Do Arab Women Behave Differently Online?

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Abstract

Number of women online is growing in scale justifying the call for research design to investigate women segments that are different form their men counterparts. The objective of this paper is to investigate women's online behavior and aims to develop a profile for Arab women online. The women analyzed are experienced internet banking users from three Arab world countries (Jordan, Egypt & Saudi Arabia). The research model design is built on previous research findings using a reduced and extended version of the UTAUT model by adding web quality characteristics as an external variable. Data is collected using online and offline survey. Information obtained is tested using structural equation modeling and multigroup analyses. The findings depict an online profile for Arab women who appreciate web quality characteristics of technical issues as the most important feature followed by general content quality, appearance quality and special content quality. Age was not a real moderator in the model as younger and older women perceived web quality the same with regard to its impact on their future intentions or continuance use of internet banking; however, experience and education play an import role in depicting Arab women online profile.

Keywords: Arab women, online behavior, age, experience, education, UTAUT

1. Introduction

Women comprise a good size of society. In Arab state countries, according to the UN Human Development report (2013), the ratio of females to males is 86.6. Worldwide, women online comprise 37 percent whereas men comprise 41 percent (ITU, 2013). A survey of eight Arab states including Jordan, Egypt, and Saudi Arabia among other countries reports percentage of women and men online is 60 and 71 respectively with little difference between men and women with regard to time spent online (Dennis, Martin, & Wood, 2013). On the other hand, e-commerce is still in its infancy stage in Arab world with less than 1% of Middle East and North African (MENA) region engaged in B2Ce-commerce. Main obstacles include low rate (15%) of adoption by businesses, dominance of cash economy (Somasundaram, 2013), and low customers acceptance of online shopping compared to international benchmarks (yStat report, 2014). MENA ecommerce is male dominant with 68 percent males versus 32 percent females with an estimated volume of nine billion expected to reach fifteen billion in 2015 (Somasundaram, 2013). Most ecommerce usage activities reported are under e-banking activities and online booking such as tickets, hotel reservation, cinema tickets, and car rental (AbuSalah, 2013).

The figures of women online worldwide and in Arab world suggests that women are no long a marginal group but rather a distinct group of online customers who merit more attention. There is a scarce number of studies that investigates women as population. Majority of research in business and management, in general, compares between genders. This paper aim is to define the profile of Arab women online and explore whether women in Arab world behave differently with respect to an ecommerce activity such as online banking.

The paper unfolds as follows. The next section articulates a theoretical foundation that women behavior online is expected to differ from their counterparts. The third section describes research method and hypotheses. The fourth section discusses the methodology and data analysis used to test the hypothesized model. Finally, after presenting results and discussion, the paper concludes with implications for future research.

2. Theatrical Background

2.1. Women on the Web

Number of women online is growing in scale which justifies the call for strategies design to market for women segments that are different form their men counterparts. Previous research indicates that gender differences exist across cultures (Gefen & Straub, 1997) and women differ from men in characteristics they consider important in evaluating products (Meyers-Levy & Masheswaran, 1991) with men being more pragmatic than women as well as being task oriented (Minton & Schneider, 1985) and motivated by their need for achievement (Hofman, 1972). Women are also reported to have higher computer anxiety and lower self efficacy in addition to being more influenced by others' opinions with respect to system usage. Additionally the two genders differ in their decision making process and in terms of information processing (Venkatesh & Morris, 2000).

Advancement in information technology and the wide spread of internet worldwide impacted the younger generation of men and women. Women are gaining access to education and the internet just as men in modern societies within the Arab world, hence, it is expected that the previously reported characteristics of women behavior around information technology have changed. More recent research reports fresh insight onto these gender differences that are worthy exploring even more.

