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CONSUMER EDUCATION AND BEHAVIOURAL INTENTION TO USE E-GOVERNMENT SERVICES IN LEBANON

Complete Research

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Abstract

We explore the effect of consumer education on the likelihood of increasing the behavioural intention to use e-government services in Lebanon in the context of initial learning experience. E-government refers to the use of information and communication technology to improve public administration. The adoption of e-government systems by end users has remained below expectations and the efforts of many countries have remained vain. Scholars have found that the low adoption and use of e-government services by end users for e-services are still major barriers to successful e-government implementation. Among the critical actions suggested by scholars, consumer education through training is a priority one. The results of this quantitative study show that by developing basic content and process oriented consumers’ knowledge on e-government during initial learning experience, a critical period of time where end users decide whether they adopt this service or not, citizens will increase their behavioural intention to use of e-government services.

Keywords: e-government, e-services, consumer education, initial learning experience, Lebanon.
1 Introduction

According to the World Bank, E-government refers to the “use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions”.

E-Government, a relatively a new concept, is dated back to 1993 and the ownership is attributed to President Bill Clinton and Vice-President Al Gore during their election campaign at the time. The project was then realized with the proposed "Government Paperwork Elimination Act" made in 1998-1999. The phenomenal growth of the IT industry due to the advent of Web 2.0 in 2010, mobile and social networks has given information and communication technology (ICT) a social dimension that end-users have not found in the public e-services, most of which are left on the informational stage. Nearly three trillion dollars has been invested in the last decade in e-government programs. Governments have and still investing heavily in e-government programs and thus launching and provisioning services online from the supply-side (United Nations 2014). However, in several countries, there are no to slight tangible return (e.g. increasing the citizen usage of public e-services) on these investments (Bhatnagar 2010) and more specifically, low adoption rates of e-government services have steered many experts (Heeks and Bailur, 2007; Norris, 2010, Worrall 2012, p.85) to talk about the failure of e-government programs.

The failure of e-government programs in developing countries (70% failure rate according to (Panda and Sahu 2013)) and the low usage rate of e-service (6.3% in the world) (Heeks and Bailur, 2007) have led these groups to limit or review their investment in e-government (Bhatnagar 2010). Thus, governments in developing countries are forced to change their strategies to increase the e-services usage and to attract these investments. One of the recommendation to increase e-services usage is the use of consumer education through training (Weerakkody and Choudrie, 2005; Patel et al., 2008; Almahamid et al., 2010). Consumer education consists in increasing knowledge and skills, influencing behaviour and attitudes, and prepare citizens to take decisions whether it is economic, social, political or technological (Bloom, 1976).

Lebanon is one of the oldest democracies in the Middle East and citizens are proud in participating and engaging in civil and political issues but “Lebanon has a heterogeneous society characterized by the existing of 18 religious subgroups” (Harfouche and Robbin 2012, p.13). According to them, Lebanese culture has an impact on accepting/rejection of e-government services because Lebanese citizen’s behaviour is “often associated to his emotional feeling”. In Lebanon, 15% of citizens have an intention to use public e-services (Harfouche and Robbin 2012, p.22).

These first observations are the starting points of this study which will investigate the impact of consumer education on increasing citizens’ adoption of public e-services in Lebanon. The researcher will tackle this subject using a quantitative method.

2 Background

This study investigates the impact of consumer education on behavioural intention to use public e-services usage in Lebanon in the context of initial learning experience. To be able to answer such a question, one has to look closely at a brief historical review of e-government in Lebanon, as well as the definition of consumer education and initial learning experience and their relationship with e-government.
2.1 E-government In Lebanon

The Lebanese Republic is located in Southwest Asia, at the eastern edge of the Mediterranean Sea\(^1\). Lebanon has a relative small area of 10,452 sq. km and the population has reached 4.23 million in 2010 with more than 10 million Lebanese living abroad\(^2\). The Lebanese economy depends largely on services and it is driven by tourism mainly from the Arab countries and Lebanese expats and banking sector. The GDP estimation is 64.8 trillion LBP in 2012\(^3\).

Lebanon has undertaken a series of initiatives over the past fifteen years (1998-2012) to develop a vision and a strategy for e-government based on administration reform.

