

Measurement of News Websites Quality: An Empirical Study

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Abstract

Based on a three dimensional model of internal, external, and contextual factors, this paper strives to develop a reliable, valid, and flexible instrument for measuring news websites quality (NewsQual) from the perspectives of the users. In this respect, A survey on the Internet was applied (N=132). The instrument was validated, after which the hypotheses were tested by way of a structural equation model (SEM) via PLS-Graph Version 3.00. The findings revealed that content; usability; website organization; and familiarity are the most influential factors in perceived quality of a news site, whereas website design, trust, reputation, and experience does not significantly influence in perceived quality. The results of study provide a valuable insight on the direct impact of quality factors that may enhance users' attitudes toward news websites. In addition, it could be a springboard for reliable applications across a broad range of online media.

Keywords

News websites; Website quality; News criteria; Structural equation model; PLS path modeling.

I. INTRODUCTION

In the context of changing media landscape through Information communication technologies (ICTs), issue of quality have recently become the focus of considerable interest and attention, and held an important position not only as the crucial factor of success in society digital, and one of the major elements for enhance and survival many of media firms under the competitive media landscape, but also as a critical metric to attract and retain readers. These growing technologies have provided new avenues for the emergence of different digital media outlets. Since the late 1990s, news sites have become one of these outlets, which are rapidly becoming the preferred media choice —especially in light of increasing the offer and demand of its services by online users (Ali & Hassoun, 2010), to satisfy their thirst for news and to keep abreast of current events.

Newly released figures indicate that, more people now consume their news from online media outlets. According the Pew Project for Excellence in Journalism (PEJ), the Internet as of 2010 has become the main source of news that outstripped traditional media . Despite the continued interest toward online news and the rapid growth in the number of news websites (with similar content), these sites will not have the same degree of quality. This implies that there are news websites either with high quality or with low quality, as well as sites that are outright misleading (Fogg, 2001). As a consequence, these websites lacks comprehensive methodologies for its assessment and improvement, and hence re- emphasised the importance and the need for a valid instrument to measure these websites quality.

Indeed, quality attributes plays more significant roles not only in a website success but also in shaping user responses to this website. Besides, attributes of website's determines the user evaluation of that Website, and his decision as whether to continue viewing that web site or move to another one (Robins and Holmes, 2008). In this respect, we must recognize that quality has become a qualitative attribute and/or the most-frequently utilized measures to assess websites, and therefore measure of its effectiveness. Currently, although numerous researchers have made theoretical and empirical contribution to the study of quality in various fields (e.g., e-commerce, banking, healthcare, education, government, etc) there has been limited attention on news sites. In other words, there is still insufficient research on news websites quality. Thus, we believe deeper new studies are needed not only to re-conceptualize quality, but also to measure what makes these sites effective. In the light of this, the objective of this research is to develop a valid, reliable, and flexible instrument to assess the quality of news websites based on user's perceptions.

The rest of the paper is organized as follows. Section 2 outlines the background information and a literature review on the quality of news sites. Section 3 is the main part of this study. It will specifically represent conceptual model and hypotheses of research. Section 4 deals with the methodology. Analysis and results are discussed in Section Fifth. Finally, the paper concludes with some conclusions and future research directions.

II. REVIEW OF THE LITERATURE

2.1 Defining Quality

At first, quality has been defined in many different contexts, taking into account that each definition contributes to better understanding of that concept. Some of the definitions are discussed here. In this respect, Garvin (1984) identified five various approaches to explaining the concept of quality : (1) the transcendent approach, (2) the product approach (3) the user approach, (4) the manufacturing based-approaches, and (5) and value based-approaches.

The first approach focuses on the metaphysical side of quality, such as beauty and love concepts , implying that this concept go beyond measurement "subjective", and therefore, this approach can only be understood through one's experience. According to Garvin,(1984) transcendent quality is "*innate excellence*" (p. 25). In product based-approach, quality is examined from objective perspective through a set of measurable attributes. The user-based approach focuses on the customer satisfaction and preference, which makes this approach individual and partly subjective. In this approach, products that satisfy consumer requirements are of highest quality. Furthermore, personal variables (e.g., age, sex, ect,) and situational or contextual factors (e.g., purpose of visit the site, and level of familiarity) are the most influential factors in perceived quality from the perspectives of the users. This implies that the concept of quality vary from user to user. The manufacturing based-approaches give attention to requirements and specifications of product. In the value-based-approaches, quality is defined in terms of costs. Consistent with this perspective, Largosen et al, (2004) point out that quality is seen as providing good value for costs.

In general, these approaches were most commonly used by quality researchers. Also, each of the four approaches represent major importance for any media firm because each of them explains different aspects of quality; although independently developed from each other, they are interrelated. However, these approaches can serve as input for identifying perceived quality of news websites (Figure 1).