For example, a study of internet usage patterns among students in Indonesia reports significant differences between genders. Women use internet for chatting and study related material whereas men usage is focused on reading news, testing and downloading software, shopping, entertainment, and job search (Wahid, 2007). Even when controlling for differences in internet usage, women perceive a higher level of risk in online shopping and are influenced by friends' recommendation in reducing risk and encouraging online shopping (Garbarino and Strahilevitz, 2004). Women compared to men have less favorable attitude towards internet commerce (Cho & Jialin, 2008). Despite being aware of some of the discoursing features of online shopping (e.g. delivering time and refunding) these features do not deter actual female shoppers from shopping online or holding a general positive attitude towards apparel online shopping contrary to non-purchasers (Hirst & Omar, 2007). Saudi women's online shopping behavior is mainly motivated by enjoyment (Al-maghrabi & Dennis, 2010), however, they are demotivated by risk of online credit card theft and belated delivery time in addition to fear of being cheated in the sense of what they get is not the same as what they see online, particularly when such fears are reinforced by past bad experiences (ALmowalad & Putit, 2013). On the other hand, women in Oman and UAE are highly professional in the use of internet whether connecting from home or work (Aldhaheri, 2012).

Scant research is reported on women behavior with respect to the online financial services. Women investors are reported to be risk aversive compared to men owned to differences in information processing among the two genders (J. Graham, Stendardi, Myers, & M. Graham, 2002). Women working/non-working access internet banking at home for convenience and safety purposes (Lichtenstein & Williamson, 2006) and women's intention for mobile banking usage is influenced by system ease of use (Riquelme & Rios, 2010). Saudi women's internet banking loyalty intentions is influenced by system perceived usefulness but not by social norms contrary to their male counterparts (Alghamdi, King, & Dennis, 2011). Women in Malaysia perceive system performance expectancy and facilitating conditions as important determinants of internet banking acceptance (Yuen, 2013). These reported differences in women's behavior inspired the investigation undertaken in the current conceptual model.

3. Research Model and Hypotheses

3.1 Research Conceptual Model

The conceptual model for this paper is based on the Unified Theory of Acceptance and Use of Technology (UTAUT) model (Venkatesh, Morris, G. Davis & F. Davis, 2003), which aims to explain user intention to use an information system and subsequent use behavior. The model comprises four key constructs; three of which (Performance Expectancy, Effort Expectancy, and Social influences) posit as direct determinants of usage intentions and behavior. The fourth, Facilitating Conditions, serves as a direct determinant of use behavior. Gender, age, experience and voluntariness of use posit as moderators of the impact of the four key constructs on usage intentions and behavior. Literature report that under voluntary usage conditions and with system gained experience, social influences impact tends to deteriorate (Sun & Zhang, 2006; Venkatesh et al. 2003, Venkatesh & Davis, 2000).

Facilitating Condition construct is also reported to have a week impact on use intentions (Dwivedi, Rana, Chen , & Williams, 2011). The current paper is building on reported literature and because of the voluntariness nature of internet banking use behavior in addition to system know-how of sampled population, the two construct facilitating conditions and social influences are excluded from the model. The resulting reduced model resembles Davis' modified technology acceptance model (Venkatesh & Davis, 1996) which is one of the models used in formulating the aggregated UTAUT. TAM's two behavioral beliefs, perceived ease of use and perceived usefulness are similar to effort expectancy and performance expectancy beliefs of the UTAUT (Dwivedi et al. 2011). In TAM, the external variables influencing the behavioral beliefs typically include system characteristics (Venkatesh & Davis, 1996). We extend the reduced UTAUT model by incorporating the web quality multidimensional construct (For review, see AlQeisi, 2015) as an antecedent to the two behavioral beliefs (Aladawni, 2006). In addition, TAM's research considers intentions and usage to replace each other; hence we investigate users' intentions for continuance usage of internet banking (Hong, Thong, & Tam, 2006) and exclude usage behavior from the model.
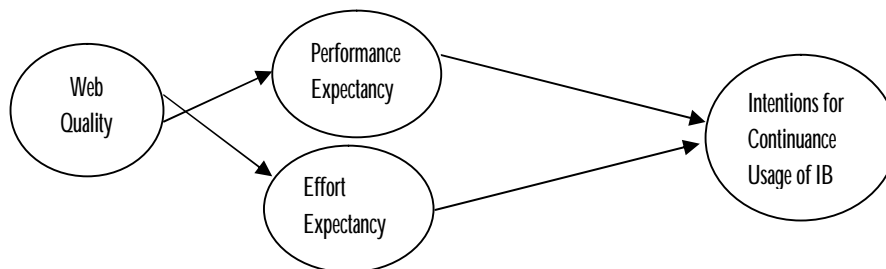
Figure 1: Research Hypothesized Model

