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eFAWATEERcom As an Electronic Bill Payment Service: The Case of Jordan

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Abstract— Considering an increasing burden of paying bills through an ordinary process, whether in terms of cost, time, or effort. The Central Bank of Jordan took the initiative role in coordination and cooperation with the National Payments Council to create eFAWATEER.com service as an electronic portal for presentation and billing collection. It is challenging to get a comprehensive study on the acceptance of eFAWATEER.com service in some of working banks in Jordan. eFAWATEER.com has been adopted by large number of Jordanians from different gender, age, educational levels, marital status, geographical areas, and monthly income. However, the users' intention to continue adopting eFAWATEER.com service might be influenced by the socio-demographic characteristics of those users. This research aims to investigate the difference in the intention to use eFAWATEER.com among users based on their gender, age, educational level, marital status, geographic location, and monthly income. Data were collected from eFAWATEER.com service users (i.e., Public and private sectors), using a paper-based questionnaire. 1000 questionnaires were distributed to the targeted sample, 456 valid responses were obtained. In order to get more information regarding to eFAWATEER.com service, an interview with the CEO of MadfooatCom company was conducted. The findings showed that, there is a significant difference when it comes to the user's intention to continue adopting eFAWATEER.com as an electronic bill payment service determined by user's geographical location and gender. This research provides a general guidelines for "Madfooatcom Company" and the "Central Bank of Jordan" to make investments in another e-channels and e-services using eFAWATEER.com portal to work for many consumers categories in Jordan based on their geographical location and gender.

Keywords— madfooatCom; electronic bill payment service; Jordan; eFAWATEER.com; commercial banks.

I. INTRODUCTION

The emergence of online transactions, enabled through internet media, has led to raise the number of electronic payment services around the world [1]. Considering an increasing burden of paying bills through an ordinary process, whether in terms of cost, time, or effort [2]. The Central Bank of Jordan took the initiative role in coordination and cooperation with the National Payments Council to create a presentation and billing collection electronically as a central integrative system aiming to offer a display, bill collection, and other payment electronical services for public[3]. This service aims to facilitate and speed up the payment of bills and other payments through various payment channels in the country such as bank branches, ATM, telephone banking, online banking, and mobile phone JoMoPay, Kiosk devices, etc. to transfer from the paper paying method to an electronic one, which enhances the expenses lowering; as this service is considered

one of the latest technical systems that brought a positive progress in the field of retail payments[4, 5].

The Central Bank of Jordan is keen to creating this service to bridge the payment bills gaps offered by some banks and providers of payment services that showed lack of central integrated connectivity between the billers, banks, and providers of payment services. In particular, for a developing country such as Jordan-located in Middle East with a population of approximately 10 million- all the necessary fundamentals required for an international information and communication technology (ICT) companies to establish a regional hub for electronic services are available. Jordan's key attribute lies in the high quality human capital, well trained and educated ICT workforce [6].

This service is created to provide easy technical solutions to all parties by reducing the multiple links to a single link [7]. eFAWATEER.com works as a mediator between the involved system parties and provides a mechanism of the bills reviewing and inquiry, also paying bills to different agencies in addition to direct reporting of payment.

While searching eFAWATEER.com service to get the information, one can find a detailed explanation of a paying company (MadfooatCom) or lists of all companies dealing with, as well as a detailed description of bills in each of its service dealing companies. However, it is challenging to obtain details about a comprehensive study on the acceptance of eFAWATEER.com service in some of working banks in Jordan[8]. In addition, to examining the difference in the intention to use among eFAWATEER.com users based on their gender, age, educational level, marital status, geographic location, and monthly income. The purpose is to reveal the critical factors affecting the intention of the consumer to use the eFAWATEER.com instead of walked to their bank's nearest branch to do whatever bill paying or check cashing[9].