In 2003, the Lebanese Government, through the United Nations Development Program (UNDP) and the Office of the Minister of State for Administrative Reform (OMSAR) has developed the “National e-Strategy” which mission aims at "moving the economy and society of Lebanon towards a Knowledge Based Society in the shortest possible time while at the same time addressing related challenges and opportunities that Lebanon is facing". The mission of OMSAR is to lead in "Bringing the Lebanese post-war public administration into the 21st century through an optimal and coherent introduction of Institutional Development (rehabilitation and reform) and Information Technology (systems and communications) measures that render streamlined, transparent and traceable processes fulfilled by productive civil servants for the benefit of both the general public and government."\(^4\) In 2008, the e-government strategy was revised and adapted to the current state of ICT. The overall objective of this strategy is to realize economic and social benefits and quality-of-life improvements for all Lebanese citizens\(^5\).

In 2002, and according to the e-government strategy, a national Internet website (http://www.informs.gov.lb) was launched. Informs website has encompassed information on 4500 government transactions and information directory for different public and some private agencies. Since then, the site has been turned it into a comprehensive user-friendly information portal, and is continuously improving, adding and developing the content information in order to meet the needs of all users. However, due to the obstruction of the information and communication law that regulates the sector since 2004, the use of electronic and documents transactions is still lagging\(^6\). The only transactions available to users are those on the national portal described above. Thus, e-government in Lebanon is still at the information stage. In 2013, the office of the minister for administrative reform (OMSAR) has launched a new portal (www.dawlati.gov.lb) to introduce new e-services for the different ministries.

One of the key objectives of e-government is to decrease corruption. Lebanon was ranked 127th out 177 countries in 2013\(^7\) for the Corruption Perceptions Index (CPI). Wasta or connections defined as “force in interpersonal networks, every significant decision, and connections that pervade all aspects of business and social life” (Alawadhi and Morris, 2009, p.587) is everywhere in Lebanon and is an important mean of doing business\(^8\). According to (Harfouche and Robbin 2012, p.14), “the Lebanese developed tools such the wasta (or connections) as methods that can assure trust in their daily transactions (Colli 2003)”. The citizen is sometimes paying bribery\(^9\) to government employee or

\(^{2}\) [http://www.tra.gov.lb/Market-Data-Facts-and-figures]
\(^{4}\) [http://www.omsar.gov.lb]
\(^{7}\) [http://www.transparency.org/country/#LBN]
\(^{9}\) [http://www.transparency-lebanon.org/index.php?option=com_content&view=article&id=22&Itemid=10]
intermediaries to complete a transaction in any agency or ministry in the Lebanese Republic. E-government transactions are a way to limit both wasta (Alawadhi and Morris, 2009) and bribery. Currently, the United Nations’ Electronic Government Development Index for 2014 ranked Lebanon in 89th place globally (United Nations 2014). The index is a composite index based on online services, telecommunications infrastructure and human capital and is a quantitative appraisal of the use of e-government as a tool in the delivery of services to the public (United Nations 2014). The sub index online services includes the rating of the national portal, e-services portal and e-participation portal as well as the website from the ministry of education, health, finance, social services and labor and environment. The second index the telecommunication infrastructure indicates the penetration rate of mobile, internet, fixed telephone and fixed broadband. The third index, human capital, indicates the adult literacy rate and gross enrolment ratio. In Lebanon, the mobile cellular penetration is 85%10 while the mobile world penetration figure is 96% (mobile penetration in the developing countries is 89%)11. Major efforts have been done from 2012 to 2014 to boost the Internet market (wired and wireless broadband) by the Ministry of Telecommunications. They have launched 4G-LTE technology (the latest technology) on mobile in 201312 and have decreased the mobile and broadband prices in 2014. In 2013, the ITU report qualifies Lebanon among the “most dynamic countries” for ICT progress13. By end 2012, over 60 per cent of the population were using the Internet (up from 52% in 2011)14. In summary, Lebanon e-government program is still lagging behind major countries in the regions due to internal conflict, lack of telecommunications and internet regulation and laws and an average telecommunication infrastructure but it has a potential for human capital.