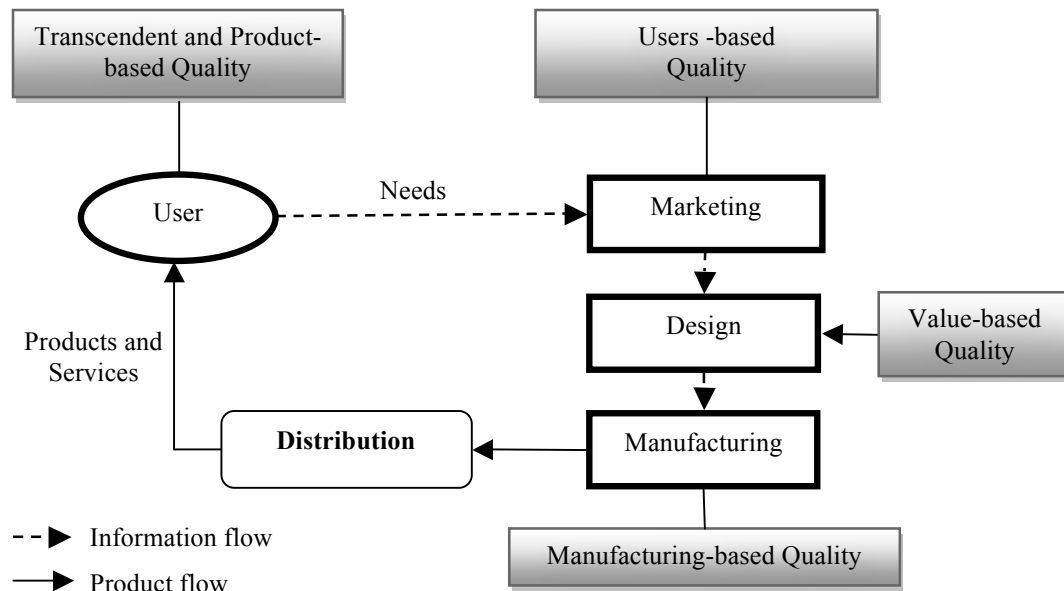


Figure 1: Perceived quality of the news websites (Source: Veyisoğlu 2010)

Consistent with these approaches, quality has been defined in many different ways, implying that researchers have not come up yet with a universal concept definition. However, a distinction can be made between two type of quality (objective and perceived quality). The objective quality refers to “*the actual technical excellence of the product that can be verified and measured*” (Monroe & Krishman 1985). While perceived quality explains product quality from the viewpoint of the consumer. In fact, perceived quality is related to product attributes which provide the greatest satisfaction to a specified user (Garvin, 1984). According to ISO 8402 (1994), perceived quality is “*the totality of characteristics of an entity that bear on its ability to satisfy stated and implied needs*”. Similar to definitions above, Northen (2000) defines perceived quality as “*a subjective assessment dependent on perceptions, needs and goals of individuals*” (Northen 2000, p.230). In addition, quality in the context of media is related to readership (Meyer and Kim, 2004), which often interpreted to "public interest" that reflects users' needs and their satisfaction (Johnson, 2004). Although various definitions of the concept of perceived quality exist, all of these definitions are paying more attention to the characteristics of a product, which reflect user needs.

Finally, quality In the field of media can be approached from three different aspects: (1) perceptions of professionals or "programmers"(Bogart, 2004; Liburne et al., 2004), where maintainability, security, etc, considered as the main aspects of website quality (Zihou ,2009); (2) perceptions of consumers or "End-users"(Bogart, 1989; Liburne et al., 2004) which paying more attentions to usability, efficiency, creditability (Zihou,2009); (3) and quality measurement in terms of news content (Litman & Bridges, 1986) which held an important

position in the context of media evaluation not only as a critical metric to attract and retain readers, but also as a critical metric to distinguish between two models of media "inform" and "entertain" (Zaller, 1999).

2.2 Websites Quality Models

To date, there is no consensus on the dimensions of website quality. In this respect, Aladwani and Palvia (2002) consider quality to be a complex thing and its measurement multidimensional in nature. Previous research has yielded a number of scales/models that outline diverse dimensions of website quality such as content, usability, design, accessibility, and personalization. Table 1 provides a brief overview of these scales according to their chronological order. The few studies related to news websites are cited below.

Barnes and Vidgen (2001) develop a scale called WebQual/m for evaluating the quality of wireless Internet news sites from the perspective of the user. They were chosen BBC, Guardian, and Excite (Reuters), because these three sites considered the first movers into WAP news services. They identify three dimensions: (1) information quality, this dimension refers to the quality of content offered by the web site, that includes subcategories such as accuracy and currency, as well as softer; (2) site quality, this dimension refers to aspects of the design "navigation, and appearance", that allows user to easily interact with the website and easily finding the right information; and (3) user quality, this dimension refers to the quality of service received by users on the site that includes elements of mobility and empathy.

Based upon discussion and the models above, it is evident that most of these models had focused on different e-commerce domains. Furthermore, we noted that these scales emphasized some dimensions of quality which differ by type of website, while neglected certain other dimensions, implying that these scales are not able to sufficiently provide a comprehensive evaluation of the website quality. Therefore, the need for comprehensive research on this topic was evident. In this study, we posit that quality is more than just the sum of certain elements such as design, and accessibility already identified by related research; it is the entire website as a whole. Thus, we will retain a definition that highlights a holistic view and/or the multidimensional nature of quality. Therefore, we propose that perceived quality of a news site in a context of use defined as a set of attributes contributing to meeting the needs, satisfaction, and preferences of users.

