The Effect of the Perceived Information Richness Features of Portal on its Usage Rate and loyalty with the Mediating Role of Satisfaction

El efecto de las características de riqueza de información percibida del portal, en su tasa de uso y lealtad, con el papel mediador de la satisfacción

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ABSTRACT
Objectives: This study aimed to investigate the effect of perceived information richness of the National Iranian South Oil Company portal on its users' usage rate and loyalty with the mediating role of satisfaction.
Design/Methodology/Approach: Applied research was conducted using a causal-correlation survey approach. As a research sample 378 people was selected from 25000 users of by simple random sampling and complete the researcher-made questionnaire with face-validity and reliability ($\alpha = 0.83$).
Results/Discussion: The results showed that satisfaction (mean=3.179), loyalty (mean = 3.467), and different information richness features such as transparency (mean = 3.769), timeliness (mean = 3.78), interactivity (mean = 3.234), quick feedback (mean = 3.231), quality (mean = 3.936) and accessibility (3.662) are above average and relatively favorable.
Conclusions: The results showed that among the features of the portal's richness of information, the quality, interactivity, accessibility, and timeliness affect the usage rate of the portal and their loyalty mediated by satisfaction
Originality/Value: Users' loyalty and use of web portals is one of the factors affecting their viability. Therefore, it is necessary to consider the factors affecting them. In this study, information richness features are considered as effective factors.
KEYWORDS: Web Portal; Information Richness Features; User Satisfaction; Web Portals Usage, User Loyalty.

RESUMEN
Objetivos: Este estudio tuvo como objetivo investigar el efecto de la riqueza de información percibida del portal de la National Iranian South Oil Company en la tasa de uso y lealtad de sus usuarios con el papel mediador de la satisfacción.
Diseño/Metodología/Enfoque: La investigación aplicada se realizó utilizando un enfoque de encuesta de correlación causal. Como muestra de investigación, se seleccionaron 378 personas de 25000 usuarios mediante muestreo aleatorio simple y completaron el cuestionario realizado por el investigador con validez aparente y confiabilidad ($\alpha = 0,83$).

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Resultados/Discusión: *Los resultados mostraron satisfacción (media = 3.179), lealtad (media = 3.467) y diferentes características de riqueza de información como transparencia (media = 3.769), puntualidad (media = 3.78), interactividad (media = 3.234), retroalimentación rápida (media = 3.231), calidad (media = 3.936) y accesibilidad (3.662) están por encima del promedio y son relativamente favorables.*

Conclusión: *Los resultados mostraron que entre las características de la riqueza de información del portal, la calidad, la interactividad, la accesibilidad y la oportunidad afectan la tasa de uso del portal y su lealtad mediada por la satisfacción.*

Originalidad/Valor: *La lealtad de los usuarios y el uso de portales web es uno de los factores que afectan su viabilidad. Por lo tanto, es necesario considerar los factores que los afectan. En este estudio, las características de riqueza de información se consideran factores efectivos.*

PALABRAS CLAVE: *Portal web; Características de riqueza de información; Satisfacción del usuario; Uso de portales web, fidelización de usuarios.*

Introduction and Problem Statement

The emergence of the Internet and the World Wide Web has transformed the various fields of modern human life as one of the manifestations of great change in the present age. This great change has taken place along a path that made the Internet itself a simple communication tool for a global business (Nazari, Khosravi, and Babalhavaeji, 2012), and provided conditions that facilitate and accelerate many organizational activities; and the business world has changed from a traditional environment to a virtual environment with global influence capability and affectability.However, one of the ways of survival and success in this high-competitive, high-speed, and active world is to present yourself more effectively and actively, as well as extensive and dynamic participation, which is partly achieved by employing web capabilities, such as, web sites, web portals, blogs, personal and organizational websites. The portal as an organizational information gateway is a framework for integrating information, people, and processes through organizational boundaries. The portal generates a single-entry point, often designed as a web-based user interface for collecting information through specific applications called Portlet (Boye, 2005); and aggregation of information, information targeting, the availability of information and exclusive gateway (Shivakumar, 2015) are among the features. Enterprise information portals have been widely accepted as a platform for integrating knowledge management and information technology (Chang & Wang, 2011). In addition to acquisition functions, in particular, participation in knowledge management, portals collect many of their user profiles such as e-mail, chat rooms, personalized news, and search engines, etc. Many of them are applied in the exchange of information and knowledge with the aim of re-producing better knowledge, search capabilities, and support for knowledge users in the field of their activities. Portals also provide tools for extracting, analyzing, categorizing structured information, and determining the relationship between content, people, topics, and activities of the user in an organization (Wagner, Cheung, Lee, and Ip, 2003).