2.2 Consumer Education

According to McGregor, (1994, p.40) consumer education is a “life-long socialization process provided to individual and family consuming units of varying consumption ages and structures such that they can accumulate, in a progressive, empowering manner, the knowledge, skills, attitudes, and behaviours considered necessary for managing resources, engaging in rational consumption behaviour and taking actions as citizens. This includes coping with, adapting to and influencing and dealing with the impact of economic, social, ecological, political, and technological systems at the micro, macro and global levels such that individual, familial and societal betterment results”. It allows the consumer to act as a “citizen” in his consuming role. It encourages consumer-citizen empowerment to shape a better consumer able to cope, adapt and influence changes in socio-economic and other environment. This definition also concurs with the “Citizen Oriented” vision that puts the citizen at the heart of project and drives him to engage in the transformation process according to his interests, wants and needs (Fakhoury and Aubert, 2013). McGregor, (1994) definition shows that consumer education shares a common interest with any government objective, preparing people to be citizen first. The objective of consumer education is mostly concerned with the acquisition or change of knowledge to induce a change in behaviour or to do an action related to this behaviour (Uhl, 1970; Bloom, 1976; Burton, 2002; Aubert, 2007; McGregor 2010). Bloom and Ford, (1979) show that consumer education programs seeks to change the knowledge level by increasing it. Staelin, (1978) indicates that this new knowledge brought by consumer education will lead to changes in behavior. Bannister and Monsma

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10 http://www.tra.gov.lb/Market-Data-Facts-and-figures
13 http://www.itu.int/net/pressoffice/press_releases/2013/41.aspx#.Us_LOtI0vTo
(1982) explain that “gaining the knowledge and skills” can affect consumer decisions. Flowers et al., (2001) add that consumer education will “enable people to make better choices in the goods and the services they buy”. Park et al. (1992) indicate also that the effects of knowledge on consumer education is linked to decision making. McGregor, (2005) takes a step further by stating that a knowledgeable consumer will become an empowered consumer. Burton, (2002) indicates that knowledge is “an outcome and relates to how information and education are used”. Knowledge is not just about “processing” or “analysing” information but it is rather about the conclusion of these steps in order to “empower” or “make better choices” (McGregor, 2005).

2.3 Initial Learning Experience

The study studies the impact of consumer education on behaviour intention to use e-government services in the context of initial learning experience. Academic research is scarce in the area of consumer education in general and thus in the area of initial learning experience also. A field experiment research study conducted by (Mittal and Sawhney, 2001) has shown that a well-structured initial learning experience increases usage of complex Electronic Information Products and Services (EIPS). Mittal and Sawhney, (2001, p3) define EIPS as “product or service that is accessed through an electronic interface and contains significant information content”. In this study case, the portal and the mobile apps for the Lebanese Government which covers information related to public e-services and is accessed by consumer electronically belongs to this category. According to (Mittal and Sawhney, 2001), the initial learning experience in EIPS is defined as “the initial post purchase learning experience” and it aims at “learning about the consumption of the brand purchased”. During this period, a set of activities occur such as “reading manuals, taking tutorials or engaging in self-guided exploration of EIPS”. This period is different from the pre-purchase learning (helping consumers in brand evaluation and choice) and the on-going post-purchase (learning that occurs of a result of consumption). One of the critical characteristic of this period is that consumers have limited amount of time to learn about the products or services therefore it is critical to use it to maximize the benefits for the organizational and the consumers.

In their field-experiment study with MBA students, Mittal and Sawhney (2001) have studied the impact of the amount of process and content knowledge on the services/products usage. According to them, process-oriented knowledge results from learning about how to use EIPS while content-oriented learning refers to learning the actual content or information residing in the product. They have measured and validated that “moderate amount of both content and process oriented knowledge at the initial learning experience results in higher usage”. They have concluded that firms should therefore structure well the initial learning experience (whether EIPS is complex or not) to increase usage by helping and motivating the consumer. Similarly, Billetter, Kalra, and Loewenstein, (2011) demonstrate that the initial skill acquisition phase is often a critical phase where consumers tend to either adopt the product or completely abandon it based on their own perception. Billetter, Kalra, and Loewenstein, (2011) have tested and validated the importance of learning the how to use skills based products during this phase. The “initial skill-acquisition phase of product use” for skills-based product indicated by Billetter, Kalra, and Loewenstein, (2011) is similar to “the initial learning experience” defined by Mittal and Sawhney, (2001) above. Billetter, Kalra, and Loewenstein, (2011) emphasize the importance of the “initial learning phase” by showing evidence that “initial learning often serves as a barrier to new product adoption” thus demonstrating that this is phase in a consumer decision making point where he/she decides to use the product, abandon it or revert back to another product. Based on the above, they have recommended that firms should invest resources to help and encourage consumer during “the initial stages of product experience”.