A. EFAWATEER.com

eFAWATEER.com is an official online payment gateway in Jordan, owned by the Central Bank of Jordan (CBJ) and operated By MadfooatCom. MadfooatCom is an electronic payment company established in 2011, aiming to solve payment problems in Jordan and the Arab region, where many citizens are suffering due to bureaucratic payment methods. "MadfooatCom" company has worked on altering the method of cash payment, as the service receiver is accustomed to withdraw money from the bank and go to the service companies or government departments to pay electricity and water bills or to pay taxes and customs, and schools and university fees. The idea of "MadfooatCom" has been launched by a Jordanian youth group to facilitate the payment electronically, without any necessity to carry cash, and saving effort and time. Moreover, the payment method is safe, reliable, and accessible to the public via eFAWATEERcom service.

eFAWATEERcom is a web service that enables banks. billers, and Payment Service Provider (PSP) to send and receive financial requests through the eFAWATEERcom network for the purpose of bills presentation and payment. Lately, more than 46 billers, including the majority of the governmental organizations and telecom companies in Jordan are adopting eFAWATEERcom. eFAWATEERcom is one of the trusted payment methods for the Jordanian people served the bank account holder and credit card through 23 banks around Jordan. 23 banks offer the service through 6 channels, while eFAWATEERcom portal allows consumers to inquire about, review, settle their bills, and safely recharge their prepaid mobile phone balances online using all kinds of payment cards (MasterCard, VISA, etc.)[10, 11]. It is suitable even for unbanked consumers, since eFAWATEERcom can serve them through bank tellers, also this service is available through the Jordan post, one of the biggest offline network.

According to the Jordan Digital financial services forum report [12], eFAWATEERcom had more than 30% average growth rate for the transactions/month. However, the most important purpose of "eFAWATEER.com" is to facilitate service for consumers by saving time and effort. In addition to enabling flexibility in the use of different banking channels for payments, including ATM, Internet banking, (Phone Banking), bank branches, and other electronic payment methods, as well as the ability for viewing and

payment of all types of bills through a single system [13]. Table 1 shows the numbers and values of paid transactions within eFAWATEER.com system

As shown in Table 1, the numbers of payment transactions that have been implemented through eFAWATEER.com service in 2015 accounted for 478,286 compared to 1,837,270 payment transactions in 2016, with a total value amounted to 41,628,223 Jordanian dinars, compared to 560,854,465 JD in 2016 increasing in the number of value have reached to 1247.3% compared to 2015. In addition, the number of payment transactions has increased through eFAWATEER.com service during December 2016, amounted in 247,099 payment transactions, the total value is amounted to 134,917,593 JD increasing in the number of transactions have reached to 1367.21% compared to the beginning of the same year (January 2016). The number of payment transactions during December 2016 increased to 247,099, the total value is amounted to 134,917,593 JOD, compared to 279,194JD in December

TABLE I EFAWATEER.COM LIST OF PAID TRANSACTIONS

| | Value (JD) | | |
|-----------|--------------|----------|--------|
| Month | 2016 | 2015 | 2014 |
| January | 9195487 | 382073 | 0 |
| February | 8446249 | 550596 | 0 |
| March | 9334568 | 783904 | 0 |
| April | 12739300 | 1092156 | 0 |
| May | 17041132 | 1670878 | 1821 |
| June | 32244416 | 1950021 | 10550 |
| July | 24919232 | 2689749 | 24610 |
| August | 61147011 | 4678242 | 32992 |
| September | 48642105 | 4941407 | 60645 |
| October | 83768718 | 4748204 | 75607 |
| November | 118458654 | 6886829 | 113950 |
| December | 134917593 | 11254165 | 279194 |
| Total | 560854465 | 41628223 | 599370 |
| | No. of bills | | |
| Month | 2016 | 2015 | 2014 |
| January | 95566 | 8658 | 0 |
| February | 96645 | 11036 | 0 |
| March | 109277 | 17308 | 0 |
| April | 110152 | 20693 | 0 |
| May | 135458 | 31355 | 71 |
| June | 133779 | 34658 | 337 |
| July | 149104 | 40448 | 767 |
| August | 176939 | 51019 | 1097 |
| September | 164367 | 52669 | 506 |
| October | 198208 | 52016 | 2167 |
| November | 220676 | 70539 | 3643 |
| December | 247099 | 87887 | 6988 |
| Total | 1837270 | 478286 | 16576 |