Hence, many organizations around the world have registered themselves in this virtual space using Web addresses, and are trying to provide rich information to users (Afyuni, 2007). Providing rich information through web capabilities has become an essential part of a successful service business that can have positive implications such as satisfaction and loyalty of the users. In other words, providing quality information on business websites is a factor for achieving high satisfaction. According to Wright, Schwager, and Donthu (2008), people not only understand and receive rich information but also interpret it. Bahmani, Farhadpoor, and Hamidi (2017) also consider the richness of information to be a quality of information, indicating its communication characteristics to the audience. In general, it can be said that the understanding of the presence of the mind from a source of the message will make its implications more prominent in mind, and increases judgment and affect tendencies (Skalski and Tamborini, 2005); and media that are more transparent, are able to attract more senses, and are considered to be rich in information.

According to Khadka and Maharjan (2017), organizations should ensure that they provide full services for customers and the equivalent value of their money, this issue increases the number of customers, the longevity of their relationship with the organization and is followed by attracting new customers with information sharing.The results of some studies in the web domain indicate that websites that cannot provide the appropriate information to users, have various problems associated with usability (Chang, Cheung, and Lai, 2005; Tractinsky, Cokhavi, Kirschenbaum, and Sharfi, 2006, Zviran, Glezer and Avni, 2006 and Zou, Zhang and Zhao, 2007). According to Jung (2015), the quality of information is not only the use of product capabilities, but also affects the loyalty of users that are formed in a brand in a four-step process, including cognitive loyalty, affective loyalty, conative loyalty, and action loyalty (Oliver, 1999 quotes: Pratminingsih, Lipuringtyas and Rimenta, 2013). Similarly, the results of studies show that while information, inaccuracy, and transparency is one of the factors that negatively affect customer behavior (Singh, 2017); media information richness with features such as multiple points, feedback, personalization, language diversity, affects customer loyalty (Tseng, Cheng, Li and Teng, 2017).

Users' loyalty in addition to the feature of information, may also affect their satisfaction. Meanwhile, satisfaction, in turn, is influenced by the information richness, and media richness (Pinsonneault, Li and Tomiuk, 2010; Shiau and Yeh, 2012). Moreover, the relationship of satisfaction and loyalty is two-way that changes over the life cycle of the customer (Kumar, Dalla-Pozza and Ganesh, 2013); and age and gender have a significant effect on this relationship (Martin Goncalves and Sampaio, 2012). Also, in some studies, the causal relationship and one-way analysis and the results show that satisfaction is prior to loyalty and has a positive and significant effect on it (Mohsan, Nawaz, Khan, Shaukat and Aslam, 2011 and Iqbal and Shah, 2016).

Considering that with the ever more frequent presence of individuals and organizations on the Web and the heterogeneous and vague distribution of quality information and false information in

this environment, it is necessary that structures affecting the satisfaction and loyalty of individuals from websites, databases Internet and web portals be considered. Because in the case of neglecting this issue, the referral and use of individuals from the website or portal are likely to be less, and this can create challenges for organizations. Among the specialized organizational portals in Iran, is theNational Iranian South Oil Company (NISOC) portal, which, in addition to the vital economic role of the organization, is the gateway to the entry and use of subset websites and more than 25,000 users from the company subsidiaries use it.Therefore, the basic question of the research is whether the perceived information richness of the portal mediated by satisfaction influence the usage rate and the loyalty of its users? In this regard, the following questions and hypotheses were raised:

1) What is the status of the portal of the NISOC for the characteristics of the richness of information?
2) What is the satisfaction of the users of the portal of the NISOC?
3) How is the loyalty of users to the portal of the NISOC?
4) The NISOC portal information richness features mediated by satisfaction have an effect on the users' usage rate.
5) The features of the NISOC portal information richness mediated by the satisfaction have an effect on the users' loyalty.