Table 1: A review of the scales and dimensions of websites quality

Author(s)	Scale	N of items	Dimensions	Context
Yoo & Donthu,2001	SiteQUAL	9	<ul style="list-style-type: none"> ● Ease of use ● Design ● Processing speed ● Security 	Online retailing
Barnes , Liu and Vidgen,2001	WebQUAL/m	22	<ul style="list-style-type: none"> ● Information quality ● Site quality ● User quality 	WAP news sites
Wolfinbarger & Gilly, 2003	E-TailQ	14	<ul style="list-style-type: none"> ● Design ● Customer service ● Reliability ● privacy 	Online shopping
Rolland & Wallet, 2003	E-Qual	34	<ul style="list-style-type: none"> ● Ease of use ● Accessibility ● Aesthetics ● Quality offers ● Interactivity ● Security ● Information ● Reliability ● Customer support 	
Parasuraman et al, 2005	E-S-Qual	22	<ul style="list-style-type: none"> ● Efficiency ● Fulfillment ● System availability ● Privacy ● Responsiveness ● Compensation ● Contact 	E-service
Bressolles, 2006	NetQual	18	<ul style="list-style-type: none"> ● Ease of use ● Information ● Design reliability ● Privacy ● Interactivity 	E-service
Ding et al, 2011	e-SELFQUAL	21	<ul style="list-style-type: none"> ● Information quality ● System quality ● Service quality 	E-service

2.3 Criteria of news websites quality

The main purpose of news websites is to provide clearly information and news to enables the user to make trust on-line. Indeed, the generic criteria of news represent a solid basis for the assess the quality of any news website. These criteria have been consistently found to be similar across various previous studies, although some studies may make out more attributes than the others. In this section, we provide a comprehensive review of studies and address the existing quality criteria. Since the early 1968s, there have been many early studies that examined quality of mass media. For example, Merrill (1968) defined five fundamental criteria to measure quality of newspapers such as financial stability, quality of editing, and technically proficient staff. However, these indicators are subjective criteria because it mainly based on newspapers itself.

Merrill and Lowenstein (1971) suggested objective criteria for evaluating newspaper quality: internal criteria and external criteria. While the internal criteria relate to newspaper itself (e.g., quality of typography and layout techniques, grammar, printing quality, and balance in editorial content), the external criteria relate to readers (e.g., reputation, and circulation). In this context, several studies examined quality in relation to external indicators —especially circulation size of newspaper. The results from these studies indicated that there are positive correlations between the quality and newspaper circulation (e.g., Cyr et al, 2005). While Logan and Sutter (2004) found that quality does matter for circulation.

In another study, Bogart (1989) conducted a comprehensive study of editorial quality. He defined a list of 23 indicators divided into two categories: subjective and objective criteria. In this context, Readership Institute (2001) designed a multi-dimensional scale to evaluate quality of content from readers' perspective. This scale includes indicators: theme, origin, geographic focus, news style, visual complexity, content organization. Consistent with these studies, Gladney (1990) divided indicators affecting newspaper quality into two categories. The first is called “organizational indicators”, which focuses on newspaper itself including leadership, editorial independence, professionalism, impartiality and integrity.

All of these studies were conducted in the traditional media, and that most of them focuses mainly on printed newspapers. Furthermore, these studies have paid attention to external indicators rather than internal indicators. In the context of changing media landscape through Information communication technologies (ICTs), and a massive increase in the emergence of different digital media's outlets, it has become necessary for revisiting these indicators and a renewed effort to define the concept of quality in the online media environment. In this context, Gladney et al (2007) conducted a survey of rated the quality of online news. They have focused on the quality content criteria such as credibility, utility, trustworthiness and accuracy of online news. In general, recent studies of quality on the Web could be categorized into two approaches: the hygiene -based approach and motivators-based approach (Zhang and Dran, 2000).The hygiene-based approach relies on objective measurements of a Web site. Indeed, this approach consists of functional factors such as, navigation, privacy, security, surfing activity, impartiality, and information content. So, the presence of these factors makes a Website useful and serviceable, while their absence causes users' dissatisfaction (p.1253). The motivators -based approach relies on subjective measurements of web site content. This implies that this approach focuses on users' perception of website quality and their ability to maintain a positive attitude towards specific websites through several elements such as

credibility, and visual appearance. In this respect the motivators factors could add value to the Website by contributing to user satisfaction, taking into account that their absence not necessarily contributes to user dissatisfaction (Zhang & Dran 2000, p.1253). From this perspective, the findings of study conducted by Hope and Li (2004) revealed that content attractiveness, coverage, usefulness, and navigation are the hygiene, whereas multimedia presentation, Layout, Interactivity, writing style, archives, and services represent motivators.

III. RESEARCH MODEL AND HYPOTHESES

Based on the results of earlier studies discussed above, it is evident that quality is a relatively new concept for news sites in the context of lack of studies related this concept. So, this issue should be examined on the basis of well defined guidelines or measurable attributes. In this study, we provide a consistent and comprehensive model to categorize in depth quality factors, which consists of three levels (these levels with associated criteria are presented in the Appendix 1, 2). The first level is composed of internal factors that refer to the features of a news site itself, where are categorized into four factors which are content, design, organization, and finally usability. These dimensions were taken from studies above mentioned and modified to suit the online media environment. The second level refers to contextual factors that could play positive role in influencing online user behavior. In this study, user' familiarity with the news website represent these factors. The third level refers to the external factors that relate to user' perception, where are categorized into four factors: experience, trust, and reputation. One of the interesting aspects of this model is that these factors have been developed in the context of online media. Also, it provides a rounded view of the quality of news websites. The structural model is illustrated in Figure 1.