3.2 Research Hypotheses

Previous research on UTAUT and TAM (Venkatesh & Morris, 2000; Venkatesh et al. 2003) indicate that women are more influenced by effort expectancy (perceived ease of use) at the early stages of adoption and with gained experience, the effort expectancy impact diminishes and performance expectancy (perceived usefulness) steps in as a major determinant of intentions to continence use of the system.

H1: Performance expectancy –internet banking intentions for continuance use of the system will be stronger for well experienced women.
H2: Effort expectancy –internet banking intentions for continuance use of the system will be stronger for low experienced women.

Web quality characteristics within the online banking domain were found invariant among the two genders (AlQeisi, 2015). However, previous research also reports women to be more influenced by system characteristics than men. Floh & Treiblmaire (2006) report men's estimates of website quality are significantly lower than females and men's e-banking behavior is explained more by service quality. Based on the above argument, we expect the impact of web quality perceptions to be stronger on performance expectancy than effort expectancy.

H3: Web quality - performance expectancy will be stronger for well experienced women using internet banking.
H4: Web quality - effort expectancy will be stronger for low experienced women using internet banking.

Age is also reported to impact the relationships among the UTAUT model and TAM with younger people usage behavior being driven by system performance or usefulness (Venkatesh et al. 2003) and also assigning significant importance to web quality than elderly people (Flohn & Treiblmaire, 2006). Therefore it is hypothesized:

H5: Performance expectancy –internet banking intentions for continuance use of the system will be stronger for younger women.
H6: Effort expectancy –internet banking intentions for continuance use of the system will be stronger for older women.
H7: Web quality –internet banking intentions for continuance use of the system will stronger for younger women than older women.

Education as well is reported to impact behavioral beliefs, increased levels of education lead to increased e-banking adoption (Gan, Clemes, Limsombunchai, & Weng, 2005).

Burton-Jones & Hubona (2006) report education leads to positive association with system usefulness and improve perceived ease of use by reducing anxiety. Hence, it is hypothesized:

H8: Performance expectancy –internet banking intentions for continuance use of the system will be stronger for women with higher levels of education.
H9: Effort expectancy –internet banking intentions for continuance use of the system will be stronger for women with lower levels of education.

It is also assumed that women with lower levels of education would rely on their web quality perceptions in making usage decisions, therefore it is hypothesized:

H10: Web quality –internet banking intentions for continuance use of the system will be stronger for women with lower levels of education.

3. Methodology

3.1. The Sampling and Data Collection

Online and offline survey is used to solicit responses from actual users of internet banking form three Arab world countries (Jordan, Egypt, & Saudi Arabia). The operational definition of the research model variables (Appendix 1) is based on the UTAUT (Venkatesh et al. 2003) scale measurement and Aladwani (2006) web quality multidimensional construct scale measurement. Back translation is used to ensure comparability of meanings in addition to pretesting with a pilot sample. Minor change to wordings is applied to the survey. The demographics of respondents are shown in (Table 1).