Literature review

The extent of the application of various web tools, the speed of changes in this area, the realm of its influence which is increasingly being continued, and the novelty of scientific research has led to the researchers pay attention to various dimensions of the subject matter in previous studies. In this case, it is natural that part of previous studies may have thematic similarities with the present research. In the domestic studies, Manian and Fatimi Shariat-Panah (2006), have emphasized that portals are important and effective in maintaining and developing organizational knowledge. Moreover, gaining competitive advantage through the use of portals requires the observance of prerequisites and how they are employed. In another study, the findings of a study conducted by Rangriz and Karimi (2012) showed that the ability to use the website has a direct and positive effect on satisfaction, loyalty, and word of mouth advertising of the customers of the bank. The results of a study conducted by Daghagheleh, Bigdeli and Azimi (2014) also showed that the portals of the Ministry of Oil 's subsidiaries, in terms of their ability to use, functionality, and reliability and efficiency, are in the moderate to high level, the moderate level, and the optimal level, respectively. The results of a study conducted by Tehrani and Jamshidi (2015) showed that the quality of the system and the quality of website interface design significantly influenced the satisfaction and trust of its customers.

In the field of foreign studies, the results of a study conducted by Daft and Lengel (1983) as a leading study showed that the better performance of managerial tasks and organizational success depend on the balance of information used in the organization. In this regard, the results of a study conducted by Simon and Peppas (2004)

"Moreover, gaining competitive advantage through the use of portals requires the observance of prerequisites and how they are employed."

also showed that internet users have a positive attitude and greater satisfaction of websites that have rich information. The findings of a study conducted by Xiao and Dasgupta (2005) regarding the effect of behavioral factors such as experience of previous use, the type of portal used and gender on the satisfaction of the portals and the effect of customer satisfaction on the use of the portal also showed that people use portals more if have more satisfaction with them. Moreover, age and gender have no positive effect on satisfaction with the web. Also, the results of a study conducted by Ziviran (2006) showed that the design and use of websites has a positive and significant effect on the satisfaction of users. The results of a study conducted by Rau, Gao, and Liu (2007) were also revealed that the users use simple web portals for quick search and production of the used minor errors, and had more satisfaction compared with those who use rich web portals. According to Pinsonnault et al. (2010), the information richness and the medium richness of the web affects customers' learning about products and their satisfaction. Bringula and Basa (2011) also found that information content as one of the criteria related to portal design has a significant predictive effect on the use of the portal. Another study also found that information literacy had a significant effect on the perception of the web portal of libraries on the dimensions of ease of use, quality of information, system quality and satisfaction of users (Chen, 2011). The results of a study conducted by Topko (2012) in investigating the influence of media richness theory on the perception and behavior of individuals have shown that media richness theory plays an important role in the mechanical interaction between individuals, especially in terms of richness and accuracy of the content. findings of a study conducted by Shiau and Yeh, (2012) also showed that the richness of the web information has a positive and significant effect on perceived usefulness and enjoyment. The results of a study conducted by Patrakosol and Lee (2013) showed that providing rich information is key to the success of business services websites. In addition, elderly people understood information with less richness and clever and curious people with greater richness. According to Al-Manasra, Khair, Zaid and Taher-Qutaishat (2013), usability and interactive services have a direct and significant effect on user satisfaction. The results of a study conducted by Lazard et al. (2015) show that the portal's aesthetic criteria explained behavioral intention, usefulness, and ease of use perceived by users.

Methodology

The research is applied in terms of its purpose and considering the effect of the independent variable on the mediating and dependent variables, was conducted a causal correlation study with survey method. The statistical population of this study was all users (over 25,000 people) of the NISOC portal. Using Cochran formula at the error level less than 0.05, 378 people were selected as samples. Regarding the aim of the study, i.e., investigating the effect of perceived information richness characteristics of the NISOC portal on user loyalty with the mediating role of satisfaction, a researcher-made questionnaire based on the studies conducted by Baharzadeh and

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Farhadpoor (2018) and Fatemian and Farhadpoor (1397) for data collection was used. Then, the questionnaire's face validity was measured and confirmed by 10 experts in Knowledge and Information Science. To measure the reliability, the questionnaire was firstly distributed among the small group of the population (40 people) and confirmed by Cronbach's alpha in a coefficient of 0.83.After this stage, the researcher started to distribute and collect the questionnaire among the users for about one month. Out of 378 distributed questionnaires, 361 questionnaires were returned (return rate = 96%). Then, the statements of the questionnaire were first encoded in the Excel file and then entered into the SPSS version 21, and Smart PC 3rd. In addition, correlation coefficient, structural equation modeling (SEM), the least-squares, regression and bootstrap method were used to test questions and hypotheses.