eFAWATEER.com service is becoming widely understood in Jordan due to earlier market awareness. billers, banks, and other financial institutions in the Middle East are trying to adopt new electronic bill payment systems such as eFAWATEER.com [3]. This new technological service

needs to be investigated since it is used by a wide range of people from different gender, age, educational levels, marital status, geographical areas, and monthly income, which might impact the intention of consumers to continue using this service [1, 14]. It aims to provide both researchers and business executives a comprehensive view of such eservices to increase the success rate of new eservices adoption and to reduce uncertainty in ebusiness [15-17]. This will be achieved by focusing on in-depth current situation analysis and defining the adoption factors of eFAWATEER.com service by consumers.

II. MATERIAL AND METHOD

In this study, data were collected from eFAWATEER.com service consumers (i.e., Public and private sectors), using a paper-based questionnaire. 1000 questionnaires were distributed to the targeted sample. 456 valid responses were obtained, out of which four were excluded due to incomplete responses.

| TABLE II |
|----------------------------|
| DEMOGRAPHICS OF THE SAMPLE |

| Demographic profile | Categories | Number | % |
|------------------------|---|--------|------|
| Gender | Male | 247 | 54.2 |
| | Female | 209 | 45.2 |
| Age | Less than 21 | 55 | 12.1 |
| | 21-25 | 75 | 16.4 |
| | 26-30 | 198 | 43.4 |
| | 31-35 | 62 | 13.6 |
| | More than 35 | 66 | 14.5 |
| Educational Level | Secondary & Postsecondary Educational Level | 358 | 78.5 |
| | Pre-Secondary Educational Level | 98 | 21.5 |
| Marital Status | Married | 321 | 70.4 |
| | Single | 135 | 29.6 |
| Geographic Location | Outside Amman | 179 | 39.3 |
| | Amman | 277 | 60.7 |
| Monthly Income | Less than 500JD | 100 | 21.9 |
| | 500-800 JD | 239 | 52.4 |
| | More than 800 JD | 117 | 25.7 |

In addition, the interview with the CEO of MadfooatCom company was conducted. The instrument gathered information about the demographic characteristics of respondents, and the research constructs (i.e., Intention). The socio-demographic characteristics were measured in terms of gender, age, educational level, marital status, geographic location, and monthly income.

Table 2 presents the socio-demographic information about the respondents. In the sample, 54.2% of respondents were males and 45.2% were females. The majority of respondents were well educated; with 78.5% with secondary and postsecondary educational levels, which indicated if the user is more educated and comprehends technological techniques,

it might increase his or her acceptance of such new technology. More than 70% of respondents are married and 60.7% are living in Amman, the capital, while the remaining 39.3% of respondents are distributed across the rest of Jordanian cities. Moreover, the distribution of the monthly income of respondents shows that the majority of respondents are between 500-800 JD (52.4%).

III. RESULTS AND DISCUSSION

This study examines the differences in the intention to use eFAWATEER.com among users based on their gender, age, educational level, marital status, geographic location, and monthly income. In part 1, Mann-Whitney Rank sum test was used to examine gender, educational level, marital status, and geographic location socio-demographic variables. In part 2, a Kruskal-Wallis H test was used to examine the age and monthly income socio-demographic variables.

