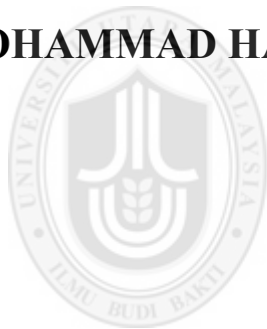


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**DETERMINANTS OF ELECTRONIC TAX FILING AND
EMPLOYEE PERFORMANCE AMONG TAX OFFICERS IN
JORDAN**

MOHAMMAD HAIDER MAHMOUD ALIBRAHEEM



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Universiti Utara Malaysia

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**DETERMINANTS OF ELECTRONIC TAX FILING AND EMPLOYEE
PERFORMANCE AMONG TAX OFFICERS IN JORDAN**



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MOHAMMAD HAIDER MAHMOUD ALIBRAHEEM

**Thesis Submitted to
Tunku Puteri Intan Safinaz School of Accountancy,
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in Fulfillment of the Requirement for the Degree of Doctor of Philosophy**



**TUNKU PUTERI INTAN SAFINAZ
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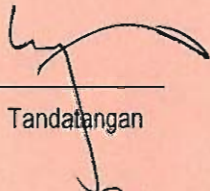
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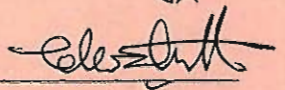
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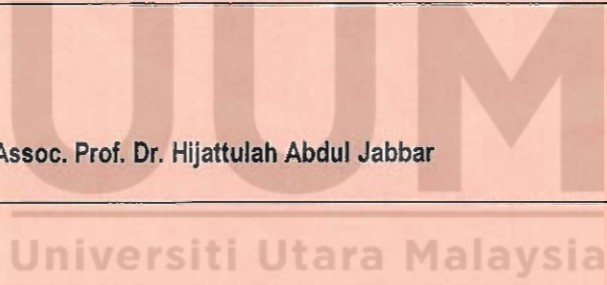


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ABSTRACT

Electronic Tax Filing (ETF) in Jordan is implemented to improve the performance of the Income and Sales Tax Department (ISTD). Tax employee performance is vital to boost tax revenue collection through the efficient implementation of ETF. However, challenges regarding employees' acceptance of new technology and their dissatisfaction of technology adoption remain a major concern. Drawing primarily upon the Unified Theory of Acceptance and Use of Technology (UTAUT), and supported by the Task-Technology-Fit theory, this study examined the impact of performance expectancy, effort expectancy, social influence, and facilitating conditions on ETF adoption with the subsequent effect of ETF adoption on tax employees' performance. Training, Information Technology (IT) technological sophistication, and IT informational sophistication were added to extend the UTAUT theory. Also, this study examined the moderating effect of age, gender and experience on the relationships between UTAUT variables and ETF adoption. A cross-sectional survey approach was used, in which data were collected from 204 tax employees. The Partial Least Squares Method (PLS) algorithm and bootstrap techniques were used to test the hypotheses. The results supported 9 out of the 16 hypotheses. The overall findings signified positive direct relationships between performance expectancy and ETF adoption, facilitating condition and ETF adoption, training and ETF adoption, and IT technological sophistication and ETF adoption. In addition, age moderated the relationship between performance expectancy and ETF adoption, and between effort expectancy and ETF adoption while gender moderated the nexus between social influences and ETF adoption. In short, the results of this study established that performance expectancy, facilitating condition, training, and IT technological sophistication influence the adoption of ETF by tax employees regardless of age, gender and experience. The findings also indicated that there is a positive relationship between ETF adoption and employees' performance. This implies that ETF adoption can enhance the performance of the employees.

Keywords: electronic tax filing, technology adoption, UTAUT, employee performance.

ABSTRAK

Pemfailan cukai secara elektronik (ETF) di Jordan dilaksanakan untuk meningkatkan prestasi dan kecekapan Jabatan Cukai Pendapatan dan Jualan (ISTD). Prestasi pekerja cukai adalah penting dalam meningkatkan hasil kutipan cukai melalui pelaksanaan ETF secara efisien. Namun begitu, cabaran berkaitan dengan penerimaan pekerja terhadap teknologi baharu dan rasa tidak puas hati mereka terhadap penggunaan teknologi tetap menjadi kebimbangan utama. Berdasarkan Teori Penerimaan Bersepadu dan Penggunaan Teknologi (UTAUT) sebagai teori utama dan disokong oleh teori *Task-Technology Fit*, kajian ini mengkaji kesan jangkaan prestasi, jangkaan usaha, pengaruh sosial dan keadaan memudahkan ke atas penggunaan ETF, dan kesan penggunaannya ke atas prestasi pekerja cukai. Tiga pemboleh ubah baharu iaitu latihan, kecanggihan teknologi maklumat dan kecanggihan maklumat telah ditambah bagi mengembangkan teori UTAUT. Kajian ini juga mengkaji kesan pemboleh ubah penyederhana umur, jantina dan pengalaman ke atas hubungan antara pemboleh ubah UTAUT dan penggunaan ETF. Pendekatan kajian keratan rentas telah digunakan, iaitu data dikumpulkan daripada seramai 204 orang pekerja cukai. Kaedah *Partial Least Squares* (PLS) dan teknik *bootstrap* telah digunakan untuk menguji hipotesis. Keputusan kajian menunjukkan bahawa 9 daripada 16 hipotesis adalah disokong. Dapatan keseluruhan kajian pula menunjukkan hubungan positif secara langsung antara jangkaan prestasi dan penggunaan ETF, keadaan memudahkan dan penggunaan ETF, latihan dan penggunaan ETF, serta kecanggihan teknologi maklumat dan penggunaan ETF. Di samping itu, pemboleh ubah umur menyederhana hubungan antara jangkaan prestasi dan jangkaan usaha dengan penggunaan ETF. Pemboleh ubah jantina pula menyederhana hubungan antara pengaruh sosial dengan penggunaan ETF. Secara ringkasnya, hasil kajian ini membuktikan bahawa jangkaan prestasi, keadaan memudahkan, latihan, dan kecanggihan teknologi maklumat mempengaruhi penggunaan ETF oleh pekerja cukai tanpa mengira usia, jantina dan pengalaman. Hasil kajian juga menunjukkan wujud hubungan positif antara niat penggunaan ETF dan prestasi pekerja. Hal ini menunjukkan bahawa penggunaan ETF adalah berupaya dalam meningkatkan prestasi pekerja.

Kata kunci: pemfailan cukai secara elektronik, penggunaan teknologi, UTAUT, prestasi pekerja.

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LIST OF ABBREVIATIONS

| | |
|-------|---|
| AVE | Average Variance Extracted |
| DOI | Diffusion of Innovation Theory |
| ETF | Electronic Tax Filing |
| ETFA | Electronic Tax Filing Adoption |
| F2 | Effect Size |
| ICT | Information and Communication Technology |
| ISTD | Income and Sales Tax Department |
| JD | Jordanian Dinar |
| IT | Information Technology |
| MoICT | Ministry of Information and Communications Technology |
| MoPIC | Ministry of Planning and International Cooperation |
| MPCU | Model of Personal Computer Utilization |
| Q2 | Predictive Relevance |
| SCT | Social Cognitive Theory |
| SMEs | Small and Medium-Size Enterprises |
| TAM | Technology Acceptance Model |
| TPB | Theory of Planned Behaviour |
| TRA | Theory of Reasoned Action |
| TTF | Task-Technology Fit Theory |

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

The importance of tax for the Jordanian economy cannot be underestimated because the government revenue comes from the taxes (Al-Moumany & Al-Ebbini, 2013; Alsheikh, Aladham, Qasem & Yousef, 2016). As a fiscal tool (i.e. tax), the Jordanian government uses tax system to boost the national growth to encourage investment in profitable business opportunities. Besides redistributing the income, the Jordanian government uses tax system to regulate the circulation of certain goods and commodities within the economy (Malkawi & Haloush, 2008).

The role of tax in Jordan stretches beyond the fiscal role to include economic roles (Al-Moumany & Al-Ebbini, 2013). Incomes from the tax levies constitute a high percentage of the internal generated revenue in Jordan and a source of financial, economic and social development. An average of two-thirds of the government revenue comes from the taxes (Al-Moumany & Al-Ebbini, 2013; Alsheikh *et al.*, 2016; Al kattatbah, Bni Salamah, Al kattatbah & ALzoubi, 2013). Thus, ensuring the efficient and the effectiveness of tax collection system through Income and Sales Tax Department (ISTD) in Jordan remains the major focus of the government. In addition, many countries have changed their tax system to self-assessment tax system. However, in Jordan, both self-assessment and official assessment tax system

are in use (Al-Naimat, 2013). In official assessment tax system, tax employees play the key role in the assessment process.

Conventional approach adopted for submission of taxpayers' income tax returns for government revenue services to the tax employees' is called manual filing system in Jordan. However, the tax collection problem emerged due to using the manual filing system, and this has created a gap between the income tax estimated by ISTD and actual collected income tax from 1980 to 2006 was discovered (Qtish & Qatawneh, 2015). Besides taxpayers' behaviour, tax employees are unable to achieve the targeted amount of tax collected (Al-Zoubi, Khatatba, Salama & Khatataba, 2013). This implies poor performance on the part of the tax employees by using manual filing system.

Given the problem associated with manual filing system, Jordan's e-government program which included Electronic Tax Filing (ETF) was inaugurated by his Majesty King Abdullah II. The program aims to accomplish higher performance by improving the level of government service delivery to clients and investors from all segments of society in an easy, quick, and accurate manner. Hence, it becomes a new type of performance of the government employees' and government transactions (Majdalawi, Almarabeh, Mohammad & Quteshate, 2015). Normally, ETF in Jordan is held to be a new and emerging area of interest in the field of e-business that adopts Information and Communication Technology (ICT) to improve the access to and

conveyance of government information and services to government employees (Majdalawi *et al.*, 2015).

The various advantages of e-government in improving the standard of living and economic productivity of the government function and system in Jordan have undergone transmission. E-government offers many governmental processes in a unique manner that will enable it to perform daily activities such as the automation of tax collection (e.g. ETF) through modern and latest technologies. This will enhance the way of providing effective services and upsurge employees' ability to cooperate and interact with citizens, and accomplish greater transparency (Almarabeh, Majdalawi & Mohammad, 2016).

Due to the advantage offered by ETF, the Jordanian government has invested a huge amount of money for such a project in Jordan (Al-Jaghoub & Westrup, 2003). In Jordan, ETF system is applied as a branch of e-government for the efficient collection of tax. In other words, the tax employees operate the ETF system, help the taxpayers to create an electronic tax account on tax websites, and collect all necessary data from the taxpayer to enable the creation of the account.