Results

First, one-variable statistical analysis was used to determine the distribution of data normalization (Table 1).

Table 1. Summary of one-variable statistical analysis for continuous variables.

Variables	Mean	SD*	Skewness coefficient	Kurtosis coefficient	Result
Transparency	3.769	0.699	-0.191	-0.256	Normal
Timeliness	3.789	0.737	-0.275	-0389	Normal
Interactivity	3.234	1.122	-0.080	-0.991	Normal
Quick feedback	3.221	1.144	-0.066	-0.916	Normal
Quality	3.936	0.685	-0.477	0.320	Normal
Portal accessibility	3.662	0.742	-0.168	-0.372	Normal
Users' satisfaction	3.719	0.761	-0.713	0.624	Normal
Users' loyalty	3.467	0.825	-0.343	-0.355	Normal
Usage rate	3.548	0.808	-0.520	0.287	Normal

* SD = Standard deviation.

According to the results of Table 1, the lower the degree of skewness and kurtosis and the desire to zero, which is in the range (2 to 2+) in all cases, shows the normal distribution of the data. Therefore, parametric tests will be used for calculations. Then, to answer the research questions, and to determine the status of the characteristics of various research variables, including portal information richness characteristics, user satisfaction, and their loyalty, a one-sample t-test was used (Tables 2 and 3).

According to the results of Table 2, the mean of all components of the information richness of the NISOC's portal from the users' point of view is higher than the average. However, the quality feature with a mean of 936.3 had the highest value and quick feedback with a mean of 3.21, had the lowest value. Also, the average user satisfaction (3.179), user loyalty (3.467) and usage rate (3.548) were higher than average.

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**Table 2. Single-sample T-test statistics to examine the status
of the portal in terms of information richness characteristics.**

Factor	Number	Mean	SD*	SEM**
Transparency	361	3.769	0.699	0.037
Timeliness	361	3.789	0.737	0.039
Interactivity	361	3.234	1.122	0.059
Quick feedback	361	3.221	1.144	0.060
quality	361	3.936	0.685	0.036
Portal accessibility	361	3.662	0.742	0.039
Users' satisfaction	361	3.719	0.761	0.040
Users' loyalty	361	3.467	0.825	0.043
Usage rate	361	3.548	0.807	0.042

* SD = Standard deviation; ** SEM = Standard error of the mean.

**Table 3. Single-sample t-test to test the status of information portal richness features.**

Information richness features	Mean test=3					
	T-value	Degree of freedom	Significant level	Mean difference	The confidence interval of 95 hundredths for the mean difference	
					Lower limit	High limit
Transparency	20.877	360	0.0001	0.769	0.696	0.841
Timeliness	20.333	360	0.0001	0.789	0.712	0.865
Interactivity	3.965	360	0.0001	0.234	0.118	0.350
Quick feedback	3.666	360	0.0001	0.221	0.102	0.339
Quality	25.97	360	0.0001	0.936	0.865	1.007
Portal accessibility	16.95	360	0.0001	0.662	0.585	0.739
Users' satisfaction	17.968	360	0.0001	0.719	0.641	0.798
Users' loyalty	10.764	360	0.0001	0.467	0.382	0.553
Usage rate	12.898	360	0.0001	0.548	0.465	0.632

To test the study questions, single-variable t-test was used (Table 3) and the value to theoretical mean was 3 (equal to the mean value). Based on the findings shown in Table 3, we find that the t-value obtained for the status of the NISOC's portal in terms of the transparency (20.877), timeliness (20.333) interactivity (3.965), quick feedback (3.666), quality(25.97) and accessibility (16.95), satisfaction (17.968), loyalty (10.764) and usage rate(12.898) is larger than the theoretical mean and the resulting significant levels (P-value <0.0001) are less than 0.05. Therefore, with a confidence of 0.95, it can be claimed that the status of the NISOC's portal has been above average and relatively favorable in terms of information richness, satisfaction, and loyalty.