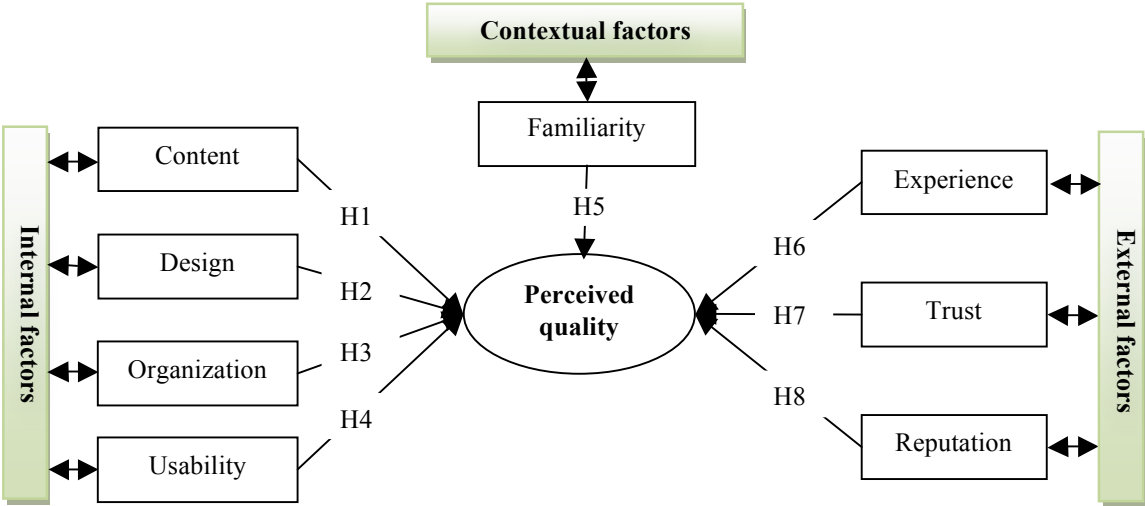


Figure 2: Research Model

3.1 Website Content

This aspect is considered the king of any website; “*Content is king*” (Huizingh, 2000, p.124), since it is the major source to meet the user’s expectation, and then building relations between the potential users and website. Godwin (2008) argues that content of website can have a major impact on channel use and overall satisfaction, and hence can lead to encourage repeat visits, and continue to use the services of the website (Koernig, 2003). Therefore it becomes essential to provide information and news that satisfy user need and also enables him to make trust on-line. Of course, if the information given on a news site was clearly misleading, users will probably not access the site again. Accordingly, it is hypothesized that:

H1: Content of a news site is positively affect on user’s perception of quality.

3.2 Website Design

In the environment of internet, the design of websites plays an important role in attracting and keeping users. Furthermore, the mode in which Web site is presented is a key factor for its success (Flavia'n et al., 2009). In this respect, Tan and Wei (2006) point out that “*a good Website design would generally lead to better user performance*”. From this perspective, the deficiency of website design can result in frustration and make a negative impression of the website quality to the users, and therefore, they probably not access the site again. Accordingly, it is hypothesized that:

H2: Design of a news site positively influences on users' perceptions of quality.

3.3 Website organization

In the context of news websites, this dimension refers to the ways that help any user to find the needed information and news within a reasonable time. Therefore, this aspect is related to structure of website (Hasan and Abuelrub, 2011), which is composed of several factors such as consistency, linkages, ect. Further, the main objective of this dimension is to create a long lasting impression of website, additionally to enhance transmit news and information to targeted audience. Accordingly, it is hypothesized that:

H3: Organization of a news site positively influences on user’s perception of quality.

3.4 Usability

A web site’s usability is related to user’s friendliness, which reflects users' ability to quickly navigate and achieve whatever they want from this site. Besides, it can represent a major factor that determines website quality (Abdullah, and Wei, 2008).

In this respect, Flavia'n and Gurrea (2008) found that usability considerably influence the selection of digital dailies. In addition, Frijters and Velamuri (2009) point out that: "*usability to website makes it cheaper to provide high-quality news and to disseminate it via the web*". Therefore, a successful news site not only contains useful news and information, but also displays this news and information in a way that is easily recognized by its users. Accordingly, it is hypothesized that:

H4: Usability of a news site positively influences on user's perception of quality.

3.5 Familiarity

In the specialized literature, several papers have proved that the users' familiarity with web sites influences positively on the perceived quality. Lowry et al., (2007) point out that familiarity has a positive impact on increasing credibility and trust of a Website. In the field of electronic media, Flavia'n and Gurrea (2008) confirmed that familiarity have a greater impact on readers to read newspapers web sites. Accordingly, it is hypothesized that:

H5. User familiarity with a news site positively influences on user's perception of quality.

3.6 Experience

In fact, experience of site's users is considered to be one of criteria that determine quality of website. Constantinides, (2004) found that Web experience embraces elements such as: *searching, browsing, finding, selecting, comparing and evaluating information as well as interacting with the online firm* (p,113), implying that experience can influence users' overall evaluation of a Website (Carlson and O'Cass, 2010). Accordingly, it is hypothesized that:

H6: User expertise positively influences on user's perception of quality.

3.7 Trust

Trust has increasingly becoming a significant issue not only in web site development but also as a key ingredient for building relationships with users. However, both trust and quality are important, related constructs. In this respect, Fogg and Tseng (1999) point out that: "*trust indicates a positive belief about the perceived reliability of, dependability of, and confidence in a person, object, or process*" (p.81). Fung and Lee (1999) cite that "site quality and a good interface design enhance consumer trust".