ETF in Jordan was introduced to employees of ISTD in 2007, but at the initial stage, ISTD restricted the use of the program because of the obstacles that faced the e-government project. Prior to the inauguration of ETF, ISTD created awareness about the usefulness of ETF to its employees. The tax department also introduced piloting

and training programs to tax employees in 2007. Following this, the implementation of ETF officially began in 2010 for all ISTD tax employees (ISTD, 2016).

During the period 2008-2014, there has been a very low usage level of ETF project as one of the e-government project's phases (Derawi, 2014), but the real percentage of usage is not available publicly. Likewise, based on the report by the Jordanian Ministry of Planning and International Cooperation (MoPIC) (2015), Jordan has not been successful in achieving the full potential of e-government though it is progressing slowly (Qtish & Qatawneh, 2015). This has led to severe deficiency of the governmental budget over the past years (Derawi, 2014). In addition, budget deficit in the Jordanian government has given rise to declined financial support for the e-government which is required for employees' training. This will adversely affect employees' training on ETF. Consequently, employees will have problems in using the ETF system.

In addition, the Jordanian government can achieve the benefits of ETF through the enhancement of productivity, accountability, and transparency. This can be achieved if it can solve the problem of inadequate qualified and required human resource training, which has been for many years and has become a barrier to create efficient IT implementation in Jordan (Abu-Samaha & Abdel Samad, 2007).

Moreover, ETF has been used by the tax employees in ISTD in 2012, but only 69% of the government revenue was managed to be collected from taxes revenue (Al

kattatba *et al.*, 2013). The collection from taxes revenue further decreased in 2013 to 68% (Al-Moumany & Al-Ebbini, 2013), in 2014, it reached 62% (Alsheikh *et al.*, 2016), whereas in 2015 and 2016, it declined to 59% and 61%, respectively (Jordanian Ministry of Finance, 2017). Although there could be many reasons for this decrease, this indicates that there are probably problems with the tax employees' performance. Though the performance of tax employees' is expected to boost with the help of ETF, it is decreasing.

ETF is supposed to help avoid mistakes associated with the manual filings and help prevent tax evasion with the consequent effective tax collection system (Manly, Thomas & Ritsema, 2005). Despite the implementation of ETF, the tax evasion still increased with the consequent deficit in the state's budget which was recorded in 2013 (Al-Deraawee, 2013). Also, one of the main reasons for the tax evasion in Jordan is the weakness in the employees' efficiency and their lack of development in the tax fields (Al kattatbah *et al.*, 2013).

Among the problems associated with the issue of digital divide in Jordan are inadequate availability of computers and internet accessibility (Alkhaleefah *et al.*, 2010). In addition, technology adoption in Jordan is also associated with employees' resistance to change, poor coordination, lack of accountability, technical issues related to knowledge management, behavioural issues such as the employees' adaptability to working with a new system, and lack of consistency in Information

Technology (IT) plans and policies, thus leading to frequent changes in IT managers and employees (Ottoum & Suleiman, 2011).

In general, the implementation of any new system may cause difficulty and dissatisfaction to the employees and will likely affect their job productivity and performance (Ismail, Mohd-Saleh & Kundari, 2012). The employment of the new system, ETF system, by untrained employees can be difficult, and this will consequently affect the productivity and the performance of such employees (Ismail *et al.*, 2012).

Despite the challenge of implementing a new system such as IT, Dangolani (2011) pointed out that it has become a critical resource, and its absence can result in a lack of knowledge, poor decisions and ultimately business failure. Competing favorably in today's competitive world of companies, the organization has to adopt new technology (Dangolani, 2011). In addition, Goodhue and Thompson (1995) found that the system automation affects office work productivity of the employees. Consequently, a well-sophisticated e-government system without well-trained end users would have adversely affected operation.

Another problem associated with ETF system in Jordan is lack of adequate technical knowledge and skills to cope with the challenges of the digital world (Allawzi, 2010). Also, Jordan experiences inadequate availability of computers and internet accessibility (Alkhaleefah *et al.*, 2010).

1.2 Problem Statement

Performance in taxation (i.e. tax collection) has become a significant issue which assists governments in accomplishing economic, financial, social, and political objectives. It has been generally considered that the income tax is one of the main sources of the state's revenue in Jordan (Al-Moumany & Al Ebbini, 2013). Thus, the need to improve the performance in taxation makes ISTD employ an efficient accounting system to serve a new turning point in the enhancement of the efficiency of tax audit and collection in Jordan (Al-Frijat, 2014).

In Jordan, ETF system was relaunched in 2015 for the effective and efficient collection of tax (Hawamdeh, 2015). For more details on this, see section 2.4.2 in chapter two. The relaunch was due to low usage level of ETF project during the period between 2008 and 2014 (Derawi, 2014). The collection of income tax for the states' income remains a crucial duty, and it is carried out by the employees in the income and sales tax department. The information about the expected income tax and the fulfilled income tax in Jordanian dinar, as depicted in Table 1.1, indicates a significant difference between the expected income tax and the fulfilled one.

Table 1.1

Tax Revenue in Jordan: Estimated, Collected and Gap

| Year | Estimated Amount (JD) | Actual (Collected) Amount (JD) | TAX GAP (%) |
|-------------|----------------------------------|---|------------------------|
| 2011 | 3,367,353,000 | 2,764,170,000 | 17% |
| 2012 | 3,547,126,000 | 3,032,374,000 | 14% |
| 2013 | 3,770,000,000 | 3,300,100,000 | 12% |
| 2014 | 4,077,000,000 | 3,577,526,000 | 12% |
| 2015 | 4,370,000,000 | 3,638,974,000 | 17% |
| 2016 | 5,750,000,000 | 4,597,000,000 | 20% |
| Average | | | 16% |

Note: TAX GAP = (estimated amount – actual amount)/estimated amount x 100%

Source: Jordanian Ministry of Finance (2015, 2017).

Table 1.1 signifies that the tax gap between the estimated amount and the actual amount collected with the recent amount indicates an increasing trend. This gap is probably due to many reasons, including non-compliant taxpayers (Al-Zoubi *et al.*, 2013; Mehrara & Farahani, 2016) and the low level of tax employees' performance (ESC, 2014; Al kattatbah *et al.*, 2013) in the ETF environment. Since ETF in Jordan is operated by the tax employees largely at this stage, the major problem regarding the gap emanates mainly from the low level of tax employees' performance (ESC, 2014; Al kattatbah *et al.*, 2013). Consequently, this will prevent the achievement of the anticipated tax. Hence, it can be asserted that there are loopholes in the tax collection system, and the employees' performance may not have reached the desired level of achieving the anticipated tax. This in turn gives rise to budget deficit in Jordan.

Employees are considered crucial to the success and failure of organization; the employees can build up or destroy the reputation of the organizations, and they can have an effect on the profitability (Elnaga & Imran, 2013; Khan, Abbasi, Waseem,

Ayaz & Ijaz, 2016) as well. In the context of tax administration, employees are an important element because they carry out procedures that can ensure that the system is implemented in an efficient manner that will consequently enhance the taxpayers' satisfaction which is an outcome indicator for tax administration performance (Soest, 2007). The success of tax administration depends essentially on the ability of the tax administrators to utilize the principles. Thus, the problem of employees becomes central to tax administration (Maiga, 2015). In this regard, Maiga (2015) argued that the problems of tax administration in underdeveloped countries are tended to be employee-related, such as lack of training, inefficiency, and understaffing. According to Bahl and Bird, (2008), an efficient tax administration requires qualified tax officials, and the availability and retention of trained human resources are by far the most important factors in determining the efficiency of a tax administration (Jenkins, Kelly & Khadka, 2000). Thus, the current study focuses on the tax employees' perspectives.

The technology adoption problems in Jordan and the subsequent tax collection problem are associated with a number of factors. These factors include employees' resistance to change, poor coordination, lack of accountability, technical issues related to knowledge management, behaviour issues such as the employees' adaptability to working with a new system, and lack of consistency in IT plans and policies, and the consequent frequent changes in IT managers and employees (Ottoum & Suleiman, 2011).

In addition, some factors have been recognized to be the fundamental causes of the failure of ETF project in Jordan. The factors involved shortage of funding, corruption, continuous changing in ICT's ministers, absence of awareness of e-government on the part of employees (Kanaan & Kanaan, 2013). Also, among the problems of e-government in Jordan involved a high cost of ICT equipment and digital devices, and the shortage of awareness of such an initiative by the public sector's employees (Bataineh, Bataineh, Abu-Shanab & Abu-Shanab, 2016).

Basically, the Jordanian government is hopeful to reap the benefits of ETF by improving productivity, accountability, and transparency. Nevertheless, inadequate qualified and required human resource training has become for many years a barrier to efficiently implement IT in Jordan (Abu-Samaha & Abdel Samad, 2007). That is to say, lack of government employees' training in Jordan will be a considerable challenge (Majdalawi *et al.*, 2015). Therefore, the main purpose of the current study to investigate is the performance of tax employees under ETF system.

Moreover, majority of the studies conducted in the past focused on the impact of electronic tax filing on taxpayer (Hung, Chang & Yu, 2006; Lu, Huang & Lo, 2010; Tan & Foo, 2012; Ibrahim, 2012). This indicates lack of studies on ETF from the perspectives of tax employees. In this regard, Alomari Woods and Sandhu (2012) and Allawzi (2010) recommend future researchers to examine e-government adoption by focusing on a specific online service launched by the government department in Jordan.

Among the widely-used theories and models that explain users' acceptance and adoption of technology is the UTAUT model. UTAUT model has been one of the main indicators and comprehensive model of information system intention. It has been contended that UTAUT model explains 70 percent of technology adoption (Lu & Nguyen, 2016). Thus, this study employs UTAUT through the adoption of four factors (performance expectancy, social influence, effort expectancy, and facilitating conditions) as predictors of ETF adoption among tax employees in Jordan with age, gender, and experience as moderators in the relationship between the variables. In addition, training is examined as one of the independent variables in this study, given the need to improve performance in taxation which makes ISTD employ an efficient accounting system to serve a new turning point in the enhancement of the efficiency of tax collection in Jordan (Al-Frijat, 2014). However, the problem of inadequate qualified and required human resource training has become a barrier to efficient IT implementation in Jordan (Abu-Samaha & Abdel Samad, 2007). Extant research has established training-technology adoption relationship (e.g. Venkatesh, 1999).