After determining the measurement models, in order to evaluate the conceptual model of the research, as well as to ensure the existence or absence of a causal relationship between the research variables and the study of the appropriateness of the observed data with the conceptual model, the research hypotheses were used using

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the structural equation model of the test. The tested model of the research shown in Figures 1 and 2. In this figure, the coefficients of the effect of independent and dependent variables are determined, as

Figure 1. Measuring the general model and the results of the hypotheses in the standard state.
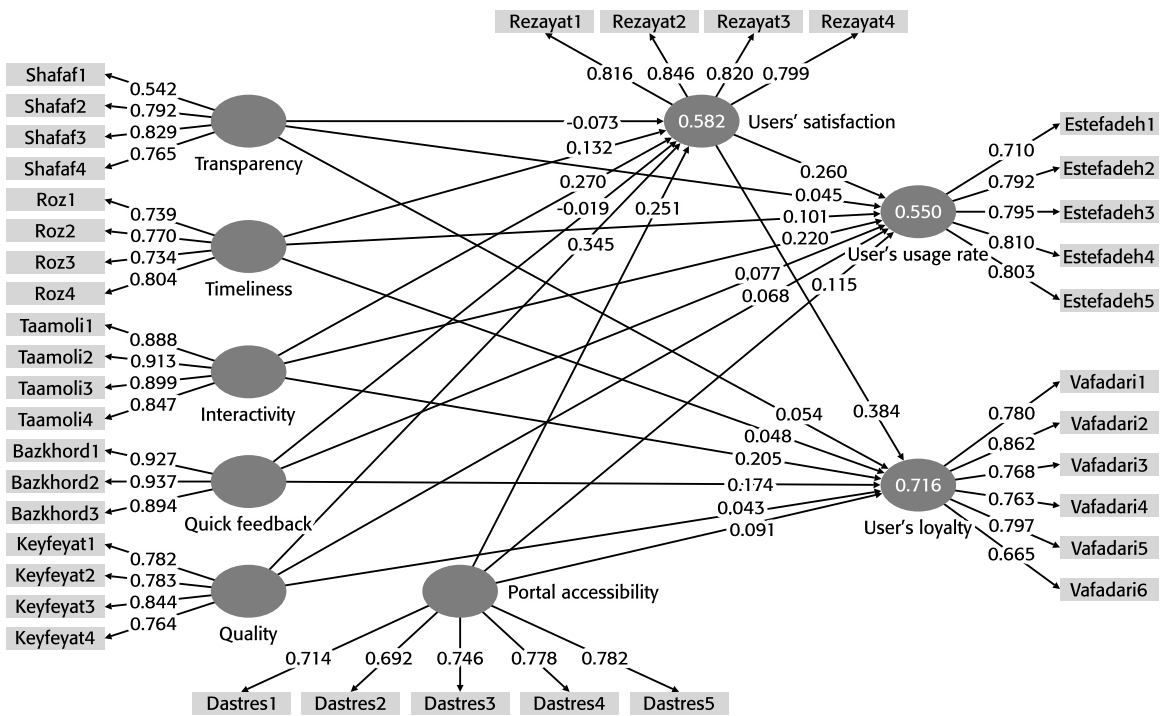
Figure 2. Measuring the general model and the results of the hypotheses in a significant state.