The initial learning experience, an antecedent to usage, is thus the right time for learning and a consumer decision making point. New methods are often used during this period to enhance consumer knowledge. Initial Learning Experience must also be carefully planned by any stakeholder because it
will affect consumer decision making (to either increase higher usage or completely abandon the product/service).

3 Research Context, Model, Methodology and Results

3.1 Research context

The study will be conducted in Lebanon with consumers who have already experience and access to the Internet through their PC or their mobile device. In Lebanon, 15% of citizens have the intention to accept public e-services (Harfouche and Robbin 2012). Thus, it is interesting to study the impact of consumer education on behavioural intention to use e-government services.

The research model will be tested on two websites (www.dawlati.gov.lb and eservices.finance.gov.lb) and their mobile apps. The website www.dawlati.gov.lb and its mobile apps have been launched by the Office of Minister for Administrative Reform (OMSAR) in September 2013. The purpose of this portal is to contribute to the quality and efficiency of government by providing citizens access to information and services and realize transparent, democratic government interaction processes thus reducing required paper documents and lessening citizen’s visits to government offices through online administration services. In addition, through the portal, other government agency web sites and services can be accessed giving them additional visibility. Currently, informational content, e-forms (Portable Document Format or PDF forms to be filled and printed or to be printed and filled) and e-services (including tracking a transaction) from three different entities are found through the web and the mobile apps are available on Apple, Android and Blackberry store.

The website eservices.finance.gov.lb is the portal for tax payers to submit declarations, review their profiles, check for due amounts, and receive notification mails. It is published for public organizations and individuals to carry out their annual tax declaration tasks throughout the internet. E-taxation is the first e-service launched in 2013 by the Ministry of Finance to enable taxpayers to file and process their tax transactions through the web. Tax inquiry is another e-service introduced by the Ministry to check the amount of the tax on build property. Citizen is also able to pay this tax using the mobile apps knowing available on both Apple and Android store during 2013.

3.2 Research Model

The research model examines the relationship between the independent variable, Basic amount of Process and Content oriented knowledge, and the dependent variable, behavioural intention to use e-government services. No specific studies have measured the impact of Basic amount of Process and Content oriented knowledge on behavioural intention to use e-government services during initial learning experience.

Mittal and Sawhney, (2001) have run a study with MBA students using four training session using a website while varying the amount of process oriented and content oriented knowledge (one module training for the basic process oriented and content oriented learning, one module for complex process oriented learning, one module for complex content oriented learning and the last does not include any content). They have found that “moderate amounts of both process and content oriented learning result in a higher usage”. They have also tested these modules on early period (weeks 1-3), late period (weeks 4-8) and the cumulative period (early and later period). The group trained on basic process oriented and content oriented learning has increased their usage of the website over the three periods of time. Mittal and Sawhney, (2001) emphasize on the specific dimensions and amount of knowledge and skills that should be structured to enhance the consumer learning and improve his intention to use the product or services during the initial learning experience emphasizing the importance of such a
The pretest-posttest design is used to compare an experimental groups that are exposed to Treatment T and a control group which is not or two groups exposed to different treatment (Huck and Mclean 1975). However it can be easily extended to more than two groups with different treatment interventions between measurement of pretest and posttest scores. The objective of such a design is to demonstrate that a treatment is more effective than others or than the control group who did not receive the treatment.

In the case of the study, there are three experimental groups exposed to different treatment T or training (Advanced process-oriented – Group 1, Advanced content-oriented – Group 2, Basic content-oriented, Basic process-oriented – Group 3) and one control group (No Process-oriented, No Content oriented – Group 0).

Despite the specificity of this study, it can be concluded that providing basic process and content oriented knowledge during initial learning experience on early period to consumer over a short period of time will help them increase their behavioural intention to use e-government services. Figure 1 represents an elaboration of the research model.

Figure 1. Research Model

3.3 Research Methodology

3.3.1 Measurement and scaling

All of the scales were adapted from prior research on e-government and technology adoption literature. The scale for the UTAUT v2 construct (behaviour intention to use) were adapted from (Al-Shafi and Weerakkody, 2009; Carter et al., 2011; Schaupp and Mcbride, 2011; Al-Sobhi et al., 2011; Ahmad et al., 2012; Venkatesh, Thong, and Xu, 2012). All items were measured using a seven-point Likert scale, with the anchors being 1 for “strongly disagree” and 7 for “strongly agree.” Consumer education through basic content-oriented/process-oriented knowledge is not measured but is tested through the training modules. The entire respondent in the groups have completed two measurement (At Pretest and at Posttest) made on the same experimental sample, using the same unit of scale (in the study the scale is Likert 7) and the same questions at a point of time reasonably afterwards (in the study, the learning experience period is between 1 hour to 3 weeks).