Hence, this study examines technological and informational IT sophistication in relation to ETF. However, previous studies (e.g. Ismail and King, 2007; Al-Eqab & Adel, 2013) have used both variables in accounting information system in a general manner. Thus, all these factors (e.g. performance expectancy, effort expectancy, social influence, facilitating conditions, training) together with technological and informational sophistications, which are considered crucial to performance (Governor & Teixeira, 2011; Hart, 2007), are selected as determinants of ETF adoption in the

Jordanian context. Research on electronic tax filing system has been recommended to be carried out in various contexts and under different forms of environments in developing and developed countries (Faaeq, Ismail, Osman, Al-Swidi & Faieq, 2013).

Given the above exposition, this study examines the effect of performance expectancy, social influence, effort expectancy and facilitating conditions, training, IT technological sophistication, and IT informational sophistication on ETF adoption among tax employees in Jordan, and the effect of ETF adoption on tax employees' performance.

1.3 Research Questions

In line with the practical and theoretical problems discussed above, this research aims to answer the following questions:

1. To what extent do performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication and IT informational sophistication affect electronic tax filing adoption among tax employees in the Jordanian Income and Sales Tax Department?
2. Does the relationship between performance expectancy and electronic tax filing adoption moderated by demographic factors (gender and age) among tax employees in the Jordanian Income and Sales Tax Department?

3. Does the relationship between effort expectancy and electronic tax filing adoption moderate by demographic factors (gender, age, and experience) among tax employees in the Jordanian Income and Sales Tax Department?
4. Does the effect of social influence on electronic tax filing adoption moderated by demographic factors (gender, age, and experience) among tax employees in the Jordanian Income and Sales Tax Department?
5. To what extent does electronic tax filing adoption influence employee's performance among tax employees in the Jordanian Income and Sales Tax Department?

1.4 Research Objectives

The main aims of this study are to assess the influence of performance expectancy, effort expectancy, social influence, facilitating conditions, training, and technological sophistication, informational sophistication on the electronic tax filing adoption and the subsequent effect of electronic tax filing adoption on the tax employee's performance in the Jordanian Income and Sales Tax Department. Hence, the specific objectives of the study are:

1. To examine the relationship between performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication, IT informational sophistication and electronic tax filing adoption among tax employees in the Jordanian Income and Sales Tax Department.

2. To examine whether the relationship between the performance expectancy and electronic tax filing adoption is moderated by demographic factors (gender and age) among tax employees in the Jordanian Income and Sales Tax Department.
3. To examine whether the relationship between effort expectancy and electronic tax filing adoption is moderated by demographic factors (gender, age, and experience) among tax employees in the Jordanian Income and Sales Tax Department.
4. To examine whether the relationship between social influence and electronic tax filing adoption is moderated by demographic factors (gender, age, and experience) among tax employees in the Jordanian Income and Sales Tax Department.
5. To examine the relationship between electronic tax filing adoption and tax employee's performance among tax employees in the Jordanian Income and Sales Tax Department.

1.5 Significance of Study

By reviewing the literature, it is evident that very few studies have been conducted in the accounting and ETF research field in the Middle East region, specifically in the context of Jordan. The available studies related to the electronic tax filing were mostly conducted in the developed Western countries, such as UK (Lymer, Hansford & Pilkington, 2012), USA (McLeod, Pippin & Mason, 2009; Carter, Shaupp, Hobbs & Campbell, 2011). It is also noticeable that there are some studies conducted in the Asian countries, such as Malaysia (Tan & Foo, 2012; Aziz & Idris, 2012), Taiwan (Lu, Huang & Lo, 2010; Liang & Lu, 2013), India (Ojha, Sahu & Gupta, 2009;

Gupta, Zaidi, Udo & Bagchi, 2015), Philippines (Chen, Jubilado, Capistrano & Yen, 2015), and Vietnam (Lu & Nguyen, 2016). Thus, the current study can be considered as the first study that adopts the electronic tax filing in Income and Sales Tax Department within the Jordanian context.

In addition, majority of the studies conducted in the past (Hung, Chang & Yu, 2006; Tan & Foo, 2012; Ibrahim, 2012) focused on the impact of electronic tax filing on taxpayer. Consequently, the current study investigates the impacts of the electronic tax filing adoption on tax employees working in income and sales tax department, and its effect on the tax employee's performance. Thus, the findings of the present study would enrich the studies in this field and contribute to the body of knowledge.

This study aimed at investigating the performance expectancy, effort expectancy, social influence, facilitating conditions, training, and IT technological sophistication, IT informational sophistication and their impacts on the Electronic Tax Filing Adoption (ETFA), and then the subsequent effects of this ETFA on the performance of the employees in ISTD. As a result, by integrating all these factors together in one model, it can be argued that this study might be the first one that adopts this combination.

Regarding the theoretical aspect, Unified Theory of Acceptance and Use of Technology (UTAUT) is the main underpinning theory that is supported by Task-Technology Fit Theory (TTF). In the original UTAUT, behaviour has been used as an outcome. For the current study, with reference to the TTF theory, employees'

performance is used as an dependent variable, which reflects use behaviour in UTAUT. The rationale for adopting UTAUT with TTF is that UTAUT explained the relationship between the independent variables (performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication and IT informational sophistication) and (electronic tax filing adoption). As for the relationship between the (electronic tax filing adoption) and the dependent variable which is tax employee's performance, it is supported by TTF.

The current study used the original UTAUT, but it adapted it to the ETF environment, whereby the behavioural intention is reflected as ETF adoption. Thus, ETF adoption actually reflects the intention, whereas the actual behaviour is replaced with the employee's performance.

The results of the current study are expected to serve as guide to the concerned agencies in Jordan. Likewise, the findings could also aid policymakers in making unique policies which will motivate the efficient and effective use of ETF by the employees in the Jordanian income and sales tax department. It can be also argued that this study may support the Tax Authority by means of assisting the employees to improve themselves, and control the weaknesses in their performance in using ETF.

1.6 Scope of Study

Extant tax studies focused on taxpayers, tax authority or tax professionals. Since the purpose of this study is to investigate the impact of electronic tax filing adoption on

the employee's performance in the Jordanian tax offices, the current study focuses only on tax employees (i.e. tax officers) in ISTD. Therefore, data will be collected only from these employees.

Also, ETF has been relaunched in 2015 (Hawamdah, 2015), but until now, there is no official evidence from the government indicating the actual number of taxpayers using ETF system. The available evidence indicates that only tax employees use ETF in this stage. Thus, the data of this study were collected in 2016 from tax employees. The current study used the term "tax employees" which is also known as "tax official" or "tax administrator" in prior tax studies. Official data provided by the Human Resource Management Department in ISTD Jordan indicated that the total number of tax employees nationwide involved in the ETF-related work is 371. Consequently, 341 (after deducting 30 employees chosen for pilot test), employees were chosen as respondents to optimize the response due to the limited number of population. In this regard, Zikmund (2003) stated that the researcher may decide to deploy the whole population rather than taking a sample for the study. In addition, the current study used survey questionnaires only for data collection.

1.7 Thesis Structure

This thesis comprises six chapters. The first chapter involves the background of the study, the problem statement, research questions, research objectives, significance of the study, and scope of the study. The second chapter deals with literature review of the current and related studies regarding tax employee's performance, specifically

those in the Jordanian Income and Sales Tax Department. This chapter also examines discussions about the electronic tax filing, performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication and IT informational sophistication.

The third chapter discusses the research framework and hypotheses development in which the relationships between the independent variables and dependent variable are established. Empirical studies are also reviewed to establish the current research framework.

Chapter four addresses on methodology involving research design, the population, data collection process. The chapter is concluded with a thorough elucidation of the statistical techniques. Chapter five presents the descriptive analysis of the respondents for this study, empirical results, key findings, and test of hypotheses. Finally, chapter six provides discussions of the findings, limitations of the study, directions for future research and conclusions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents general information regarding Jordan and e-government in Jordan. Then, Jordanian tax system and relevant theories including the Unified Theory of Acceptance and Use of Technology (UTAUT) are explained. Also, in this chapter, the employee's performance, ETF adoption, performance expectancy, effort expectance, social influence, facilitating condition, training, IT technological sophistication and IT informational sophistication are discussed. The moderating variables of the study are also explicated. The existing literature on the variables of the study are also reviewed.

2.2 General Information about Jordan

Hashemite Kingdom of Jordan is one of the emerging countries in the Arab region, centrally situated in the Middle East. It is a small country with a land area of around 92,300 square kilometres (Intaj, 2007). Jordan is the core of the Middle East Arab world, and is governed by constitutional monarchy system with bicameral legislature and representative government. The official language is Arabic, and English is regarded as the foreign language that is usually used and spoken at all levels throughout the country.

About one third of the country population live in the capital city of Jordan, Amman, which is the largest governorate. In terms of population, Jordan is geographically concentrated, which might impact the dissemination of technology. The major cities of the country include the capital city, Amman and Zarqa in the central, whereas Irbid is in the northern part of Jordan, and Karak and Aqaba are in the southern part.

The economy of Jordan is comparatively limited to natural resources, including water, gas, and oil (Intaj, 2007). The country is discovering other means to increase its inadequate water supply, and is using its present water resources more resourcefully through regional collaboration. The country depends on outer sources for the bulk of its energy supplies. Despite its limited natural resources, Jordan has important political, traditional, and economic impacts as a result of its strategic location. This is attributed to the location of Jordan, which has been the crossroad amongst the west and east countries. This centrality has given it a strategic and economic significance by making it a vigorous exchange and communication midpoint. Despite Jordan is a small nation and has inadequate resources, the nation is regarded as a modern nation in the Arab world and the emerging countries. A Jordanian is considered as the best educated and qualified person generally in the Arab countries, with the average literacy rate of 91.3% (Intaj, 2007).

Jordan is a statutorily monarchical system with a representative government. The ruler, His Majesty King Abdullah II, is the head of government, the chief executive, and the commander-in-chief of the armed forces. The King exercises his administrative power through the Prime Minister and the Council of Ministers, or

Cabinet. The Cabinet is accountable to the elected House of Assistants which, along with the House of Notables (Senate), constitute the parliamentary division of the government. The judicial division is a distinct autonomous governmental department. Since 1989, all rudiments of the Jordanian administrative spectrum have boarded together on a road to greater democracy, liberalization, and agreement building. These transformations that were guided by the late King Hussein have sited Jordan on a permanent way to democratization.