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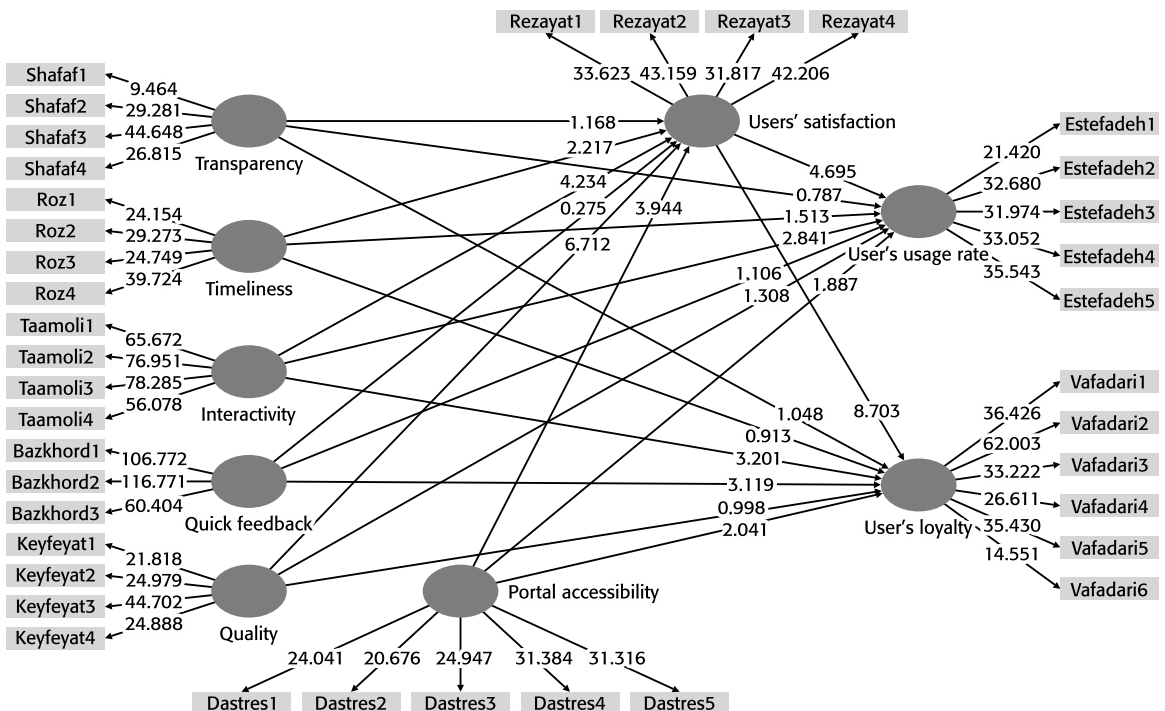
well as the number in the circle, the variance explained by the variables of satisfaction of users, user loyalty and the extent of the effect of the portal use, which is equal to 58.2, 71.6 and 0.550, respectively. Accordingly, the explained variance of the variable of users' satisfaction by portal features in terms of timeliness, transparency, interactivity, quick feedback, qualityand portal accessibility, user usage, and user loyalty are 58.2, 55, and 71.6, respectively.

To assess the quality or validity of the model, the CV-Communality and CV-Redundancy index were used. The positive values of this index are indicative of the proper and acceptable quality of the measurement and structural model.

Table 4. CV-Redundancy index measurement.

Values	CV-Communality	CV-Redundancy
Transparency	0.278	—
Quick feedback	0.603	—
Quality	0.379	—
Interactivity	0.593	—
Portal accessibility	0.333	—
Timeliness	0.310	—
Users' satisfaction	0.437	0.364
Usage rate	0.411	0.309
Users' loyalty	0.43	0.400

Then, using the *Smart PLS* software, the correlation of the variables was tested and the path analysis method was used to investigate the effects between independent and dependent variables and to confirm the whole model (Table 5).

Findings of table 5 briefly show that the characteristics of quick feedback, interactivity, and accessibility of the portal have a direct and significant effect on the users' loyalty to the portal (P-value$\geq$ 0.05), while the features of transparency, timeliness, and quality does not have a significant effect in user loyalty (P$\leq$0. 05). The interactivity has a direct and significant effect on users 'usage rate of the portal (P-value$\geq$ 05.05) while other features (transparency, timeliness, quick feedback, portal accessibility, and quality) do not have a significant effect on users' user (P-value$\geq$ 05.05). The interactivity has a direct and significant effect on users' usage rate of the portal (P-value$\geq$ 05.05) while other features (transparency, timeliness, quick feedback, portal accessibility, and quality) do not have a significant effect on users' usage rate (P-value$\geq$ 05.05). The quality, interactivity and accessibility features of the portal and timeliness have a direct and significant effect on the users' satisfaction with the portal (P-value$\geq$ 05.05). It is important to note that users' satisfaction with the portal directly and significantly affects users' loyalty (P$\geq$0.0001) as well as users' use of the portal (P$\geq$0.0001). Tables 6 and 7 show the indirect relationships via the Bootstrap method).

The first hypothesis: The features of the NISOC portal information richness mediated by satisfaction have an effect on its usage rate by users.

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Table 5. Investigation of the significance of the effect coefficients estimated in the research model.