Table 1: Sample Demographics

	Frequency	Percent
Descriptive		
Age		
25 years and less	56	20
26-35 years	100	36
36- 46	83	30
47-57	34	12
58 and more	6	2
Education		
High school and less	29	10
Bachelor	117	42
Masters	76	30
Doctorate	32	12
Others	15	6
Marital Status	122	44
Single	157	56
Married		
Internet banking experience		
Less than 6 months	51	18
6- 12 months	92	33
13 -18 months	46	17
19-24 months	21	7
More than 24 months	69	25

3.2. Data Screening

Prior to analysis, data is screened for missing responses and treated using imputation since the missing rate is below 5%. The normality check for multivariate analysis is carried out using AMOS output and according to Byrne (2010, p 104-106) guidelines. Normality assessment indicated acceptable levels of univariate normality (kurtosis values < 7) and multivariate normality (critical value <5). The samples size for model testing is (279).

4. Data Analysis

4.1. Confirmatory Factor Analysis (CFA)

4.1.1 Web Quality Higher-Order Structure

Prior to incorporating web quality construct into research model, the 25 scale items were run first on the measurement model level as a first order structure, which resulted in retaining 19 items with an acceptable fit indices: χ^2 = 397.07, df = 146, χ^2/df = 2.72, SRMR = 0.04, CFI = 0.935, and RMSEA= 0.07 (Hair, Black, Babin, & Anderson, 2014), allowing proceeding with the higher order structure. The model fit indices for the higher order structure are similar to the first order. The hierarchical model is also over-identified with two degrees of freedom (10 sample moments minus 8 free parameters), which allowed incorporating the higher – order structure into the measurement model.

4.1.2 Model Testing

Running the CFA for the research measurement model resulted in acceptable model fit indices: χ^2 = 803.287, df = 370, χ^2/df = 2.171, SRMR = 0.043, CFI = 0.935, and RMSEA= 0.065, Allowing proceeding with the structural model testing. The first run revealed that all paths are significant. Model fit indices are all within acceptable ranges: χ^2 =842.593, df = 372, χ^2/df = 2.265, SRMR = 0.046, CFI = 0.930, and RMSEA= 0.067.
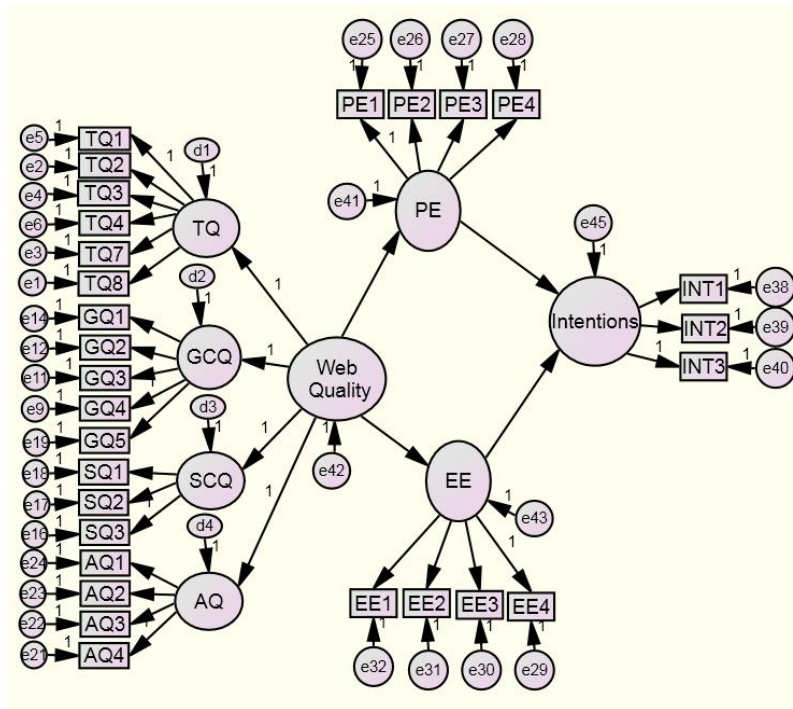

Figure 2: Structural Model

4.2 Hypotheses Testing

In order to test the hypotheses, first we form groups of respondents based on level of experience, age, and education.