The results revealed that, women are more likely to use eFAWATEER.com than men (Females: mean rank 246.45, males: mean rank 213.31). Hence, it can be concluded that the intention of female users was statistically significantly higher than the male users (Mann-Whitney U=22060, p=.004, $sig \le .05$, 2-tailed)[18]. There is a limited studies that examine the relationship between educational level and computer usage. In general, the educational level is not among the main variables and is usually measured as a part of demographic characteristics or as a control variable in data analysis [19]. Additionally, researchers commonly investigate the relationship between the educational level and acceptance indirectly via computer anxiety. As noticed from Table 3, a Mann-Whitney U test showed that there was not a statistically significant difference in eFAWATEER.com intention to use between different education levels, U=17397.5, p=0.892, with a mean rank score of 229.97 for the pre-secondary educational level and 228.1 secondary & post-secondary educational level.

The Mann-Whitney U test revealed no differences regarding the intention among consumers based on their educational level (Table 3). Furthermore, the distributions of the eFAWATEER.com intention to use were not significantly different based on the consumers marital status, using Mann-Whitney U test U=21577.0, p=0.939. The educational level of the consumers and their marital status did not seem to influence their decision on adoption of eFAWATEER.com service. In contrast, consumers who live in Amman are more likely to use eFAWATEER.com than consumers who live outside Amman (Amman: mean rank 239.27, outside Amman: mean rank 211.84). Thus, it can be concluded that the intention of Consumers who live in Amman was statistically significantly higher compared to the consumers who live outside Amman (Mann-Whitney U=21808.50, p= 0.019, sig \leq .05, 2-tailed). It is considered a unique actual application of a globalization era by its interaction with the consumer's lifestyle, especially in big cities. It can be considered that it represented a significant shift point, according to the consumer's perception. Ordinary consumer might suffer from going to private collection companies of public services to pay the bills, nowadays; it can be paid smoothly via banks, postal offices, or online.

TABLE III MANN-WHITNEY RANK SUM TEST

| Grouping Variable | Categories | N | Mean Rank | U | Z-value | Sig (2-tailed) |
|----------------------|---|-----|-----------|---------|---------|-------------------|
| Candan | Male | 247 | 213.31 | 22060.5 | -2.902 | 0.004 |
| Gender | Female | 209 | 246.45 | 22000.3 | | |
| Educational | Secondary & Postsecondary Educational Level | 358 | 228.10 | 17397.5 | 136 | 0.892 |
| Level | Pre-Secondary Educational Level | 98 | 229.97 | 1/397.3 | | |
| Manital States | Married | 321 | 228.22 | 21577.0 | | 020 |
| Marital Status | Single | 135 | 229.17 | 21577.0 | 076 | .939 |
| Geographic | Outside Amman | 179 | 211.84 | 21808.5 | -2.355 | .019 |
| Location | Amman | 277 | 239.27 | 21000.3 | -2.333 | .019 |

TABLE IV Kruskal Wallis Test

| Grouping Variable | Categories | N | Mean Rank | Chi-Square | Sig. |
|-------------------|-----------------------|-----|-----------|------------|-------|
| | 1=less than 500JD | 100 | 242.60 | | |
| Income/ month | 500-800 JD | 239 | 226.32 | 1.882 | 0.390 |
| | 3=More than 800 JD | 117 | 220.90 | | |
| | Less than or equal 20 | 55 | 234.63 | | |
| | 21-25 | 75 | 223.72 | | |
| Age | 26-30 | 198 | 237.78 | 3.919 | 0.417 |
| | 31-35 | 62 | 224.01 | | |
| | More than 35 | 66 | 205.22 | | |