Furthermore, McKnight et al., (2002) assert that "*site quality had the greatest impact on the users' trusting beliefs and trusting intentions to use the web site*" (p.314). Accordingly, it is hypothesized that:

H.7: User trust positively influences on user's perception of quality.

3.8 Website' reputation

Reputation is one of frequently used measures on the Web. Also, it can play a pivotal role in enhancing relationships with users (Iwaarden et al., 2004). Therefore, it is a key factor for success in the digital environment. Flavia'n and Gurrea (2008) noted that Website' reputation is one of ways that could affect reader perception of website —especially by choice this site for getting news. Accordingly, it is hypothesized that:

H8: The reputation of a news site positively influences on user's perception of quality.

IV. RESEARCH METHOD

4.1 Survey instrument development

For conducting this study, we used the survey tool as an effective technique for Website assessment. A pre-test of the questionnaire was conducted prior to the natural research. It was conducted using 15 respondents in order to assess the content validity of the measurement scales, and to ensure that questionnaire items were clearly articulated. In addition to make sure that the items was suit the study's requirement to achieve precise research objectives. The questionnaire was further revised based on the comments and suggestions obtained from the pilot test participants and prepared in two languages: English and French, and forwarded through e-mail to online users.

4.2 Measures

The final questionnaire includes 32 questions, covering the constructs proposed in the figure 2. A 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used as a measurement scale to measure each item. These items were adapted from previous studies, whereas some modification and reword has been conducted to these items to suit the purposes of this study. The four above mentioned dimensions were adapted from Hassan and Li's (2005) measurement model. Further, website reputation and familiarity were adapted from Flavia'n and Guinalú (2007) study.

4.3 Statistical analysis technique

In order to obtain instrument that would allow us validly and reliably to quantify the quality of news sites, data analysis was carried out by two stages. In the first stage, we evaluated the adequacy of our research model which portrays the relationships between a construct and its associated manifest variables (measurement items). The aim of this stage is to examining the reliability and validity of the composite of items measuring each construct. In the second stage, we tested the structural equation model (SEM) via PLS-Graph Version 3.00 (Chin et

al., 2003) to validate the research model or hypotheses testing. Indeed, we used PLS approach because it is considered more appropriate for structural equation modeling (SEM), a modeling procedure that performs path-analytics modeling with latent variables, and between latent variables and their indicators to reduce error variance. In addition, PLS has been chosen in this study primarily for its ability to work with small sample sizes. On the other hand, SEM considered as one of the new techniques most used recently in communication research. This technique allows researchers to assess the reliability and validity of the measures of theoretical constructs and estimating the relationships among these constructs.

V. DATA ANALYSIS AND RESULTS

5.1 Subjects

The empirical sample of this research consists of online users. We randomly selected 400 subjects from the e-mailing list provided by university Lyon 2, and ENSSIB, where the questionnaire were forwarded to them by e-mail with a message described the research purpose, and also include the questionnaire address "URL". A total of 142 responses were returned. After eliminating the duplicates, and incomplete responses, a total of 132 questionnaires were regarded as valid representing a response rate of 32.5 percent, implying that the sample size in this study exceeded the recommended minimum of 30 and was adequate for model testing. Also, the 30% response rate can be considered acceptable generally for survey. The demographic information of the respondents is shown in Table below.

Table 2: Demographic Information of Participants

Classification		Frequency	Pct (%)
Gender	Male	88	66.6
	Female	44	33.3
Age	Less than 20	-	-
	21–30	32	24.2
	31–40	67	50.7
	41-50	19	14.3
	Over 50	14	10.6
Level of education	Primary	-	-
	Lower secondary	10	7.5
	Upper secondary	23	17.4
	Non-university higher	38	28.8
Browser language	Higher university	61	46.2
	French	82	62.1
	English	10	7.5
	Arabic	33	25
Frequency of using the news site (hours per week)	Other	7	5.3
	Less than 5 hours	28	21.2
	5 to 10 hours	15	11.3
	Over 50	89	67.4

5.2 Measurement model

5.2.1 Reliability

The reliability of construct measurement was evaluated by examining the composite reliability (CR). As shown in Table 3, the composite scale reliability ranged between 0.82 and 0.93 exceeding the cut-off value of 0.7 suggested by Nunnally & Bernstein (1994), which suggests good reliability of the measures in this study.

5.2.2 Convergent Validity

Convergent validity was assessed by examining the factor loadings of the items on their respective constructs. These loadings should exceed the threshold of 0.50 (Hair et al. 2006). As shown in Table below, factor loadings of all items on their respective associated constructs are equal or greater than 0.70, implying compliance with this standard, and hence demonstrating convergent validity of the measurement model.

Table 3: Measurement model statistics

Construct	Number of items	Loading (min–max)	CR	AVE
Content	5	0.74–0.90	0.93	0.72
Design	2	0.74–0.92	0.82	0.70
Organization	2	0.91–0.93	0.92	0.85
Usability	4	0.87–0.94	0.94	0.81
Familiarity	3	0.72–0.91	0.83	0.63
Experience	3	0.76–0.82	0.83	0.62
Trust	3	0.68–0.88	0.82	0.61
Reputation	3	0.70–0.87	0.84	0.64

5.2.3 Discriminant Validity

Discriminant validity can be assessed by examining the variance shared between a construct and its measures (AVEs). The shared variance between any two constructs should be less than the AVEs extracted by the items measuring the constructs (Fornell and Larcker 1981). Table 3 reveals that the shared variances are all less than the corresponding AVEs. This suggests a high level of discriminant validity for all constructs in our research model, implying that it is adequate to enable interpretation of the structural model.