4.2.1 High Experienced vs. Low Experienced Women

Base on sample demographic, women with internet experience of one year and less are the low experience group and women with more than one year experience are the high experience group.

The experience models when tested separately resulted in acceptable fit indices. Running the multigroup analysis resulted in group invariance with ΔCFI < .01 (Byrne, 2010) with all paths being significant for both groups. The standardized total effect results (Table 2) indicate support for H1, H2, and H4. However, H3 is not supported.

Table 2: Standardized Total Effect Output for Experience Groups

Low Experience group				High Experience group			
	WQ	EE	PE		WQ	EE	PE
EE	.947				.891		
PE	.914				.765		
INT	.847	.517	.420		.755	.418	.500

Note: WQ: web quality, EE: effort expectancy, PF: performance expectancy, and INT: intentions for continuance use

4.2.1 Young vs. Older Women

Women below 36 years of age are treated as the younger group, while women aged 36 and above are treated as older group. Running the model for each group separately produced acceptable fit indices for both groups with all paths being significant. The multi-group analysis results show group invariance with ΔCFI < .01 (Byrne, 2010). However, the standardized total effect (Table 3) indicates no support for H5, H6 and H7.

Table 3: Standardized Total Effect Output for Age Groups

Young group				Old group			
	WQ	EE	PE		WQ	EE	PE
EE	.929				.932		
PE	.848				.856		
INT	.833	.518	.414		.833	.417	.520

Note: WQ: web quality, EE: effort expectancy, PF: performance expectancy, and INT: intentions for continuance use

4.2.1 Educated vs. Less Educated Women

Women graduated with a bachelor degree are assumed to be the less educated group and women with a postgraduate certificate are treated as the higher educated group. Running the model for the highly educated group showed path PE-Intentions to be non-significant. However, the two models produced an acceptable model fit, which allowed proceeding with multi-group analysis. The results showed group invariance with ΔCFI < .01 (Byrne, 2010). The estimates for the higher educated group result show no support for H8. The standardized total effect shows no support for H9 and H10.

Table 4: Standardized Total Effect Output for Education Groups

educated group				Highly educated group			
	WQ	EE	PE		WQ	EE	PE
EE	.868				.937		
PE	.812				.846		
INT	.783	.289	.655		.837	.806	.096

Note: WQ: web quality, EE: effort expectancy, PF: performance expectancy, and INT: intentions for continuance use

5. Results and Discussion

The demographics of the sample depict a young women society of internet banking users: 66 percent fall within age ranges of 26 and 46, educated with 72 percent are graduates or post graduates, and impartially new to the internet banking application as indicated by statistics: 51 percent are with, one year and less, experience with the application; 24 percent enjoys two years' experience and 25 percent has more than two years' experience.

The women's sample perceptions of banks' website design qualities are similar to results obtained in previous research (AlQeisi, 2015), the current paper retained 18 of the 25 items measuring the four dimensions. Technical quality features appreciated by studied women include aspects of security, navigation, search facility, valid links, accessibility, and download speed. General content quality aspects include usefulness, completeness, clarity, updates and preciseness. Special content quality features of contact details, history, and details about products and services. Appearance quality features include attractiveness, organization, readability and proper use of colors. The retained features in this work are relatively similar to features reported in previous research (AlQeisi, 2015); however, the R² readings for these dimensions show women assign more importance to technical (.890) followed by general content (.870), appearance (.785) and finally special content quality (.641). This order is slightly different from previous findings where content quality came first followed by technical quality. The variations in results justify the need to dedicate research and investigations around women's population online behavior.