Studied effects	Estimated effect coefficient	T - Value	Significance level	Tested result
Quick Feedback-> users' usage rate	0.077	1.106	0.269	Rejected
Quick feedback-> users' satisfaction	-0.019	0.275	0.783	Rejected
Quick Feedback-> users' loyalty	0.174	3.119	0.002	Confirmed
Quality-> users' usage rate	0.068	1.308	0.191	Rejected
Quality-> users ' satisfaction	0.345	6.712	0.0001	Confirmed
Quality ->users' loyalty	0.043	0.998	0.319	Rejected
Interactivity-> users' usage rate	0.220	2.841	0.005	Confirmed
Interactivity-> users' satisfaction	0.270	4.234	0.0001	Confirmed
Interactivity-> Loyalty Users	0.205	3.201	0.001	Confirmed
Accessibility ->users' usage rate	0.115	1.887	0.060	Rejected
Accessibility ->users' ssatisfaction	0.251	3.944	0.0001	Confirmed
Accessibility ->users' loyalty	0.091	2.041	0.04	Confirmed
Users' Satisfaction ->users' usagerate	0.260	4.695	0.0001	Confirmed
Users'satisfaction ->users' lloyalty	0.384	8.703	0.0001	Confirmed
Ttimeliness ->users' usagerate	0.101	1.513	0.131	Rejected
Ttimeliness ->users' satisfaction	0.132	2.217	0.027	Confirmed
Ttimeliness->users' loyalty	0.048	0.913	0.362	Rejected
Transparency ->users' usage rate	0.045	0.787	0.432	Rejected
Transparency ->users' usage rate	-0.073	1.168	0.243	Rejected
Transparency ->users' loyalty	0.054	1.048	0.295	Rejected

Table 6. Results of the bootstrap method of indirect relations in the whole sample for the first hypothesis of the study.

Index / Pax	Variable t-value	Lower limit	High limit	Significance level p-value	Results
The feature of the transparency of the NISOC portal mediated by the satisfaction has an effect on the users' usage rate.	1.110	-0.056	0.015	0.267	Rejected
The feature of the interactivity of the NISOC portal mediated by the satisfaction has an effect on the users' usage rate.	3.117	0.032	0.118	0.002	Confirmed
The feature of the quick feedback of the NISOC portal mediated by the satisfaction has an effect in the users' usage rate.	0.264	-0.048	0.029	0.792	Rejected
The feature of the timeliness of the NISOC portal mediated by the satisfaction has an effect on the users' usage rate.	1.927	0.004	0.072	0.05	Confirmed
The feature of the NISOC portal accessibility mediated by the satisfaction has an effect on the users' usage rate.	2.848	0.026	0.114	0.005	Confirmed
The feature of the quality of the NISOC portal mediated by the satisfaction has an effect on the users' usage rate.	3.727	0.044	0.137	0.0001	Confirmed

According to the contents of Table 6, it can be said that among the characteristics of the NISOC portal information richness, four characteristics are quality, interactivity, portal accessibility, and timeliness mediated by satisfaction has an effect on users' usage rate. Because the estimated t value of the significance level of less than 0.05 is significant and higher than 1.96; also considering that the confidence interval with respect to the low and high limits

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mentioned do not contain zero, so the indirect effect is significant. But for the two properties of transparency and quick feedback, this effect is not significant, since the estimated t-value at the significance level less than 0.05 was not significant and is less than 1.96; also considering the confidence interval with respect to the lower and high limits mentioned contain zero, so the indirect effect is not significant.

The second hypothesis: The features of the NISOC portal information richness mediated by satisfaction have an effect on users' loyalty.

According to the Table 7, it can be said that among the features of the information richness of the NISOC portal information, the four features of the quality, interactivity, portal accessibility, and timeliness mediated by satisfaction has an effect on the users' loyalty. Because the estimated t-value at the significance level of less than 0.05 is significant and higher than 1.96; also considering that the confidence interval with respect to the low and high limits mentioned do not contain zero, so the indirect effect is significant. But for the two properties of transparency and quick feedback, this effect is not significant, since the estimated t-value at the significance level less than 0.05 was not significant and is less than 1.96; so, the indirect effect is not significant.