Table 4: Correlations of latent constructs

	1	2	3	4	5	6	7	8
1. Content	0.832							
2. Design	-0.094	0.841						
3. Organization	0.201	0.093	0.820					
4. Usability	0.156	0.029	0.557	0.798				
5. Familiarity	0.318	0.092	0.467	0.398	0.784			
6. Experience	0.397	0.019	0.495	0.553	0.491	0.950		
7. Trust	0.438	-0.169	0.060	0.221	0.195	0.299	0.788	
8. Reputation	0.303	0.002	0.114	0.317	0.209	0.415	0.323	0.854

5.3 The structural model: hypotheses testing

The structural model provides information as to how the assessment of the predictive or causal relationship between constructs in the model. The hypothesized relationships in the theoretical model were estimated using the bootstrapping function in PLS. The explanatory power of the structural model is evaluated by the path coefficients (β), and the explained variance (R^2) for each path segment in the model. The results of the PLS analysis are summarized in Figure 2.

As shown in Fig. 2, this study provides significant support for some of the hypotheses proposed in this study. However, the findings revealed that content; usability; website organization; and familiarity are the most influential factors in perceived quality of a news site, whereas website design, trust, reputation, and experience do not influence significantly in perceived quality. We see that perceived quality of a news site is significantly influenced by usability, and content. It is noticeable that usability was the most influential factor of perception quality compared with other factors proposed in this study ($\beta = 0.344$, $p < 0.001$), whereas website content is the second important variable ($\beta = 0.341$, $p < 0.001$). Consequently, the data provide support for hypothesis 1 and hypothesis 2. Furthermore, familiarity was verified as an important contextual factors which was found to influence perceived quality of a news site ($\beta = 0.125$, $p < 0.001$). Thus, we accept hypothesis 5. As there is no empirical support for the influence of design, trust, reputation, and experience on perceived quality of a news site, thus hypotheses 4,6,7,8 cannot be supported. Overall, the proposed research model explains 45.6% of perceived quality of a news site. The hypotheses-testing results are summarized in Table 6.

Table 5 – Summary of Hypotheses and Results

Hypotheses	Remarks	β	t-statistic
H1: The impact of website content on user's perception of quality.	Support	0.341***	7.234
H2: The impact of website design on user's perception of quality.	Not support	0.014	0.324
H3: The impact of organization on user's perception of quality.	Support	0.104*	2.216
H4: The impact of usability on user's perception of quality.	Support	0.344***	7.237
H5: The impact of familiarity on user's perception of quality.	Support	0.125**	2.691
H6: The impact of experience on user's perception of quality.	Not support	0.068	1.472
H7: The impact of trust on user's perception of quality.	Not support	-0.014	0.317
H8: The impact of reputation on user's perception of quality.	Not support	-0.027	0.517