3.3.2 Questionnaire Design

A questionnaire is designed to collect the data to answer the research question. Questions were compiled from validated instruments in the literature to represent each construct, and wording was modified to fit the e-government services context. Items were adapted from previous studies on UTAUT and e-government (Venkatesh et al., 2012; Harfouche and Robbin 2012). This questionnaire will be taken at pre and post the training session (during the early period weeks 1-3) to test the knowledge on e-government for four groups (Basic process and content oriented knowledge, Advanced process oriented knowledge and Advanced content oriented knowledge and No Training). The questionnaire starts with an introductory e-mail providing an introduction to the study, the
objective and relevance to the Lebanese context to emphasize citizen participation. The final part will cover the questionnaire related to the model constructs taken at pre and post training sessions.

The table below shows the questionnaire and its reference.

<table>
<thead>
<tr>
<th>Behavioral Intention</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>I intend to continue using public e-services in the future.</td>
<td>(Venkatesh et al., 2012)</td>
</tr>
<tr>
<td>I will always try to use public e-services in my daily life.</td>
<td>(Venkatesh et al., 2012)</td>
</tr>
<tr>
<td>I plan to continue to use public e-services frequently.</td>
<td>(Venkatesh et al., 2012)</td>
</tr>
</tbody>
</table>

Table 1. Questionnaire

3.3.3 Training Modules Design

The training modules include a background module and three specific training modules. The background training module covers an overview of the key elements of e-government: History, Definition, Objectives, Goals, Benefits and ICT trends, an important e-government implementation strategies: Different strategies and new trends and a description of the Lebanese context. The three training modules will be designed according to Mittal and Sawhney, (2001) instructions. They will be adapted to train consumers using process and content oriented learning on using two websites and their mobile applications (www.dawlati.gov.lb and eservices.finance.gov.lb). Each website will have three training modules (Basic process and content oriented knowledge, Advanced process oriented knowledge and Advanced content oriented knowledge).

For instance, the basic process oriented module for the Ministry of Finance covers the how to browse the portal for the tax declaration, register for the e-services and declare the tax. In addition, it includes the basic navigation for tax property tax inquiry for both the website and the mobile apps. The basic process oriented module for Dawlati covers how to browse the portal interface, how to search the directory for services offered by different Ministries, how to set up their profile and a username and password. The advanced process oriented modules for Dawlati covers the basic content module and specific procedures to search, start and track e-services and download e-forms. The advanced and basic content-oriented learning for Dawlati include knowledge about the necessary and essential information to conduct government transactions, the addresses and phone numbers of ministries and public agencies, the information about administrative procedures, the different level of e-forms and e-services offered by the Lebanese Government and specialized page such as public holidays, Ogero, Liban Post, Mecanique and so on. The training module materials are defined and inspired from the guidelines on both websites (www.dawlati.gov.lb and eservices.finance.gov.lb).

3.3.4 Survey Fieldwork

The web survey and onsite training started on 7 January 2014 and lasted till 15 April 2014. The quantitative study was conducted for Lebanese citizens. The researcher decided to diversify the distribution of the web survey using social media (Facebook, LinkedIn and twitter), e-mails and face to face to circulate the questionnaire and the training to increase the sample and collect sample data representative of the Lebanese population. A large sample of Lebanese citizens (around 262 respondents) have responded to the two questionnaires and/or taken the training modules. The onsite training session were conducted in Beirut, Lebanon in two universities (The American University of Beirut and the Lebanese University), in a technical school and in a non-governmental organization (NGO). The consumers were trained using the training modules explained earlier. The objective of using training sessions is to determine a change on consumer behaviour at pre and post period during the initial learning experience where a user makes a decision on whether to use or not e-services.
The researcher will use the following method:

![Diagram of research methodology]