2.3 E-Government in Jordan

Governance with the aid of electronic technology, popularly known as e-government, was initiated as a national program in Jordan by his Majesty King Abdullah II in 2002. There are many advantages accruable to the use of e-governance. In Jordan, the purposes of e-government program are numerous. For instance, it aims at improving the effective performance of government processes, procedures and efficiency, enhancing the competitive efficiency of Jordan, ensuring transparency and accountability, reducing cost, and removing the barriers faced by the government. It also aims at promoting ICT sector in Jordan, enhancing the skills of public sector staff, giving a room for delivering quality services to the consumers, and enhancing e-commerce activities in the country (Abu-Samaha & Samad, 2007). The e-government program in Jordan is led and coordinated by the Ministry of Information and Communications Technology (MoICT). Hence, E-government program represents a major opportunity for Jordan as it contributes to the kingdom's economic and social development (Alkhaleefah *et al.*, 2010).

In order to establish a successful e-government initiative, Bataineh *et al.*, (2016) posit that it is imperative to concentrate on creating a successful e-participation process, which is regarded as the fundamental of the e-government initiative. E-participation is an indispensable principle of e-democracy, which means taking part in collaborative and political activities for achieving common goals. E-Participation involves using new technologies to enhance and support the interaction with the government (Al-Dalou & Abu-Shanab, 2013).

Al-Hujran, Al-Debei, Chatfield and Migdadi (2015) revealed that Jordan is a country in the Middle East with a unique history of commitment to good governance and ICT-based initiatives. Jordanian effort put in place to offer e-government services to public have been identified and acknowledged (Alomari, Sandhu & Woods, 2010). E-government program in Jordan is still at the preliminary stages. However, the country has developed a relatively advanced e-government service delivery (Chatfield & Alhujran, 2009). Yet, there is a problem of low usage levels of e-government in Jordan (Al-Hujran, Aloudat & Altarawneh, 2013; Al-Jaghoub, Al-Yaseen & Al-Hourani, 2010; Mofleh, Wanous, & Strachan, 2008; Rana & Dwivedi, 2015). Literature has shown that over 85% of Jordanian citizens never used e-government websites and electronic services (Al-Jaghoub *et al.*, 2010). Moreover, Jordan mainly depends so much on the global experts to set up e-government initiatives (Elsheikh, Cullen & Hobbs, 2008) and considers such initiatives as pure IT projects. This is, in most cases, catastrophic and dangerous since there is no much attention given to the local and specific national context of Jordan in terms of

culture, politics, social issues, traditions, trust, public values, literacy and gender segregation.

Evidences from the literature have shown that the e-government projects are rarely successful in developing countries, including Jordan (Alkhaleefah *et al.*, 2010). According to Qutaishat (2012), despite the benefits associated with e-government services, many e-government projects fail. Similarly, Heeks (2008) reported (based on the examination and analysis of more than 40 e-government projects) that there has been a partial failure in 50 percent of e-government projects, 35 percent of total failure, and only 15 percent of projects are successful. Rehman, Esichaikul and Kamal (2012) clarify that the failure rate of e-government projects is greater in the developing countries due to lack of awareness, acceptability and usage of these services by the citizens. Consequently, such an initiative becomes difficult to be achieved (Al-Soud *et al.*, 2014).

In line with this, despite the high levels of investment in e-government, the process of adoption of e-government in Arab countries, including Jordan, and the level of its usage among public is generally low (Al-Hujran *et al.*, 2013; Hamner & Al-Qahtani, 2009; Shafi & Weerakkody, 2009).

The slowness and stunted growth of e-government in Jordan is mostly connected with lack of development. The Jordanian e-government program encounters a lot of challenges while trying to achieve the purpose for which it is created. That is to say,

the main aim of e-government in improving government performance through efficiency, effectiveness, transparency, accountability, competitiveness, and qualitative service delivery has not been fully achieved (Al-Soud, Al-Yaseen & Al-Jaghoub, 2014).

From another perspective, Al Hujran *et al.* (2013) state that the e-government program in Jordan faces fundamental and key challenges. These include lack of awareness, limited ICT skills among the government employees, integration problems, financial issues, lack of related legislations, and the digital divide (Abu-Samaha & Abdel Samad, 2007; Al-Omari & Al-Omari, 2006). In this regard, Al Hujran *et al.* (2013) argue that although the rate of the diffusion of technology increased in Jordan, it is still lower than the expected level. Consequently, there is a low level of ICT usage and application and deficiency in the use of ICT in obtaining the benefits from it.

Regarding the low level of usage, Ottoum and Suleiman's (2011) study revealed that the Jordanian e-government is still in the informative level of service delivery. These authors indicated that the websites are not created to fulfil people's needs and meet their expectation. Conversely, the websites had a very poor usability design reflecting a lack of understanding of people's needs to apply online services.

By reviewing the e-government project in Jordan and factors militating against its progress, Derawi (2014) argues that the project is just like other projects of the

government that started with eagerness and interest on all levels of the state's organizations. Suddenly, the enthusiasm of executing the e-government program has declined, and the project that is considered one of the most important foundations of the state management's reform has perished. In addition, Derawi, (2014) reports that the achievements of the e-government project that Jordan initiated did not meet the purpose for which it was created, and its performance was not satisfactory. Consequently, the drawback has affected not only the advancement of the project at its early stages but also the basic services.

Among the important obstacles advanced by Derawi (2014) as facing the accomplishment of the project of the e-government include weak response of all ministries from 2008-2014 in identifying the services that should be offered electronically. The argument of the MoICT was that although the small number of services offered electronically, they were not used or even activated. Hence, lack of the government's close control, monitoring and supervision over the past years has been a serious impediment for the success of the program. Also, lack of the periodical assessment in line with the goals of the draft laws of the public budgets over the past years constitutes a threat. All the aforementioned reasons have resulted in negative impacts on the e-government project in Jordan.

Derawi (2014) argues that unstable and frequent change in the government and cabinet reshuffle affect the accomplishment of the e-government project. Each government and minister in each administration have different views towards the

implementation of the project. Since the beginning of the project, fourteen different governments have taken office, and eight different ministers have succeeded to the MoICT with different tendencies and views about the implementation of the project. Unfortunately, the global financial crisis in 2008 and the inadequate budget impacted the project greatly. Other hindrances include bureaucracy bottleneck in tendering process of electronic projects, lack of qualified personnel, lack of adequate preparation by the governmental organizations, resistance to change by the governmental officials, and lack of enabling laws on e-government. By recognizing these problems, the internal strategy was brought up between 2008 and 2014 with a view to keeping up with the latest technological advancements and come up with plans of removing what were observed as delaying the project (Hawamdeh, 2015; Derawi, 2014).

2.4 The Jordanian Tax System

This subsection deals with the Jordanian Income Tax System and ETF in Jordan. The discussion in this section involves a historical background of the Jordanian Income Tax System and the relaunch of ETF.

2.4.1 The Jordanian Income Tax System

The Income Tax Department in Jordan existed in 1933 when the first tax law was enacted, and the department was operating under a Financial Ministry. It is worth noting that the first income tax promulgated in 1933 was applicable only to income generated through salaries and wages. Since then, the law has been subjected to

different modification and amendments. The law was firstly subjected to an amendment in 1935 and 1936, with a view to extend tax exemptions to the personnel in the Jordanian army. In 1945, further modifications were also made to the Income Tax Law which brought the profits and earning generated from handicraft, occupation, and trade into the tax net (Malkawi & Haloush, 2008).

In 1951, the department became independent in terms of its operation. It exercised its functions under the Law No. (50) for the year 1950, and since then, the tax law has been undergoing several amendments with a view to develop legislations, keeping abreast of economic and social changes and filling the gaps arising as a result of application. Subsequently, in 1964, Income Tax Law Amendment Act No. 25 of 1965 was issued. This law exempted the family and personal incomes from tax and created a special court for attending tax cases. Further adjustments were made to the law in 1982 and 1985 with the inclusion of Income Tax Law No. 34 and Decree No. 57 of Income Tax Law, respectively. In the Jordanian tax law, taxes are defined as compulsory payments collected by the state for public welfare (Malkawi & Haloush, 2008).

Between 1982 and 1985, the ISTD launched self-assessment system (ISTD, 2016). Tax assessment system comprises official-assessment system and self-assessment system (Hanefah, 1996). Official assessment system is an old-fashioned system of estimating taxpayers' annual tax returns, involving taxpayers' statutory duty. Its function is to declare all the necessary particulars and information regarding the

taxpayers' incomes and expenses for a particular year of assessment and submission of the tax returns for computation of the tax obligation. In line with the information provided by the taxpayer, the amount of tax payable by the taxpayer will be determined and communicated to them. Hence, the responsibility of estimating taxable income and assessing income tax lies with the tax department rather than the taxpayer (Hanefah, 1996).

Under an official assessment system, income tax is originally assessed by the tax departments. The onus is on the tax officials to examine tax returns and financial statements, calculate the amount of tax payable, and notify the taxpayers of the tax liability. It is imperative on the taxpayers to report their activities yearly. Taxpayers' duties should include the completion of tax returns, filing financial statements, and other supporting information, and it should be submitted to the tax officials. The tax officials will then assess and validate the report. After this, the officials will make a decision on the tax liability and inform the taxpayer of what to pay, typically through a notice of assessment, and taxpayers pay the tax due or object to the assessment. The tax officials will then reconcile assessment notices and payments.

Official assessment systems are in use in many countries, including Austria, Belgium, Denmark, France, Germany, Greece, Netherlands, Norway, and Portugal. Likewise, the system is being adopted in the Middle East and part of South East Asia. For example, Singapore, which has a highly literate population and a high rate of voluntary compliance, adopts an official assessment system as an income tax

administration. The system is adopted, given the technological edge that the country possesses to capture data necessary for tax assessment from the original source, instead of the taxpayer, large numbers of taxpayers file a nil return because they do not have information that is not already captured in the IT system to report (Okello, 2014).

Self-assessment system, on the other hand, denotes the assessment process conducted by individual taxpayers in estimating their own tax that is payable for a year of assessment (Hanefah, 1996). Self-assessment system denotes tax management system involving estimation of citizen's tax liability which is mainly subject to the information offered willingly by the taxpayer (Marshall, Smith & Armstrong, 1997). In addition, in a self-assessment system, there is need for tax knowledge by the tax payers as this can influence compliance (Palil & Mustapha, 2011).

It is held that self-assessment system hinges on the individual's trustworthiness in filing annual tax returns and stating income, adjustments, exemptions and deductions, to arrive at the tax liability (Martinez, Harwood & Larkins, 1992). Sarker (2003) posits that the main attribute of the self-assessment is that the responsibility for estimating tax liability lies with the taxpayer rather than the tax authority. Under the official assessment system, it is believed that the taxpayers do not have the essential knowledge to compute their own tax payable. Arguably, self-assessment system involves a substantial shift of responsibility onto the taxpayers in terms of

their compliance obligations and burdens (Abdul-Jabbar & Pope, 2008). This is because taxpayers will have to compute their tax payable by themselves and remit the necessary amount to the tax department.