The findings of the hypotheses testing show a small discrepancy in results between previous research findings and current ones. Previous research indicates that women users of new applications within the Information Technology domain are normally drawn by system ease of use and with gained experience, more confident women will be motivated like their counterparts by system's performance (Morris, Venkatesh, & Ackerman, 2005; Venkatesh et al. 2003; Morris & Venkatesh, 2000). The current paper finds support to this statement (H1 and H2). Experienced women intentions for continuance use of internet banking are motivated by internet banking systems' performance expectancy whereas less experienced women intentions are more induced by systems' effortlessness, effort expectancy. Previous research also reports women in general are more influenced by system characteristics than men. Hence, more experienced system users will appreciate web quality design in a way that enhances their system performance expectancy; whereas the less experienced users will use web design perceptions as an indicator to system effortlessness. The current findings did not find support for earlier assumption (H3); studied women, with gained system experience, did not perceive web design qualities as an indicator for system usefulness, performance expectancy. On the other hand, the second assumption is supported (H4), less experienced women use web quality perceptions as an indicator for system ease of use, effort expectancy. The non-support for H3 may be owned to the idea that with gained experience, greater familiarity with the system and habitual behavior might lead to reduced impact of the system design on users' behavior; whereas users with less experience or familiarity will depend more on system characteristics as an induce to effortless behavior (Venkatesh, Thong, & Xu, 2012).

Age assumptions are also not supported (H5, H6, & H7); the findings show system's performance expectancy impact on users' intentions for continuance use of internet banking system is stronger for older women instead of the younger group. It is hypothesized that younger generation is more technology friendly compared to the older generations. However, banking and financial services are high involvement decisions. Individuals choose e-banking over traditional channel for a purpose of convenience and efficiency. It is safe to assume that with system gained experience, the mature users will be motivated more with system efficiency and time saving aspect taking into consideration also the mature sample is also the more educated sample; 72 percent of postgraduate women fall in the older groups (Appendix2). Younger women's intention for continuance usage of internet banking system is induced more by ease of use perceptions. Additionally, the findings show that the impact of systems' web quality characteristics on women's intentions for continuance use of the internet banking channel is the same for the two age groups. A good explanation lies in samples experience distribution; there are almost equal percentages of low/high internet banking experience women in each age group (Appendix3), which might explain the similar impact of web quality characteristics on women's intentions for continuance usage of the system.

Education assumptions are also not supported; contrary to our assumptions, results showed that the less educated women are motivated by system performance expectancy while the highly educated women are motivated by system ease of use. A possible explanation can be deducted from the cross tabulation: education versus experience (Appendix4), where a larger percentage (45.6) of high internet banking experienced women fall into the lower level of education. Building on results of H1findings, for the less educated women (the higher experienced group) the impact of performance expectancy on intentions for continuance use will be stronger, which justifies the non significance path between these two variable for the highly educated group and explains why the total impact of web quality on intentions (through effort expectancy) is higher for the highly educated group.

6. Limitations

Like any other research, this paper is not without limitations. First, the study is a cross-sectional research, which limits the generalizability of findings. A longitudinal approach is always recommended to be able to track changes in behavior, however data collection duration exceeded ten months and unfortunately time constrains prevented the pursue of a longitudinal approach. Second, the findings of this paper need to be confirmed with a bigger sample. The group analysis results into smaller sample size per group whereas the number of observed variables in the model requires larger sample per group. Third, the findings about women online behavior is confined to the application under investigation, internet banking and might not prevail using other e-banking channels. Finally, data is solicited using self-report design, which may have resulted in findings being influenced by common method bias or social desirability tendency that might distorted the means for samples information.

7. Conclusions

This paper aims at developing a profile of Arab women online and investigates differences in women online behavior with respect to online banking. Arab women assign higher importance to technical, general content, appearance and special content of web quality features. However, these web quality perceptions influence women's intentions for continuance use of internet banking systems the same regardless of age differences. Experience with system in addition to education levels seems to be the most important moderators in the model. Web quality characteristics impact on behavioral beliefs and intentions for continuance use of s system is stronger for low experienced women users. Intentions for continuance use of internet banking systems for mature women with higher system experience and moderate education is mainly motivated by their perceptions of system's efficiency or usefulness. On the other hand, intentions of younger women with less system experience and high levels of education are motivated by system effortlessness, ease of use.