Figure 2. Research Methodology

The training was done at their premises using two training modules (Basic Content and Process Oriented and Advanced Content Oriented) only. The other modules (Advanced Process Oriented and Advanced Content Oriented) were distributed via social media and e-mails. Overall, the initial learning experience period has lasted from 1 hour to at most 2 weeks using all the survey broadcasting technique (social media, e-mails and face to face training). Mittal and Sawhney (2001) have shown that the usage of EIPS, in the case of this study the usage of the e-government portal and their mobile apps, is relevant in the early period (weeks 1-3). Thus, the study will have some limitations in the initial learning experience period (less than 1 hour to 2 weeks instead of 1 to 3 weeks). The participants were randomly assigned to groups. 76% of respondents (on Pretest) and 67% of respondents (on Posttest) were distributed randomly via social media and the rest were taken from three different universities/school and one NGO in Beirut (around 24% on Pretest and 32% on Posttest). The tables below summarize the total response (completed and partially completed) at pre and post training and the survey technique broadcasting method for each group.
### Table 2. Survey E-government Pre-Training Summary

<table>
<thead>
<tr>
<th>Basic content-oriented, Basic process-oriented – Group 3</th>
<th>Total Survey</th>
<th>Total Survey Completed</th>
<th>Total Survey Partially Completed</th>
<th>Survey Technique Broadcasting Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45</td>
<td>43</td>
<td>2</td>
<td>Face to Face</td>
</tr>
<tr>
<td>Advanced content-oriented – Group 2</td>
<td>89</td>
<td>75</td>
<td>14</td>
<td>Social media + e-mail Face to Face</td>
</tr>
<tr>
<td>Advanced process-oriented – Group 1</td>
<td>72</td>
<td>46</td>
<td>26</td>
<td>Social media + e-mail</td>
</tr>
<tr>
<td>No Process-oriented, No Content oriented – Group 0</td>
<td>56</td>
<td>54</td>
<td>2</td>
<td>Social media + e-mail</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>262</strong></td>
<td><strong>218</strong></td>
<td><strong>44</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Table 3. Survey E-government Post-Training Summary

<table>
<thead>
<tr>
<th>Basic content-oriented, Basic process-oriented – Group 3</th>
<th>Total Survey</th>
<th>Total Survey Completed</th>
<th>Total Survey Partially Completed</th>
<th>Survey Technique Broadcasting Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45</td>
<td>43</td>
<td>2</td>
<td>Face to Face</td>
</tr>
<tr>
<td>Advanced content-oriented – Group 2</td>
<td>47</td>
<td>33</td>
<td>14</td>
<td>social media + e-mail Face to Face</td>
</tr>
<tr>
<td>Advanced process-oriented – Group 1</td>
<td>72</td>
<td>46</td>
<td>26</td>
<td>Social media + e-mail</td>
</tr>
<tr>
<td>No Process-oriented, No Content oriented – Group 0</td>
<td>28</td>
<td>26</td>
<td>2</td>
<td>Social media + e-mail</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>192</strong></td>
<td><strong>148</strong></td>
<td><strong>44</strong></td>
<td></td>
</tr>
</tbody>
</table>

### 3.4 Research Results

The research model was tested using repeated measures with SPSS for the four groups. The goal of this study is to determine the relationship between consumer education (Training modules for the four groups) and behavioural intention to use e-government services in the context of initial learning experience and to show that basic content and process oriented knowledge has the most increase among the groups. The results of the analyses are shown in Table 4.

The model explains a large percentage of the variance in the relationship between consumer education and behavioural intention to use e-government services in Lebanon;

The overall test effect (The within subject test (Prepost) is significant: Pillai's Trace = .089, F(1, 144,000) = 14.078, p = .000 < .005) and the groups do change over time (The interaction of PrePost * Group is significant). The researcher has also found that the intercation between PrePost and Group is also significant PrePost (Group * PrePost) is statistically significant (Pillai's Trace = .091, F(1, 144,000) = 4.788, p = .003 < .005). It means that the groups are changing over time but in a different ways.

The graph below for each variable have non-parallel lines and show the changing for each variable and per group. It reveals clearly that Group 3 (basic content and process oriented knowledge) increases more than the other groups from Pretest (1) to Posttest (2) for the variable Behavioral intention to use (BI).
Table 4. Multivariate Table