Under a self-assessment system, there is a shift of the verification process from pre-filing to post-filing. The emphasis on post-filing controls bordering on risk-based audits, collection enforcement measures, and prosecution of tax evaders. In a self-assessment system, targeted verification approaches are usually adopted through information sharing, data matching, and risk-based desk and field audits to validate the information contained in tax returns. Thus, the tax administration's limited resources are directed towards tackling the major threats to the tax system (Okello, 2014).

Several countries have changed their tax system to self-assessment tax system, and Jordan is one of the first countries in the Middle East that has introduced the "self-assessment system" concept (ISTD, 2016). The implement of self-assessment system in Jordan is different from other countries, whereby the taxpayers use an application to put all the information and attach with this implication all that documents that are required to calculate the tax amount. In self-assessment system, employees would ensure that document was introduced and information, but in official assessment tax system, tax employees play the key role by determining the amount of tax for the taxpayers. Also, the manual filing system in Jordan was the old-style method of submitting individual income tax returns to the government revenue services. Based on the abovementioned explanations, in ISTD, the

employees play the major role to calculate the tax amount in Jordan through using a tax self-assessment or an official assessment.

Consequently, upon the tax reformation and the implementation of its fiscal policy which aims at making the tax system more independent, Jordan has been witnessing a tremendous growth in the role of taxes system (Margalioth, 2003). This obvious rapid expansion in the Jordanian tax system is due to the country's intention, target and yearning for not only fiscal development but also economic and social advancements. According to Avi-Yonah (2006), taxes are used in the Jordanian tax system as a government fiscal instrument, that is intended for the promotion of national development, to reduce income disparity, promote inflow of investment capital and control the consumption of goods and services. Apparently, the Jordanian government has emphasized tax reforms giving it a high priority. The aim of the government, in this respect, is to achieve national integration, tax equality, as well as the comprehensiveness of direct and indirect taxes. In Jordan, the tax laws, and the rules and regulations guiding the conduct of taxation emanate from different sources. However, the constitution, which is the supreme law of the nation, is the main source of the tax rule. It also serves as the main source of providing general principles that guide the enactment of further tax laws (Malkawi & Haloush, 2008).

The Jordanian Constitution provides for three branches of government comprising the executive, judiciary, and legislative, and it also secures the rights of its citizens. In addition, the Constitution of Jordan (1952) stipulates the tax principles to be adhered to (Malkawi & Haloush, 2008). However, the constitution does not give the

exclusive list of the taxes to be collected; it only provides the general principles that can be followed in designing the tax rules. Like the US tax system, the Jordanian tax system is flexible (Simon, 1990). Consequently, this flexibility has given the government the opportunity of enacting statutory laws of levying taxes (Malkawi & Haloush, 2008). Due to this openness and flexibility, the Jordanian Constitution imposed certain conditions on the government power to charge tax. One of the reasons for imposing the restrictions by the constitution on the power to impose on taxes is to safeguard certain guarantees of taxpayers, such as equality and social justice. Legality principle is, therefore, one of the fundamental limitations regarding the state power to impose on taxes (Malkawi & Haloush, 2008).

In addition, the constitution takes into consideration the principle of convenience and fairness by providing that the amount to be imposed on taxpayers should not exceed his/her capacity and should not also exceed the funds needed by the government. According to Malkawi and Haloush (2008), this principle or imposition was supported due to its relevance in the applicability of the tax system. Aside from these mentioned limitations, the constitution does not support any further reservation for the tax system. For instance, the constitution does not in any way express non-retroactivity principle. Hence, this principle is applicable to a situation, where a taxpayer might be taxed if the taxable activity happened before the law has taken effect. Prior to the third quarter of the year 2004, the Income Tax Department and the General Sales Tax Department had an autonomous operation and each was independent of the other. However, on 16th August 2004, the departments were

merged into one department named Income and Sales Tax Department in line with the amended law of each of the Income Tax Law and the Sales Tax Law, published in the government Official Gazette No. 4672 dated 16th August 2004 (ISTD, 2016).

The Income Tax Law No. (57) for the year 1985, that has been effective since the provisional law No. (28) for 2009 was issued. The main aim of the law is to motivate the national economy by encouraging and creating a conducive atmosphere for investment opportunities, simplifying the tax system procedures through improving legal framework, and the mitigation tax burden on most of the citizens by exempting a large percentage of medium and limited income (ISTD, 2016).

Pursuant to the provision of the Jordanian Constitution, the nature of the Jordanian taxes should be progressive, indicating payment of tax based on the level of income. Thus, in Jordan, progressivity of the tax rate structure means that high-income individuals pay a higher proportion of their income as taxes than low-income individuals do (Income Tax Law No. 28, 2009). In Jordan, the importance of income tax cannot be underestimated since it generates almost 68 percent of the country's total revenue (Al-Moumany & Al Ebbini, 2013).

It is pertinent to note that other reviews for Income Tax Law are still ongoing, for instance, the amendment of Income Tax Law No. 28 of 2009. This change in the income tax law in 2009 is considered as a part of the state's interest. The fact remains that this law covers all the state's expenses, and its amendment is considered

crucial due to many factors, including increment in population, economic growth and technological advancement. Hence, the government is keenly interested in the amendment, due to its desire to find a fair policy to cover the expenses, serve its citizens, and provide for the appropriate policies and a fair law to collect the tax (Al-Naimat, 2013).

On 31 December 2014, the Jordanian government published Law No. 34 of 2014 which took effect from 1st January 2015. The law was tagged “the new tax law”. It is an amendment of an old Tax Law No. 28 of 2009. The main issues addressed in the new law include amendments to individual and corporate income tax rates, withholding tax rates and various tax administration changes.

2.4.2 Electronic Tax Filing in Jordan

The Income and Sales Tax Department (ISTD) applied the Electronic Tax Filing (ETF) system as a branch of e-government for the efficient collection of tax in Jordan. The ETF system can be described as a new channel to pay taxes via electronic medium such as the Internet (Manly *et al*, 2005). According to Lu, Huang and Lo (2010), ETF system denotes how individual taxpayers or companies file their taxes via the internet. Electronic tax-filing systems can be defined as non-manual tax-filing systems which include both internet and two-dimensional bar-code to filing systems (Azmi, Kamarulzaman & Hamid 2012).

E-government program (e.g. ETF) in Jordan was launched by his Majesty King Abdullah II to achieve greater efficiency in the government performance by raising the level of service delivery to clients and investors from all segments of the society easily, quickly, accurately and efficiently and to become a new type of performance of the government's employees and government transactions (Majdalawi, Almarabeh, Mohammad & Quteshate, 2015). Generally, e-government in Jordan is considered a new and an emerging area of interest in the field of e-business that employs ICTs to enhance the access and delivery of government information and services to citizens, businesses, and government's employees (Majdalawi *et al.*, 2015).

ETF provides government process in the best way to perform a daily activity such as automation of tax collection using modern and latest technologies to improve the way of providing effective services to increase their ability to collaborate and interact with citizens, and to achieve greater transparency (Almarabeh, Majdalawi & Mohammad, 2016).

In Jordan, the tax employees operate the ETF system. These tax employees would help the taxpayers create an electronic tax account on tax websites. They would also collect all the necessary data from the taxpayers to enable the creation of the account. Tax employees also render liaison service with other government departments to make sure of the credibility of the information provided by the taxpayer. Taxpayers should visit the tax employees to update their information every

year to enable the employees to calculate the amount of the tax that the taxpayers would pay.

ETF as well as piloting and training programs was introduced by ISTD to its employees' in 2007. At this stage, ISTD restricted the use of the program because of the obstacles that faced the e-government project. Prior to the inauguration of ETF, ISTD created awareness about the usefulness of ETF. In 2010, official implementation of ETF began as all ISTD tax employees started to use ETF (ISTD, 2016). In 2010, ETF was actually initiated. However, the statistics shows that despite the e-filing initiative implementation, only 1,500 taxpayers (about 1%) remit their tax using e-filing in 2010 (USAID funded Fiscal Reform II Project, 2012). This implies low level of ETF usage by the tax employees because they are the ones who process the information given by the taxpayers. Thus, there arises a problem faced by the government in providing ETF, facilitating condition, IT technological and informational sophistication. In other words, ETF in Jordan faces the problem of the low usage levels of these electronic services by tax employees (Al-Hujran et al., 2013; Al-Jaghoub *et al.*, 2010; Mofleh *et al.*, 2008; Rana & Dwivedi, 2015). Based on the above report, it is discerned that there is a low usage level of ETF in general. This indicates that ETF in Jordan still remains at the informative level of service delivery (Ottoum & Suleiman, 2011). Based on the institutional level within the government agencies, there occurs a number of behavioural problems bordering on the employees' adaptability to the introduction of new working methods (Ottoum & Suleiman, 2011).

According to Derawi (2014) and Hawamedah (2015), the experts in the field attributed the low efficiency of the real achievements of the ETF to several factors, such as the continuous change of the governments in Jordan and the differences in the priorities of these governments towards e-government. During the establishment of the ETF, the Jordanian government was changed 14 times as well as eight ministers who were responsible for the MoICT were changed. Each one of these eight ministers has his own priorities, plans, and perspectives in implementing the e-government. Factors such as the global financial crisis formed obstacles for the e-government. Consequently, the budget deficit of the Jordanian government resulted in the low use of the e-government projects from 2008 to 2014 (Derawi, 2014; Hawamedah, 2015).

Since ETF is considered a part of the e-government, the ISTD reduced the use of ETF during the period of 2008-2014 because of the several challenges. The budget deficit in the Jordanian government led to reducing the financial support to the ETF that is needed to train the employees. This leads to stoppage of training of the employees on using the ETF. These employees have problems in using ETF system. The low use of the ETF system implied that the employee will have little comprehension of how the EFT system works. Hence, the employees will demonstrate poor performance in using the EFT system. In 2015, the Prime Minister of Jordan Dr. Abdullah Al-Nsour re-launched the ETF system of the income tax (Hawamdeh, 2015).

2.5 Relevant Theories

A philosophical study needs to be underpinned by prior theories that serve as foundations and framework for future investigations (Sinclair, 2007). Based on this, researchers began to develop a loosely-structured theoretical framework to guide them (Sinclair, 2007). Thus, Sinclair (2007) asserts that reviewing the relevant underpinning theories provides the researcher with answers to important questions related to the researcher's knowledge about the phenomenon under investigation. These included several questions. What types of knowledge are available to the researcher (empirical, non-empirical, tacit, intuitive, moral or ethical)? What theory will best guide the researcher in line with the phenomenon under investigation? Is this theory proven through an empirical analysis? What are theories relevant in explaining the phenomenon? How can I apply these theories to guide the current investigation? Thus, in view of the foregoing, two theories are found relevant in explaining the current phenomenon; the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis & Davis, 2003) and Task-Technology Fit Theory (TTF) (Goodhue & Thompson, 1995).