† $p < 0.10$ * $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

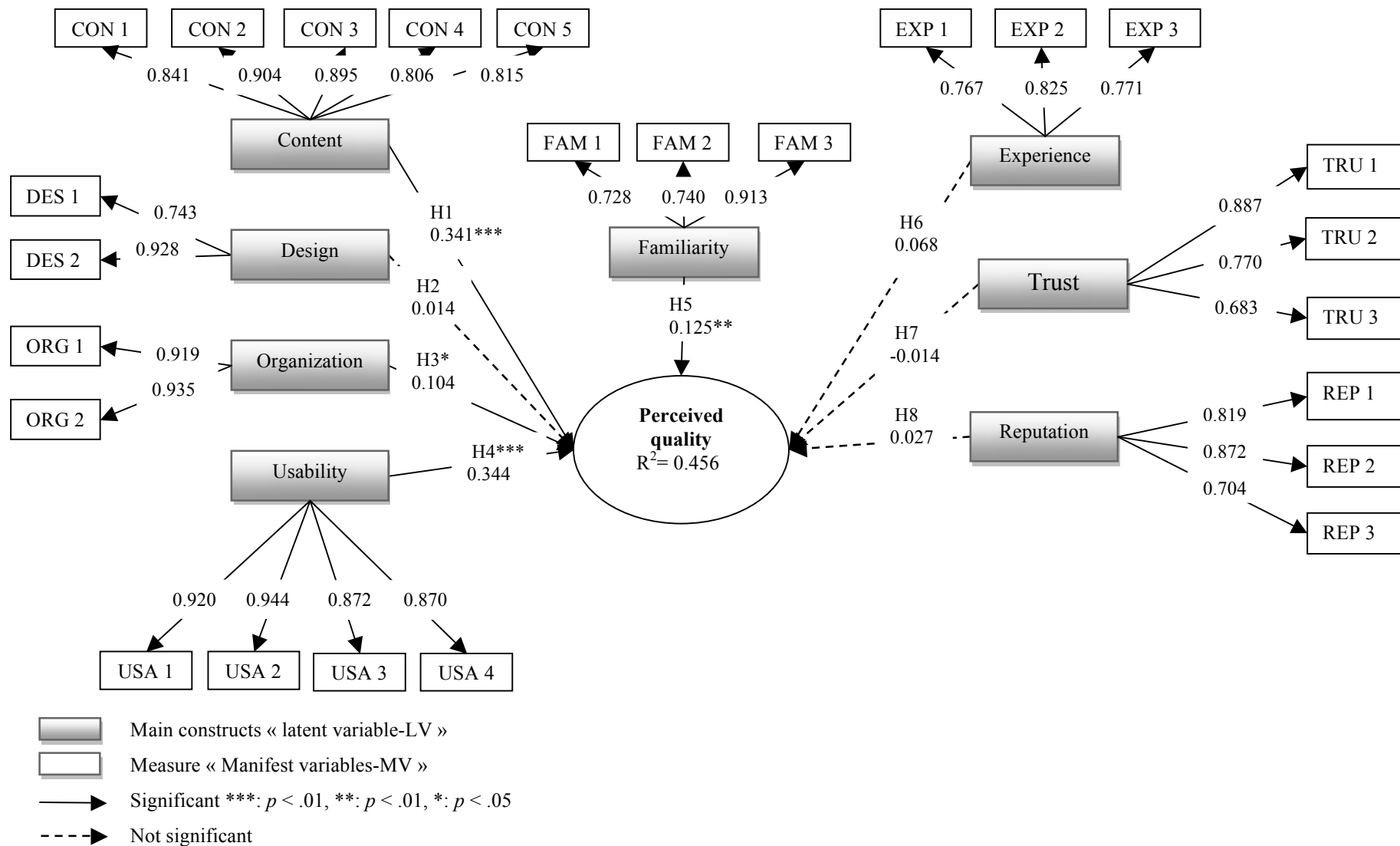


Figure 3: PLS path modeling analytical results of the news websites quality model

VI. DISCUSSION AND CONCLUSIONS

6.1 Discussion

In fact, the development of news sites is a proactive and a sign of progress not only for media organizations, but also a sign of their adaptation to the ICTs developments. Besides, quality has become a critical metric for assessing the success of online media —especially in light of increasing the offer and demand of its services, additionally to changing the production of "news" across the globe, which required revisiting the news criteria dissemination- trying to maximize the quality of those websites.

However, the review of the literature shows that, this topic has not been adequately researched by specialists in the online media sector. Such kind of study was conducted by (Hope and Li, 2004; Gladney et al., 2007). While Hope and Li (2004) study is limited to an overview of the impact of demographic characteristics (culture, sex, and age) on the perceived quality for online newspapers, Gladney et al (2007) study have focused on the quality content criteria such as credibility and utility of online news, which makes both study incomplete in terms of the overall “quality”.

This paper presents a reliable, valid, and flexible instrument, which formulates 8 dimensions that forms the basis to measure news websites quality (NewsQual) from the perspectives of the users. The present instrument represents a first step in analysis of news websites quality. Also, it is the first one to establish an exhaustive list of key factors that affect users' perception of news websites quality from contemporary models.

The results provide significant support for some of the hypotheses proposed in this paper. The empirical analysis has allowed us to note that usability, website content, website organization, and familiarity ranked as the most critical and important facets of quality. In other words, these variables are supported to be positively related to user's perception of news sites quality. While website design, reputation, experience and trust did not significantly contribute to user's perception of quality, implying that these variables are not supported. Though that, they are still important facets of website quality, and online media firms should pay attention to them to assure readers attract and retain. Therefore, these four variables deserve further attention and research. Interestingly, of all dimensions of quality proposed in this paper, usability had the most significant impact on perceived quality. The clear implication is that the news websites should continuously update technologies in order to provide the requisite news to the online users.

6.2 Managerial implications

Our research findings may serve as the groundwork for evaluation of news Websites within a web-based environment. In addition, it could also be used as a foundation for development of more effective news Websites. In this section, we discuss several examples of potential applications of our research model.

6.2.1 Development of Marketing strategy

Marketing strategy has recently become the focus of considerable interest and attention, not only as the crucial factor of success in society digital, but also as a critical metric to achieve a sustainable competitive advantage under the rapid explosion of Information communication technologies (ICTs). Indeed, these technologies have fundamentally changed the ways of media firms communicate to achieve its objectives (Susan et al, 2011), and have allowed users to have unlimited access to the news and information they require. Therefore, the shift of consumer behavior to online news consumption could be an important starting point in fundamentals – namely, of supply and demand—especially in light of multiple media platforms (Chyi and Huang, 2011). For as Duke University Professor Susan E. Tifft said, “*Unless news consumers are confident they are getting the news they need, they will find other ways to keep abreast of current events.*” In addition, we should consider the attributes of online news as a distinct medium as a way to better understand the relationship between online news and its consumers (Lee, 2011).

6.2.2 Users' attitudes towards using news websites

With ever-increasing use of online, it has become increasingly important to develop a better understanding of how users are using these new media platforms, which could ultimately lead to recommendations for the industry, additionally to open the door to many more research in the online media sector—especially it remains important to explore. Thus, web quality factors offer an ideal starting point for understanding user attitudes toward using news sites, because they are ways of influencing user beliefs and behavioral intention. Furthermore, it plays more significant roles in a website's success and shaping user responses to this website.

For instance, Lynch (2008) points out that users tend to be loyal to Web sites they find easy to use. Thus, mention should be made of the importance of usability as one of the key quality factors that have a bearing on user intention to use news websites. Another reason may involve the design, which is necessary—especially «*In supporting the content, in appealing to the taste of the target audience, and in creating the desired image for the sender*» (Lisbeth, 2007, p.67)

6.2.3 Understanding users preferences

In light of recent technologies that significantly changed online media, it is important to continuously monitor users behavior and analyze and gain knowledge about their needs and preferences. Thus, it could be a starting-point for developing marketing strategies. More specifically, media firms that offer online users what they want, whenever and wherever could influence on overall satisfaction (Kim and Eom, 2002), similarly to maintaining their users, and intention to revisit their websites.