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PrePost</td>
<td>Pillai’s Trace</td>
<td>.089</td>
<td>14.078*</td>
<td>1.000</td>
<td>144.000</td>
</tr>
<tr>
<td></td>
<td>Wilks’ Lambda</td>
<td>.911</td>
<td>14.078*</td>
<td>1.000</td>
<td>144.000</td>
</tr>
<tr>
<td></td>
<td>Hotelling’s Trace</td>
<td>.098</td>
<td>14.078*</td>
<td>1.000</td>
<td>144.000</td>
</tr>
<tr>
<td></td>
<td>Roy’s Largest Root</td>
<td>.098</td>
<td>14.078*</td>
<td>1.000</td>
<td>144.000</td>
</tr>
<tr>
<td>PrePost * Group</td>
<td>Pillai’s Trace</td>
<td>.091</td>
<td>4.788*</td>
<td>3.000</td>
<td>144.000</td>
</tr>
<tr>
<td></td>
<td>Wilks’ Lambda</td>
<td>.909</td>
<td>4.788*</td>
<td>3.000</td>
<td>144.000</td>
</tr>
<tr>
<td></td>
<td>Hotelling’s Trace</td>
<td>.100</td>
<td>4.788*</td>
<td>3.000</td>
<td>144.000</td>
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<td>Roy’s Largest Root</td>
<td>.100</td>
<td>4.788*</td>
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Figure 3. Estimated Marginal Means of BiPost for the four groups.

4 Conclusion and Managerial Implications

In this study, clear evidence has been provided that consumer education through basic content and process oriented knowledge based on experimental training has a positive impact on behavioural intention to use e-government services during initial learning experience.

4.1 Implications for Research

The academic contribution is to strengthen the e-government research by linking it to consumer education and initial learning experience. The empirical validation shows also that “consumer education through basic knowledge increases behavioural intention to use e-government service” is also significant across the combined groups and Group 3 (Basic process and content knowledge) has the most significant increase. The validation confirms also the results of Mittal and Sawhney, (2001) and Lakshmanan and Krishnan (2011) studies. These results confirm also most recommendations in the e-government literature that training is a priority step to increase e-government usage (Beynon-davies, 2005; Weerakkody and Choudrie, 2005; Akman, Yazici, Mishra, and Arifoglu, 2005;
4.2 Implication for Practice

This research provides guidance for Lebanese government on how to improve e-government strategy and implementation plans and speed up the diffusion of e-services among citizens. In the context of this study, e-government plans will have a better chance to succeed with an aware and trained citizen. If we educate the Lebanese citizens on e-government, they will be conscious about the importance of the phenomena and the usage of e-services. Thus this study highlights the need for informed citizens to participate in the process implementation for e-government. For instance, the Lebanese government will have to launch a large scale national marketing campaign through social media, TV, newspapers and other available media (Cinema, Talk shows, Banners, Flyers, user guides and mobile games) to build awareness among citizens. These stakeholders will have a high understanding of the e-government (Vision, Mission, Budget, Implementation plan) and its functionality. These actions will engage citizens directly in service delivery, and provide them with the sufficient information to enable them to create public value themselves. A monitoring and an assessment of the e-service performance should be evaluated after the implementation of specific action in different geographical and social sectors.

In the other hand, the ultimate benefit for both government and citizen is to develop an e-strategy that encompasses ICT factors, a well-structured e-Education (through academic and consumer education) and different aspects that will motivate, empower and engage citizens to participate, access and use e-government services.

A set of priorities shall be adopted to improve the education sector. Government shall fit e-government into the national education programs through an e-Education oriented strategy toward the development of knowledge, skills and attitudes is needed for handling information and the intensive use of Information and Communication Technology (ICT). It shall also develop the general education of citizens and provides them with lifelong learning skills. Government shall strengthen the role of education in developing citizenship by forming “consumer - citizens” who are capable of civic participation and re-engage citizen as ‘active citizens’.

4.3 Limitations

This study has limitations. First, it is important to recognize that the primary limitation of this study is the testing and the validation of the model in a developing country within an unstable political, social and economic situation. The bloody war conflict in Syria has threatened Lebanon’s security and stability as the Lebanese citizen struggles to survive the already unstable and dangerous situation in the country. This might help explain the low interest in filling the survey (16% to 23%) and the high dropout rate (27%) from Pretest to Posttest. Accordingly, the second limitation i.e. the diffusion of the training modules through social media is one of the consequences of such situation. In terms of comparisons, this study is limited due to the lack of similar previous studies in developed and similar countries. We have identified a number of areas where the need for future similar research is apparent. The first approach is to overcome the limitations presented above. Other research can also test and validate the model in the later period (weeks 4 to 8) of the initial learning experience as suggested by Mittal and Sawhney, (2001). Finally, we consider it necessary to test this model in different countries specifically in developing and stable countries where e-government failure is the most relevant.
References


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