A Kruskal-Wallis H test showed in Table 4 that there was statistically significant difference not eFAWATEER.com intention to use on the basis of the different monthly income, $\chi 2(2) = 1.882$, p = 0. 390, with a mean rank income score of 242.60 for less than 500JD, 226.32 for 500-800 JD and 220.90 for more than 800 JD monthly incomes. In addition, the distributions of the eFAWATEER.com intention to use were not significantly different between the five levels of age, using Kruskal-Wallis, X^2 (4) = 3.919, p = 0.417. According to Zeffane and Cheek [20] study of computer usage in an Australian telecommunications organization, age is negatively correlated with computer usage. The Pairwise comparisons using the Kruskal-Wallis test (p = 0.05) revealed that as hypothesized the intention to use among eFAWATEER.com users is different based on their age distribution, accordingly, the fourth hypothesis was rejected. It could be concluded that the gender is the most important influential variable of the consumer's intention to use eFAWATEER.com service. The second rank is the place of residence (geographic location) variable.

Accordingly, it has been noticed that the service is in continuous progress since its emergence until the present, which reflects the state of positive interaction by the Jordanian public [21]. In order to enrich the study, the researcher interviewed the company's CEO of MadfooatCom. Mr. Nasser Saleh to ask some important questions about the service coming future:

CEO-founder of the company "MadfooatCom" Nasser Saleh says, "In the beginning, the idea was presented to telecommunications companies and banks, but we have encountered some difficulties, and slow response, which prompted the team to go to the central bank to introduce the idea." He added, "then we found that the central bank had

put a long-term strategy for electronic payment in Jordan, including the payment plan through a mobile phone and several other projects." He explained the central bank adopted the project, offering a tender for (e.fawateer.com). "MadfooatCom" company succeeds in the tender after competing with regional, local, and foreign companies.

Regarding worries about fraud, Engineer Nasser Saleh explained, "that it is almost impossible to forge data because eFAWATEER.com service had implemented the highest confidentiality and security standards under the supervision of the Central Bank of Jordan. However, the data passing through the system is not that much because it contains only the invoice number and value of which is usually simple amount values of money."

Mr. Saleh declares that when using the service for paying electricity bills the consumer cannot pay partial amount of the bill, since it is the instructions of billers companies. For instance, the Jordanian Electricity Company requested in the signed agreement that specifically full bill has to be paid, without permitting partial payment. In addition. eFAWATEER.com service is available easily to pay throughout any operating banks without the necessity to have a bank account. The consumer can review and pay bills on behave other consumers, as his family bills, but he cannot be acquainted with billing data or owner's details for privacy reason. Also the client does not require any commissions for using this service, excluding government payments, such as building fees, traffic fines, taxes and others, it is in very simple ratios. The client could query for all his bills and payments in the same time, by using his pin code, the consumer could pay either one bill or all bills at once as preferable.

TABLE V EFAWATEER.COM SERVICE'S BENEFITS

| Parties | Benefits |
|-------------|---|
| Consumers | Save time and effort where the user can pay the |
| | bills anytime and from anywhere (depending |
| | on the readiness of the billing company or the |
| | governmental entity). The user can avoid any service interruption due |
| | to late payments, since all payments are |
| | automatically deducted from the user's personal |
| | account. |
| | Direct service subscription and signing up for |
| | personal account directly, which will allow users to save their bill information for later |
| | payments and review their previous payments |
| | anytime. |
| | The user can inquire about their bills and pay |
| | directly and easily through the system. |
| Collector | A central electronic security system supervised |
| Company | by the Central Bank of Jordan.Speed of money collection as resulting from |
| (billers) | paying bills process to achieve greater financial |
| | returns. |
| | Connection with a single point rather than |
| | connecting with several destinations. |
| | Centralization of matching processes throughout a single attachment point. |
| | Reduction of paper use |
| | Increase of service recipients' satisfaction. |
| | Providing fast, reliable automatic viewing and |
| | paying bills. |
| The service | Achieving profitable financial returns. |
| provider | Provide a single contact point with all billers. Reducing of consumer's payments through |
| (i.e. Bank | bank branches. |
| postal | Increasing the level of electronic services and |
| office) | enhancing the consumer services |
| | Increasing consumer satisfaction and loyalty |
| | Minimizing the directly dealing with |
| The Central | consumers. To achieve the Central Bank objectives through |
| Bank of | the creation of high trusted, safe and effective |
| Jordan | payment system. |
| (CBJ) | Controlling on supervision operations of |
| (СБЭ) | payment systems that operating in the country.Minimizing cash fraud resulted from electronic |
| | payment methods. |
| | Guarantee of final settlement of the central |
| | bank payments. |
| | Reduce the amount of expenses that relating to |
| | cash management.The development of national standards for |
| | electronic payment systems. |
| | Promote the financial inclusion. |
| The | Monetary rotation speed and its impact on the |
| national | economic progress. |
| economy | Create a competitive environment in the country that allow hillers to compete in more |
| | country that allow billers to compete in more comfortable consumers' services by providing |
| | electronic payment solutions using a consistent |
| | system for presenting and paying bills as well |
| | as other payments and to reflect that on the |
| | economic activity. |
| | Converting bills payment system from the traditional method to the electronic, thus, a |
| | time-saving, which may elevate the work |
| | efficiency for enhancing the economy |
| | generally. |
| | Building a comprehensive operational database that implemented throughout the year |
| | that implemented throughout the year. |