It is worth noting that the Unified Theory of Acceptance and Use of Technology (UTAUT) is the main underpinning theory which is supported by Task-Technology Fit Theory (TTF). The reason for supporting the UTAUT with TTF is that the UTAUT underpinned the relationship between the Independent Variables (IVs) (performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication and IT informational sophistication) with

the (electronic tax filing adoption). In addition, the relationship between electronic tax filing adoption and tax employee performance is supported by TTF. The next sections explain the relevant theories for the current study.

2.5.1 The Unified Theory of Acceptance and Use of Technology

Venkatesh *et al.*'s (2003) study compared the similarities and differences between prior theories and models of user's acceptance to formulate Unified Theory of Acceptance and Use Technology (UTAUT). This comparison included the following eight (8) models and theories: Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), combined TAM - TPB, Diffusion of Innovation Theory (DOI), Social Cognitive Theory (SCT), and Model of Personal Computer Utilization MPCU. This work (formulated UTAUT) tried to overcome the difficulties faced by information technology researchers to develop their studies' framework (Venkatesh *et al.*, 2003) in an attempt to understand users' acceptance of technology.

According to Davis, Bagozzi and Warshaw (1992), the prior acceptance models could successfully predict the adoption of information technology in approximately 40 percent of the cases. In this regard, Venkatesh *et al.* (2003) indicated that UTAUT could successfully predict the adoption of information technology in approximately 70 percent of the cases (70 percent of the variance in user's intention). According to Venkatesh *et al.* (2003), this model is fit to predict the employee's acceptance of information technology in large organizations. They also combined the scales used in

prior technology acceptance models and theories to develop new scales, which have been used in their model. However, this model needs to be further tested for further improvements (Marchewka & Kostiwa 2007; Venkatesh *et al.*, 2003).

UTAUT has four constructs to predict user's behavioural intention and behaviour of use, including (i) performance expectancy, (ii) effort expectancy, (iii) social influence, and (iv) facilitating conditions (Grant & Danziger, 2005; Payne & Curtis, 2008; Venkatesh *et al.*, 2003). According to Venkatesh *et al.* (2003), the relationships between these constructs, behaviour intention and behaviour of use are moderated by four key factors, involving age, gender, voluntariness, and experience (Venkatesh *et al.*, 2003). Figure 2.1 demonstrates UTAUT.

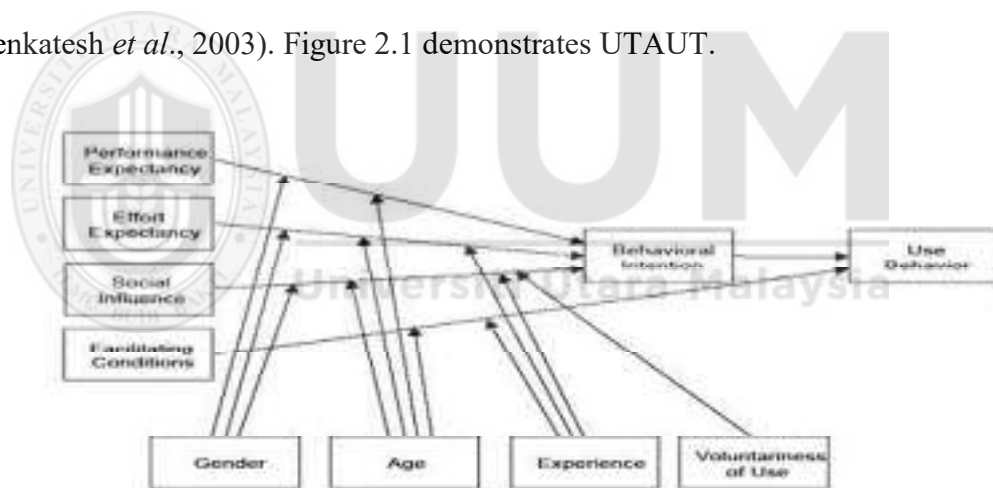


Figure 2.1 UTAUT (Venkatesh *et al.*, 2003)

Accordingly, the main four (4) UTAUT determinants which are performance expectancy, effort expectancy, social influence and facilitating conditions are adopted in this research.

(i) Performance expectancy is considered as the beliefs of an individual that using a particular system is likely to improve his/her job (Payne & Curtis, 2008). It is a construct that was derived from five other constructs in the prior literature. These are (a) outcomes expectations taken from SCT (b) perceived, (c) relative advantage taken from DOI (d) extrinsic motivation taken from motivation model, and (e) lastly, job fit taken from MPCU (Venkatesh *et al.*, 2003). Thus, in accordance with the assertion of Venkatesh *et al.* (2003), performance expectancy has been found to have a positive influence on the user's behavioural intention. This finding has been held in various settings including voluntary and mandatory settings in information system context. These authors further added that age and gender were found to have a strong moderating influence on the relationship between performance expectancy and behaviour intention.

(ii) Effort expectancy relations to the individuals' perception denotes that there will be ease of use for a particular system. This construct was formed from three constructs taken from prior models (Payne & Curtis, 2008). These constructs include (a) complexity taken from DOI, (b) the same complexity taken from MPCU, and (c) lastly ease of use taken from TAM (Venkatesh *et al.*, 2003). Venkatesh *et al.* (2003) posited that effort expectancy can have a significant positive influence on user's behavioural intention related to information system. Venkatesh *et al.* added that gender, experience and age serve as significant moderators in the relationship between behavioural intention and effort expectancy (Venkatesh & Davis, 2000; Venkatesh *et al.*, 2003).

(iii) Social influence refers to the users' perceptions that the opinion of other people within the society plays a strong influence on his/her decision to perform a particular behaviour (Payne & Curtis, 2008). This construct relates to (a) subjective norms in TAM2 and TRA, (b) social factors in MPCU, and (c) image in DOI. According to Venkatesh *et al.* (2003), social influence and behavioural intention relation is moderated by three factors, including age, gender, and experience (Huang *et al.*, 2007; Venkatesh *et al.*, 2003).

(iv) Facilitating conditions were described as the users' perceptions that the organization, technical infrastructure, and other supports will assist him/her in the use of the information system (Payne & Curtis, 2008). The facilitating condition construct was captured from the models in the prior literature. These are (a) perceived behaviour control borrowed from TPB, (b) facilitating conditions construct in MPCU, and (c) lastly compatibility taken from DOI (Huang *et al.*, 2007; Venkatesh *et al.*, 2003). It was also indicated by Venkatesh *et al.* (2003) that the facilitating condition as a variable has a strong prediction power on information system usage. Moreover, age and experience were found to be moderating variables on the influence of facilitating conditions on the user's behaviour.

The adoption of Venkatesh *et al.*'s (2003) UTAUT in the current study is due to several reasons. First, UTAUT was developed based on eight prior theoretical models (Venkatesh *et al.*, 2003). Therefore, it is more appropriate to develop all the

eight theories at a time by integrating them under UTAUT as an underpinning theory for the current study. Secondly, UTAUT model is more flexible in measuring behavioural and acceptance compared to the previous eight theoretical models. In addition, UTAUT is claimed to be able to predict the adoption of information technology in approximately 70 percent of cases, whereas other user's adoption models (TRA, TAM, TPB) could do so in only about 40 percent of the cases (Venkatesh *et al.*, 2003). Another resounding reason is that UTAUT integrates four key factors that are important to this research, such as Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) including moderating variables (Gender, Age, Experience, Voluntariness of Use) which are considered as major determinants of behavioural intentions and usage behaviour of users towards technology and integrated successfully with moderators (Shafi & Weerakkody, 2009; Venkatesh *et al.*, 2003).

Venkatesh *et al.* (2003) created this synthesized model to present a complete picture of the acceptance process more than any previous individual models (AlAwadhi & Morris, 2008). Although the UTAUT model is relatively new, it is suitable and valid (AlAwadhi & Morris, 2008). Eventually, the system will have more impact on the older users who have lots of experience (Venkatesh *et al.*, 2003). According to Venkatesh *et al.* (2003), this model is fit to predict the employee's acceptance of information technology in large organizations. Table 2.1 presents studies that used UTAUT framework in different contexts.

Table 2.1
Studies on UTAUT Framework

| Author (year) | Country | Area of study |
|--|----------------|---|
| Hoque & Sorwar (2017) | Bangladesh | Mobile Health Services |
| Tarhini, El-Masri, Ali & Serrano (2016) | Lebanon | Internet Banking |
| Alibraheem & Abdul-Jabbar (2016) | Jordan | E-Tax Filing |
| Al-Hadban, Hashim & Yusof (2016) | Iraq | Information Systems in Public Hospitals |
| Bhuasiri, Lee & Ciganek (2016) | Thailand | E-Tax Filing |
| Celik (2016) | Turkey | Online Shopping |
| Lu & Nguyen (2016) | Vietnam | E-Tax Filing |
| Mosweu, Bwalya & Mutshewa (2016) | Botswana | Information Management Systems |
| Nisha, Iqbal, Rifat & Idrish (2016) | Bangladesh | Electronic Tax Filing |
| De Veer, Peeters, Brabers, Schellevis, Rademakers & Francke (2015) | Netherlands | E-Health |
| Aziz & Idris (2014) | Malaysia | Tax E-filing |
| Bierstaker, Janvrin & Lowe (2014) | USA | Audit Techniques |
| Mahzan & Lymer (2014) | UK | Audit Tools and Techniques |
| Al Qeisi & Al-Abdallah (2014) | UK | Internet Banking |
| Marchewka & Kostiwa (2014) | USA | Using Course Management Software |
| Alaiad, Zhou & Koru (2014) | USA | Healthcare Robot's Adoption |
| Liang & Lu (2013) | Taiwan | Tax E-filing |
| Phichitchaisopa & Naenna (2013) | Thailand | Healthcare Information Technology |
| Tan (2013) | Taiwan | Electronic Placement Tests |
| Tan & Foo (2012) | Malaysia | Tax E-Filing |
| Abdulwahab & Zulkhairi (2012) | Malaysia | Telecommunication |
| Alshehri, Drew, Alhussain & Alghamdi (2012) | Saudi Arabia | E-Government |
| Aziz & Idris (2012) | Malaysia | Tax E-filing |
| Ling Keong, Ramayah, Kurnia & May Chiun (2012) | Malaysia | Enterprise Resource Planning |
| Al-Sobhi, Weerakkody & El-Haddadeh (2011) | Saudi-Arabia | E-Government Adoption |
| Carter, Shaupp, Hobbs & Campbell (2011) | USA | Tax E-filing |
| Foon & Fah (2011) | Malaysia | Internet Banking |
| Cheng, Yu, Huang, Yu & Yu (2011) | Taiwan | Acceptance Technology |
| Maldonado, Khan, Moon & Rho (2011) | South America | E-learning |

| | | |
|-----------------------------------|--------------------------------|------------------------------|
| Rahman, Jamaludin & Mahmud (2011) | Malaysia | Use Digital Library |
| Schaupp, Carter & McBride (2010) | USA | E-File Adoption |
| Yuen, Yeow, Lim & Saylani (2010) | USA; Australia; Malaysia | Internet Banking |
| Shafi, & Weerakkody (2009) | Qatar | Adoption of E-government |
| Jong & Wang (2009) | Taiwan | Web-based Learning System |
| McLeod, Pippin & Mason (2009) | USA | E-Filing |
| Wang & Shih (2009) | Taiwan | Used Technology |

