the cooperatives analyzed is the mobile phone and the computer, as presented in Table 2.

RESULTS

The research addressed four aspects of the website to be evaluated by participants before: (1) personalization flow, (2) participation functionality, (3) Prediction feedback, and (4) Peer to Peer loyalty.

- (1) Personalization flow: the ease of access to the website, amount of information presented, organization of the information and its design were addressed.
- (2) Participation functionality: we analyzed whether cooperatives appear when performing a search in the browser, multimedia elements, text exposed on the page and reliability.
- (3) Feedback from Modeled Predictions: the colors used, presentation of the services, clarity of the information to navigate and the correct functioning of links were analyzed.
- (4) Peer to Peer loyalty: it was analyzed if the client would be willing to interact in groups, willing to continue using the website and if he would recommend it to other customers.

When analyzing the statistics of the entire sample, the mean does not present major differences, as presented in Table 3.

Table 3. Descriptive statistics of the entire sample.

Valid	N	Minimal	Maximum	Media	Desv. Deviation
Customization Flow	96	6,00	20,00	16,7917	3,28607
Participation Functionality	96	6,00	20,00	16,8646	3,10049
Feedback from Modeled Predictions	96	10,00	20,00	16,9687	2,68506
Peer to Peer loyalty	96	6,00	20,00	16,4167	3,28527
Valid N (per list)	96				

Table 4. Statistics of each research variable according to the membership group.

Valid	Cooperative	N	Media	Desv. Deviation	Desv. Average error
Customization Flow	Cooperative C1	46	16,9348	3,58021	,52787
	Cooperative C2	50	16,6600	3,02108	,42725
Participation Functionality	Cooperative C1	46	16,9348	3,50493	,51677
	Cooperative C2	50	16,8000	2,71052	,38333
Feedback from Modeled Predictions	Cooperative C1	46	17,0000	2,89828	,42733
	Cooperative C2	50	16,9400	2,50233	,35388
Peer to Peer loyalty	Cooperative C1	46	16,4565	3,20213	,47213
	Cooperative C2	50	16,3800	3,39201	,47970

Table 5. Comparison of variables according to company.

Valid	t	Gl	Sig. (bilateral)	Average Difference	Standard Error Difference	95% Confidence Interval Difference	
						Inferior	Superior
Customization Flow	0,407	94	0,685	0,27478	0,67432	-1,06409	1,61365
Participation Functionality	0,212	94	0,833	0,13478	0,63664	-1,12929	1,39885
Feedback from Modeled Predictions	0,109	94	0,914	0,06	0,55144	-1,03489	1,15489
Peer to Peer loyalty	0,113	94	0,91	0,07652	0,6747	-1,26311	1,41615

Interpretation of the Comparison of Averages Between Cooperatives

In Table 4, there is almost no difference in the means between the scores of the 2 cooperatives.

This equality is confirmed with the student's t-test at the time when the sig value (significance) is greater than 0.05, as shown in Table 5.

CONCLUSION

The results of the research, according to the aspects analyzed in the Web pages of the cooperatives, it can be established that by obtaining a significance greater than 0.05, the means do not present significant differences, ratifying the hypothesis raised. There would be no difference from the vision of the clients in the Web pages analyzed.

The transformation created by the pandemic in the way we interact, turned to virtuality and therefore to the use of technology. This shows that frontier institutions must consider strategies in the design of their Web pages, considering the dynamic elements for their development such as the programming language, colors, functional elements that attract their clients (Kuo, Chang & Lai, 2021).

The results presented are preliminary and cannot be generalized, since the sample is very small. In the future, this study will be expanded considering the needs of customers and what effects it can generate on the services provided by financial institutions at the border.

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