6.3 Limitations

We should indicate the limitations raised in this research before discussing suggestions for future research. In first place, this research examined 132 respondents from three different languages of news websites, which may limit the generalizability of our findings. Nevertheless, the relevance of the sample could be guaranteed because the English, Arabic, and French language are placing the top ten the languages used on the Internet (Internet World Stats, 2010).

6.4 Suggestions for future research

Some suggestions for future research are highlighted in order to more validate of the findings raised here.

- *Sample composition:*

In light of the above mentioned, it is difficult to be considered that sample size of this study is the most appropriate sample size for conducting such research. However, we expect follow-up studies to expand the sample range so that the relevant research might be more representative. Also, users' attitudes and their motives towards news websites are very important when quality is analyzed. This is because individuals are unique and as users they differ in the perception of quality. These research results are the evidence. In this respect, we should pay attention to investigate the demographic characteristics (e.g., sex, and age, ect) as a crucial factor to consider when analyzing users' perception of quality for news websites (Hope and Li, 2004).

- *Contextual factors:*

Future studies should shed new light on these factors such as reading and/or visit news websites, user participation, and the role of technology in the light of media richness theory, which achieve the effective communication between media and users. In this respect, we suggest that media richness theory can provide a good approach to better understand

perception of quality from user perspective—especially in light of focus on a three-dimensional: users' needs, user's prior experience, and skill and comfort in using a medium.

- *Operationalize the concepts:*

Future studies should carefully operationalize each concept identified in this study. For instance, it would be interesting to breaking down the factors related to news websites interface, and isolate these elements. Indeed, a usable interface is considered one of the most important components for optimizing the user's experience with a Web site. Overall, this would help to determine if anything about Web design issues significantly affects the quality perception or if content is the main criterion to judge the quality of news sites.

- *Providing a variety of research methods:*

In this respect, a practical support is required regarding measurement of quality of a news website in the context in which it is used such as: the particular users, tasks and environments—for achieving effectiveness, efficiency and satisfaction during the interaction between the user and website (Abbas and Aggarwal, 2010). Consequently, qualitative work is needed by adopts new methods and tools such as Interviews techniques and focus groups that could provide insight into how quality formation in the context of online media.

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Appendix 1: Internal factors for evaluating news websites quality

	Factors	Description	Sub-Factors
Content	Timeliness	Deliver requested news within a reasonable time to ensure user satisfaction.	- News revision date - Resource date
	Accuracy	Refers to the extent of news exactness and correctness.	- Identifying news sources - Supported news by evidence
	Authority	The level of user confidence of news.	- Author's name & their positions - Basic information about owner
	Quality of News	Captures aspects related to the mode in which news is presented.	- Provide news with pictures - Links to full versions of news - Divide news according to scope - Provide relevant news to user
	Usefulness	Refers to the value of editorial content for users and its ability to meet user requirements.	- Up-to-date news - Provide unique news
Design	Appearance	The feature that captures aspects related to news sites "look and feel".	- Differentiate between headings and text - Avoidance of background images - Clear titles for each page - Clear headings and sub-headings for text
	Media use	Features that facilitate a two-way communication between users and site.	- Using sound - Using Graphics and images - Using Animation and video
Organization	Consistency	Refers to the uniformity of design, and to keep the similar features for each page in the entire website.	- Consistent of page layout - Consistent of text - Consistent of navigational aids
	Linkages	Extent to which links are valid in the entire website.	- Providing valid links - Useful links to other sites
Usability	Ease of use	The extent to which a news site is perceived to be user friendly.	- Easy to use the site - Easy to find information - Navigate around the site
	Navigation	Refers to the "hyper movements" between pages over the entire site.	- Navigation bar at the top of the page - Links to the main page in the entire site - Provide research tools (e.g., sitemap)
	Interactivity	The help provided by the site to assist users in their quest of news.	- Options for users' feedback - Options for sharing views and discussions
	Accessibility	Users' ability to browse all contents available on a website.	- The use of local search facility - Compatible contents for all main browsers

Appendix 2: Constructs, criteria, and items for measuring NewsQual in the questionnaire

	Criteria	items	References	
Internal	Content	Timeliness	Hassan and Li, (2005)	
		Accuracy		
		Authority		
		Quality of News		
		Usefulness		
	Design	Appearance	Self-developed	
		Media use		
	Organization	Consistency		
		Linkages		
	Usability	Ease of use		
		Navigation		
		Interactivity		
Accessibility				
Contextual	Familiarity	I am quite familiarized with this site		Flavia'n and Guinaliu
		I am quite familiarized with the news offers by this site		
		I am quite familiarized with other news sites similar		
External	Experience	I'm novice in using the Internet.	Self-developed	
		I have advanced level in using the Internet.		
		I have intermediate level in using the Internet.		
	Trust	This site usually fulfils my expectations.		
		The news offered by this site is sincere and honest		
		This site has frankness and clarity of the services it offers		
	Reputation	This site has a good reputation/well known		
		This site has a good reputation compared with other sites		
		This site has a reputation for offering good news		