Table 2.1 Continue

| Author (year) | Country | Area of study |
|--|--------------|--|
| AlAwadhi & Morris (2008) | Kuwait | E-government Services |
| Bandyopadhyay & Fraccastoro (2007) | USA | User Acceptance of Information Technology |
| Wu, Tao & Yang (2007) | | Mobile Communication Users |
| Al-Gahtani, Hubona & Wang (2007) | Saudi-Arabia | Acceptance and Use of IT |
| Anderson, Schwager & Kerns (2006) | USA | Acceptance Technology |
| Carlsson, Carlsson, Hyvonen, Puhakainen & Walden (2006) | Finland | Adoption of Mobile Devices |

In Table 2.1, it is discernible that many studies have used UTAUT theory in different contexts and in different areas of study excluding tax research field. However, the previous studies in Table 2.1 showed that there is no study on ETF in Jordan except for one conceptual paper by Alibraheem and Abdul-Jabbar (2016). This indicates that the current study is among the few studies that used UTAUT with ETF in the Jordanian context. The next section provides an overview of the supporting theory for the current study, namely the Task-Technology Fit Theory.

2.5.2 Task-Technology Fit Theory

Task-Technology Fit Theory was developed by Goodhue and Thompson (1995) which refers to the level at which a technology is used to assist in task performance (Goodhue, 1997). It has been postulated by Goodhue and Thompson (1995) that the

link between information technology and individual performance has been an undergoing area of research. The theory proposed that information technology can have a positive impact on individual performance (Goodhue & Thompson, 1995). Actual technology usage and attitude towards its usage have positive impacts on the individual's performance (DeLone & McLean, 1992).

Goodhue and Thompson (1995) observed that suitable fit between tasks and technology would give rise to enhancing the individual's performance on the given tasks. The notion was empirically ascertained by Goodhue and Thomson (1995), who reported a positive link between TTF and individual's performance on the given tasks.

Thus, the research framework of the current study proposed that electronic tax filing adoption has significant positive influence on tax employees' performance. TTF, as a theory, serves as a supporting theory that explains the relationship between ETF adoption and employees' performance.

Literature provides support on possibilities of TTF Theory in explaining the effect of information technology on the individual performance. Klopping and McKinney (2004) asserts that TTF Theory was developed to evaluate the effect of workplace technology adoption, and the impact of such adoption on the employees' performance.

More evidences also showed that several studies related to information technology and performance were explained by TTF Theory. For instance, Zigurs, Buckland, Connolly and Wilson (1999) used TTF Theory for group support system comprising 37 groups to evaluate the effect of technology fit on group performance. The outcome from their study indicates that groups perform differently. However, the overall results showed that the proposition of the theory holds among the groups not only at the individual level. Dishaw and Strong's (1999) submission implies that TTF theory is gaining continuous application in many information technology studies. In their study, Dishaw and Strong (1999) combined TTF Theory and TAM to provide more integrated model on good IT selection and usage. It is pointed that information system studies aim at evaluating how technology adoption improves the performance.

Therefore, based on the above discussion, the current study proposed the use of TTF Theory to explain the relationship between the electronic tax filing adoption and tax employees' performance in Jordan.

2.6 Employees' Performance

Borman and Motowidlo (1997) defined employees' performance as the value within which job incumbents perform activities that add value to the organization's technical importance. Hence, performance is the accomplishment of definite tasks measured against predetermined or recognized standards of accuracy, completeness, cost, and speed (Sultana *et al.*, 2012). To be more specific, the employee's

performance denotes employees' capability to perform a task in an effective and efficient means to produce the best results (Anitha & Kumar, 2016).

Employee's performance has received a lot of scholarly attention. Among the scholars who conducted research on employee's performance are Sultana, Irum and Mehmood (2012). These authors consider performance as the achievement of a specified task measured against predetermined or identified standards in terms of accuracy, completeness, cost, and speed. It seems that the employment performance is deemed to be the attainment of responsibility in such a way that the performer is cleared from all liabilities stipulated under the contract. Thus, efficiency and effectiveness are the fundamentals of the performance alongside competitiveness and productivity (Cooke, 2001). Achieving a better performance shows the extent to which employees attained the tasks assigned to them. There are some expectations by every organization from the employees' in relation to their performance. Eventually, when they perform the required set standards and meet the organizational expectations, their performance is considered adequate and meet the organizational goals.

Elnaga and Imran (2013) considered employees as the most valuable asset of every organization, whether it is a simple organization or a complex one because they can make a good reputation, and can adversely affect profitability. Employees are responsible for the relevant work assigned to them, perform the necessary customer satisfaction tasks, and ensure the quality of offered products and services. That is to

say, job productivity of an employee is best determined by the fact that workers who have satisfied with their job will have a higher job performance, and thus, have a job retention more than those who do not have satisfaction towards their jobs. High employee' performance is carried out by employees who are happy and satisfied, hence the motivation of management would be to those high performing employees in order to assist them in getting their target achieved. In addition, the management finds that it is easy to motivate high performers in order to get firm targets (Kreitner & Kinicki, 2007).

Khan (2012) posits that the employee's performance is based on the logarithm of net sales per employee (Huselid, 1995). Njanja, Maina, Kibet, and Njagi (2013) consider measuring performance of a great importance for an incentive plan since it channels the relevance of existing organizational targets. It seems that when something is measured and rewarded, it would attract attention (Bohlander, Snell, Sherman & Sacristan, 2001). The indicators for measuring the employee's performance includes quality that can be measured by the percentage of work output that must be redone or is rejected. Regarding customer satisfaction, it can be measured by the number of royal customers and customer feedback. Also, timeliness is measured in terms of how fast the work is performed by the employee when given a certain task; absenteeism/tardiness observed when employees are absent, and achievement of objectives is measured when an employee has surpassed his/her set targets, he/she is then considered to have performed well to achieve the objectives (Hakala, 2008; Armstrong & Taylor, 2014).

Sultana *et al.* (2012) defined the employee's performance as the achievement of a specified task or duty designed based on predetermined or identified standards bordering on quality, accuracy, and completeness. This definition is considered more suitable in this study as it covers a wider domain of the measurements of employee's performance used in this study.

Anitha (2014) is among the scholars who considered employee's performance as the basic outcomes achieved and accomplishments made at work. Performance refers to keeping up plans while aiming for the results. Although the performance evaluation is the heart of performance management (Cardy & Leonard, 2011), the performance of an individual or an organization depends heavily on all the organizational policies, practices, and design features of an organization. This integrative perspective represents a configurationally strategic human resources management which supports some patterns of human resources activities as opposed to a single activity that is necessary to achieve organizational goals (Delery and Doty, 1996). Previous studies indicated that the employee's engagement is one of the key determinants nurturing high levels of employee's performance, as is constantly shown in a number of prior studies (Macey, Schneider, Barbera & Young, 2011).

According to Otley (1999), the performance of organizations is dependent on the performance of the employees and other factors, such as the environment of the organization. The distinction between the organization and performance is evident;

an organization that is performing well is the one that has successfully achieved its objectives. A sound performance and productivity growth are also important in stabilizing economy by means of improving living standards, higher wages, and an increase in the goods available for consumption (Griffin, Welsh & Moorhead, 1981). Griffin et al. (1981) argue that research on individual employee's performance is important for the society in general. Hence, the employee's productivity and the employee's job performance seem to be related. For instance, in the United States of America, performance is in some cases measured as the number and value of goods that are produced. In general, productivity tends to be associated with production-oriented terms (e.g. profit, turnover) and performance is associated with efficiency (e.g. supervisory ratings and goal accomplishments) (Pincus, 1986). However, job performance is more than the ability of the employee alone. In this regard, Lindner (1998) argues that the employee's performance can be perceived as obtaining external fund. Some researchers argue that a person's personality has a more specific role in job performance (Barrick & Mount, 1991). According to various researchers, it is not what performance exactly means, but how it is self-possessed and how it is measured (Furnham, Forde & Ferrari, 1999; Barrick & Mount, 1991).

According to Hartline and Jones (1996), the employee's performance is important because it is a crucial determinant of customers' perceived service quality (Schneider & Bowen, 1985; Zeithaml, Parasuraman & Berry, 1985). It can be said that a poor employee's performance has been linked with the increased customer's complaints and the likelihood of substituting to a competing service (Keaveney, 1995; Lewis,

1983). All organizations are concerned in finding out the ways through which a high level of an employee's performance can be achieved. Researchers conclude that the employee's performance is positively correlated with the motivational level and also affected by workplace environment and office design. Many efforts are done to find out strategies to increase the motivational level, the favorable workplace environment, and the effective office design (Naseem, Sikander, Hameed & Khan, 2012). There has been a renewed emphasis on strategy and the importance of effective human resources management systems in the 1990s, and the organizational leadership expects improvements in the individual employee's performance to automatically enhance organizations' performance and competitive positioning (Becker, Huselid & Ulrich, 2001).

Association between information system and individual performance has been an ongoing area of study (Goodhue & Thompson, 1995). Nevertheless, there has been no much emphasis on the effect of technology on performance. In a study by DeLeon and McLean (1992), it was found that utilization and users' attitudes about the technology gives rise to individual performance impacts. In addition, in health care services research.

According to Devaraj and Kohli (2003), academicians and practitioners have shown so much concern on the technology usage-performance. Consistent with this concern, Devaraj and Kohli (2003) conducted a study on health care system industry and found a positive link in technology usage-performance link. With the application of task-to-performance chain model, Also, Luarn and Huang (2009) investigated the

implication and consequences of information systems on the government employee's performance. The study used a sample of 847 government employees in Taipei City through a stratified sampling method. A multiple regression was used in this study. The finding revealed that task-technology fit, computer self-efficacy, and technology utilization influenced the employee's performance.