The current work findings indicate the need to revisit some of the old assumptions around women's online behavior. The findings show no support to assumptions around gender, age, education and experience when investigated individually, which should inspire further research in order to explore changes in women's online behavior under different demographic profiles.

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Appendix 1: Operational Definition of Research Variables and Measurement Scale

Variable	Definition	Operational Definition
Performance Expectancy	The degree to which an individual believes that using internet banking will help him/her attain gains in performing banking tasks through this channel (Venkatesh et al. 2003)	PE1:I find internet banking useful PE2:Using internet banking enables me to accomplish banking tasks more quickly PE3:Using internet banking increases the effective use of my time in handling my banking tasks PE4: Using internet banking increases the quality of my banking services output at minimal efforts.
Effort Expectancy	The degree of ease associated with the use of internet banking. (Venkatesh et al. 2003).	EE1: My interaction with internet banking is clear and understandable EE2: I am skilful at using internet banking EE3: Learning to use the internet banking system is easy for me EE4: I find it easy to get the internet banking system to do what I want it to do
Behavioural Intentions for continuance use of internet banking system	Individual's future intentions to continue using the system	BI1: I intend to continue using IB services BI2: I predict I would use IB services in the future BI3: I plan to use IB services to improve the outcomes
Technical Quality (TQ) (Aladwani, 2006)	The technical characteristics of the website, such as security, ease of navigation, search facilities, site availability, valid links, personalization or customization, interactivity, and ease of access.	The Bank website: (TQ 1–8) TQ1: looks secure for carrying out transactions. TQ2: looks easy to navigate. TQ3: has adequate search facilities. TQ4: has valid links (hyperlinks). TQ5: can be personalized or customized to meet my needs. TQ6: has many interactive features (e.g., online application for bank services). TQ7: is easy to access. TQ8: pages load quickly.
General Content Quality (GQ) (Aladwani, 2006)	The characteristics of the bank website content in general, such as content usefulness, completeness, clarity, currency, conciseness, and accuracy.	The content of the bank's website is (GQ 1–6) GQ1: useful. GQ2: complete. GQ3: clear. GQ4: current. GQ5: concise. GQ6: accurate.
Special Content Quality (SQ) (Aladwani, 2006)	The specific content characteristics on a website, such as contact information, a firm's general information, product/service details, consumer policies, and customer support	On the bank's website I can find: (SQ 1–5) SQ1: contact information (e.g., e-mail addresses, phone numbers). SQ2: general bank information (e.g., goals, owners). SQ3: details about their products and services. SQ4: information related to customer policies (e.g., privacy and dispute details). SQ5: information related to customer services.
Appearance Quality (AQ) Aladwani, 2006)	The characteristics of the website appearance, such as attractiveness, organization, proper use of font, colors, and proper use of multimedia.	The bank website: (AQ 1–5) AQ1: looks attractive. AQ2: looks organized. AQ3: is easy to read. AQ4: uses appropriate colors. AQ5: uses multimedia features properly.

Appendix 2: Cross Tabulation for age and Education

Age		older	younger	Total
Grads.	Count	20	97	117
	% within Edu	17.1%	82.9%	100.0%
Post grads	Count	85	33	118
	% within Edu.	72.0%	28.0%	100.0%

Appendix 3: Cross Tabulation for Age and Internet Banking Experience

Age		Older	younger	Total
Low IB exp.	Count	63	80	143
	% within Age	51.2%	51.3%	51.3%
High IB exp.	Count	60	76	136
	% within Age	48.8%	48.7%	48.7%

Appendix 3: Cross Tabulation for Education Level and Internet Banking Experience

IBEXP		Low	High	Total
Grads	Count	55	62	117
	% within Age	38.5%	45.6%	41.9%
Post Grads	Count	61	57	118
	% within Age	42.7%	41.9%	42.3%