Conclusion

Portals, as web gateways to provide users with unified and integrated access to a targeted set of information, have been the focus of various organizations' attention in recent years. This has led to its ever-increasing use due to the geographical distribution of the organization's work units, the multiplicity of information systems, the complexities of communicating with several different systems, and

Table 7. Results of the Bootstrap method of indirect relationships in the whole sample for the second research hypothesis.

Index / Pax	Value t-value	Lower limit	High limit	P-value	Results
The feature of the transparency of the NISOC portal mediated by the satisfaction has an effect onthe users' loyalty.	1.161	-0.078	0.022	0.246	Rejected
The feature of the interactivity of the NISOC portal mediated by the satisfaction has an effect onthe users' loyalty.	3.718	0.058	0.167	0.0001	Confirmed
The feature of the quick feedback of the NISOC portal mediated by the satisfaction has an effect on the users' loyalty.	0.270	-0.067	0.041	0.787	Rejected
The feature of the timeliness of the NISOC portalmediated by the satisfaction has an effect on the users' loyalty.	2.162	0.007	0.095	0.031	Confirmed
The feature of the accessibility of the NISOC portal mediated by the satisfaction has an effect on the users' loyalty.	3.583	0.049	0.149	0.0001	Confirmed
The feature of the quality of the NISOC portal mediated by the satisfaction has an effect on the users' loyalty.	4.956	0.081	0.184	0.0001	Confirmed

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sometimes the heterogeneity and, of course, the need to pay attention to synchronicity/non-synchronicity and collocation/non-collocation of the users. In this regard, the NISOC, with its extensive subsidiary and multiplicity of users and subsystems, has launched a portal in recent years that has been the subject of this study. In this study, transparency, interactivity, quick feedback, timeliness, accessibility and quality as features of portal information richness were investigated as effective factors of portal usage rate, user loyalty mediated by their satisfaction. The results showed that the studied portal is at the moderate and relatively desirable in terms of these properties. This may be due to proper design, good technical features, timely support and information orientation of portal managers and policymakers in providing quality information and providing good access. Based on the findings, the users' satisfaction, loyalty and usage rate of the portal were also moderate and relatively favorable. These conditions may be due to the portal's ability to meet users' expectations, which, in addition to user satisfaction, are used at a relatively desirable level by them and that users are loyal to it. Since investing in the customer lifecycle and retaining them along with trying to attract new customers over the years has been defined in the perspective of many organizations, the findings of this study can be considered as a success for the studied portal. In addition, the existence of various information channels, such as other web tools and traditional information media, has created a situation in which users, if dissatisfied or unable to achieve the quality expected of the portal, may quickly change their behavior. Therefore, managers and policymakers need to continuously monitor portal conditions and develop capabilities to enhance their information richness features.

The results of the research hypotheses showed that the effect of features of timeliness on satisfaction; feedback on loyalty; quality on satisfaction; interactivity on satisfaction; usage rate and loyalty; accessibility on satisfaction and loyalty, satisfaction on usage rate and loyalty is positive and significant. In addition, the indirect effect of interactivity, timeliness, accessibility and quality features on user usage rate and loyalty mediated by satisfaction was also confirmed. Given that no similar study has been conducted so far, the findings are consistent with some findings from previous studies such as Rangriz and Karimi (2012), Tehrani and Jamshidi (2015), Simon & Peppas (2004), Xiao and Dasgopta (2005). , Ziviran et al. (2006), Pinconal et al. (2010), Bringola and Bassa (2011), Topco (2012), and al-Manassera et al. (2013), and are in contrast to the findings of Rao et al. (2007). Therefore, based on the findings, it is suggested that managers and designers of portals, while providing portal services with content richness and structural features, pay attention to the dimensions of information richness features, in addition to satisfying users as a positive consequence, also increase users' usage rate and loyalty.

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Razo-nes

para un

Razones para un encuentro
es un espacio de la **Sala de Referen-cias y Novedades "Leonor Pérez Cabrera"** de la **Biblioteca Nacional de Cuba José Martí.**

Con una frecuencia bimensual, el segundo jueves del mes correspondiente, su objetivo es promover el intercambio sobre diversos temas entre el público asistente y los intelec-tuales, escritores y otros artistas invitados.

Al espacio *Razones para un encuentro* pueden asistir todas las personas interesadas en los temas que se presenten.

en-cuen--tro