As for consumers' use of credit cards, Mr. Saleh says, "Unfortunately, most of Jordanians do not often use the electronic cards, so the company tried to cover all in services, whether they use or not using the cards, and to provide service for those who have no bank accounts. The Central Bank empowered the Jordan Post office to provide payment services, including government fees, universities or school tuition fees, etc. Engineer Nasser says that the central bank also has launched an integrated system for payment by mobile phone "JoMoPay," which will be linked to the e- bills system for consumers who could inquire and pay bills by mobile phone credit.

The success of the idea of e-payment bills, Mr. Naser confirms that the central bank initiated the implementation of this project effectively in reaction to organizations and consumers' needs for a speed-up and follow-up the process. The electronic paying started to increase dramatically in virtue of continued follow-up and direct support for the project by the executive director of the National Chamber of payments Mrs. Maha Albaho and central bank governor and his deputies. The project (eFAWATEER.com) represents the first successful distinction partnership between the private and public sector.

The "MadfooatCom" company benefited commission percentage deducted from the participated companies without any extra charges on the consumers for the majority of the services; "MadfooatCom" company aims to enter Arab markets with cross- border services aiming to ease bills payments for expatriates, such as the payment of real estate or university fees or any other fees and invoices. He continues, "There is a memorandum circulating for all ministries by the prime minister to deal with the services. The public could pay all the government services such as social security and customs services, traffic fines, and income and sales tax." For more explanation, this research provides the point of view of the Central Bank about the benefits of this service for participating parties as presented in Table 5.

IV. CONCLUSION

The study was aimed to shed light on the new technological service that was recently introduced to the local market. This study tried to explore the eFAWATEER.com service, its standards, and working systems. The results showed that females are more likely to use eFAWATEER.com than males. In addition, Amman residents have more intention to use eFAWATEER.com than residents out of the capital city of Jordan. This study gives directions for Madfooatcom to invest in new e-services and e-channels via eFAWATEER.com portal to serve many categories of people in Jordan. MadfooatCom company model is representing a successful and strong partnership between the private and public sector to produce such an acceptable local technological service.

The results of this study suggest that demographic variables have limited association with the intention to use eFAWATEER.com service. For example, in the context of the e-business, studies have generally shown that users are predominantly males and that men took to the new technology faster than women [22].

On the contrary, this study identified the females as likely to use eFAWATEER.com than males. Based on the large number of study participants and short time-period, this study did not find strong evidence that socio-demographic characteristics explain or predict the consumers' intention sufficiently. Further research should investigate alternative methods (i.e., Longitudinal study) and models to investigate more socio-demographic characteristics that might encourage consumers to use eFAWATEER.com service.

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