2.7 Electronic Tax Filing Adoption

The electronic tax filing system can be described as a new channel to pay taxes via electronic medium such as the Internet (Azmi *et al.*, 2012). According to Lu, Huang and Lo (2010), the electronic tax filing system is defined as the individual taxpayers or companies file their taxes via the internet. Hence, electronic tax-filing systems can be defined as non-manual tax-filing systems, which include both the Internet and two-dimensional bar-code to filing systems (Wang, 2003).

Electronic tax-filing systems is a general term for electronic filing or electronic lodgment or electronic declaration of tax returns. It is the submission of tax form data to a taxing authority in a computer file format through an internet connection (Edward-Dowe, 2008).

It is worth noting that many countries have adopted the e-filing system of tax return forms. For example, USA was the first country to use an e-filing system since 1986. The primary objective for switching to this new system away from the conventional paper filling was to improve efficiency in processing tax returns (Spoge & Trewin,

2003; Anderson, Fox & Schwartz, 2005). Evidences showed that most of the literature related to electronic tax filing adoption adapts and extends the well-known TAM by several researchers (Davis, 1989; Wang, 2003; Chang, Li, Hung & Hwang, 2005; Gallant, Culnan & McLoughlin, 2007).

Hsu and Chiu (2004) and Hung *et al.* (2006) posit that an important number of studies extends the TPB (Fishbein & Ajzen, 1975), whereas some studies modified the unified model of both theories (Fu, Farn & Chao, 2006) to evaluate the individuals' adoption intention towards the e-filing system. In other studies, conducted by Carter, Schaupp & Evans (2008), UTAUT has been modified. As for Hung, Wang, and Chou (2007), they adapted the Diffusion of Innovation Theory to study the electronic tax filing adoption among the taxpayers. The important contribution of most of the prior literature that adopted the TAM and TPB models is the identification and the measurement of the antecedents of the perceived ease of use and perceived usefulness of variables.

Tan and Foo (2012) examined the relative importance of adoption determinants including effort expectancy, performance expectancy, perceived risk, personal innovativeness, web self-efficacy and social influences, and their role in predicting to use e-filing. Based on the empirical analysis, the finding revealed that the usefulness and ease of use of the e-filing system, social referents, opinion related to e-filing, and high control in the ability to use a web site have a significant relationship with the tax e-filing adoption.

In a study on the electronic tax-filing systems in Taiwan, Wang (2003) explored factors affecting the citizen adoption of these systems grounded on TAM. The study proposed “perceived credibility” as a new variable that captures the user’s intrinsic belief in the electronic tax-filing systems. According to Wang (2003), perceived credibility refers to the two important dimensions affecting the user’s intention to conduct online transactions - security and privacy. The results of this study indicated that computer self-efficacy had a significant effect on the citizen’s intention to use an electronic tax-filing system through perceived usefulness, perceived ease of use, and perceived credibility. Citizens with higher levels of computer self-efficacy are more likely to have positive ease of use and usefulness beliefs. In addition, computer self-efficacy affects behavioural intention to use. Hence, the government agencies can increase the usage of e-government services by promoting computer self-efficacy. However, this requires providing citizens with training courses on various aspects of information technologies.

Fu *et al.* (2006) utilized TAM to examine whether the model was applicable to e-filing and manual filing or not. They found that perceived usefulness was the main determinant for both types of filing methods, whereas perceived ease of use, social norms, and self-efficacy results were different for both methods. They found that perceived ease of use and social norms were only significant for manual submission but not significant for the e-filing method. Regarding self-efficacy, it was found to be a significant determinant for e-filing rather than the manual filing. The association

of the demographic items with the usage of e-filing indicated that taxpayers who did not use e-filing had a lower education level, were older in age, had less computer and internet experience, had fewer IT resources, and were connected to the internet less frequently than the taxpayers who utilized the e-filing.

The user's acceptance of e-filing has also been actively studied in USA. Many of the studies set in the USA utilized the UTAUT model with an integration of other variables such as trust and security (McLeod *et al.*, 2009; Schaupp, Carter & McBride, 2010). Results for the UTAUT constructs were consistently found to be significant but not for the other variables integrated in the model. Schaupp *et al.* (2010) and Carter *et al.* (2011) found that three out of four UTAUT constructs (performance expectancy, social influence, and facilitating conditions) were significant factors that affect the Americans' intention to use e-filing. Carter *et al.* also found that trust factors were a significant determinant of e-filing intention. However, McLeod *et al.*, (2009) found that trust factors (security and privacy) were non-significant factors in the intention to use the e-filing system, which indicates that Americans were willing to exchange trust for convenience.

Other countries that have been the setting of similar studies on the acceptance of e-filing included Turkey and India. In Turkey, the perceptions of certified public accountants towards tax e-filing and e-payment were examined using a multiple regression analysis by Ozgen and Turan (2007). They tested eight variables, namely perceived usefulness, perceived ease of use, compatibility, perceived risk, self-

efficacy, subjective norm, technology facilitating conditions and resource facilitating conditions towards behavioural intention. Their findings suggest that perceived usefulness and perceived ease of use were the major determinants of e-filing acceptance. This supports the results found by researchers in other countries such as Taiwan.

In India, Ojha *et al.* (2009) studied the factors that affect the e-filing acceptance among young professional individuals, whereas Sharma, Oman, and Yadav (2011) focused on more general individual taxpayers. By using multivariate data analysis, both studies confirmed that perceived usefulness and perceived ease of use were statistically significant determinants in India. Besides perceived usefulness and perceived ease of use, Ojha *et al.* (2009) found that external influences are a significant determinant, but this factor was not significant (Sharma *et al.*, 2011).

However, a study conducted by Hu, Brown, Thong, Chan and Tam, (2009) resulted in a contradicting finding, which revealed that the perceived ease of use was not a significant determinant. Interestingly, this finding was not surprising because their research is about the e-tax service in Hong Kong, which is considered a technologically advanced nation. Apart from Hong Kong that is a technologically sophisticated country, it seems that young people may have felt that perceived ease of use is less important due to their acquaintance with IT apparatus (Venkatesh *et al.*, 2003).

Thus, it can be said that, the justification for this contradictory finding can be attributed to the context of their study, as well as the respondents of the study who are young. It can be said that for an e-tax system which is not object-oriented, the perceived ease of use is an important predictor adoption towards e-tax system. Regarding accepting a new technology by old people, the frequency is mostly lower than young people. In other words, it seems that younger people have more contact with the internet, and e-tax service information from internet can be seen as more critical than the traditional service, which young people have more access to. In this direction, Hu, Brown, Thong, Chan, and Tam (2009) posit that tax-related information, such as tax publications, forms, and instructions which are normally obtained from the internet, will play a role in citizen formation of perceptions of usefulness. Therefore, due to the relevance of e-tax service in assisting individuals to complete their taxes in various situations, it was argued that it can lead to the development of perceived usefulness (Hu *et al.*, 2009).

Kirchler, Niemirowski & Wearing (2006) stressed on the importance of the mutual understanding between tax officers and taxpayers. That is to say, achieving the mutual understanding would indirectly lead to the willingness to cooperate. Thus, this would enable the tax authority to communicate and provide the requested support more effectively and smoothly (Aziz & Idris, 2012).

Goodhue and Thompson (1995) agree that the linkage between information technology and individual performance has been an undergoing area of research. The

TTF theory proposed that information technology can have a positive impact on the individual's performance (Goodhue & Thompson, 1995).

Actual technology usage and attitude towards its usage have been signified to have positive impacts on the individual's performance (DeLone & McLean, 1992). Similarly, Devaraj and Kohli (2003) observed that academicians and practitioners have been interested in technology usage-performance. Thus, Devaraj and Kohli (2003) conducted a study on health care system industry and found a positive association in technology usage-performance link. In addition, Luarn and Huang (2009) investigated the implication and consequences of information systems on government employee's performance and found that task-technology fit, computer self-efficacy and technology utilization have influence on employee performance.

2.8 Factors Influencing ETFA

This section provides discussions on factors influencing ETFA. The factors are performance expectancy, effort expectancy, social influence, facilitating condition, training, IT technological sophistication, and IT informational sophistication. In this section, the four moderating factors, namely gender, age, experience, and voluntariness of use are also discussed.

2.8.1 Performance Expectancy

Performance expectancy can be defined as a way of using a system to get better achievements in a job (Venkatesh *et al.*, 2003). Performance expectancy can also be

defined as a degree at which an individual can improve his/her job through using a system (Davis 1989; Venkatesh *et al.*, 2003). This is referred to as the person's belief that using a particular system will enhance his/her work (Payne & Curtis, 2008). According to Venkatesh *et al.* (2003), performance expectancy refers to the level at which a person perceives that adopting the system will aid him or her to accomplish gains in his/her job. This definition represents the basis for the measurements used for operating of the construct.

According to AlAwadhi and Morris (2008), performance expectancy is a determinant of service adoption under e-government. Subsisting literatures suggest that technology adoption is an important factor in diffusion and adoption of information technology under performance expectancy (Agarwal & Prasad 1999; Morris & Venkatesh 2000; Venkatesh & Davis 2000; Wang, 2003).

Shafi and Weerakkody's (2009) study involved the adoption of e-government services in Qatar. They examined the influence of performance expectancy on the intention to use e-government to develop a research model. The results showed that e-government services initiative in Qatar has been successful in promoting a wider access to the internet. As a result, the adoption factors such as performance expectancy had a significant impact on the intention to use the Qatari e-government services.

According to Wang and Shih (2009), performance expectancy shows a positive effect on the intention to use information kiosk. Their outcomes can be elucidated by

considering the benefits of using information technology. Taiwanese have confidence in that to obtain government-related information retrieving or processing; therefore, they must use information kiosks. It can be posited that obtaining the IT system inspires consumers to have the aim to use the method. In addition, people who have high performance expectancy are more expected to use information kiosks than people who have low performance expectation. That is, the more the citizen acknowledges fully the importance, the more the intent is for using.

Alawadhi and Morris (2008) discovered that the performance expectancy has an impact on Kuwaiti student's intent to use automated government resources. On the other hand, Lin, Chan and Jin (2004) discovered a contrasting result which indicates that performance expectancy might not be a factor of behavioural intent of students to make use of immediate messaging on mobile devices.

Chiu and Wang (2008) showed that performance expectancy is absolutely related to purpose use web-based learning. For example, Taiwanese students who are on part time basis get benefits for using web-based learning; they were motivated to have the intent of using the system. Part-time students may give consideration to the significance and the value of learning using web-based learning when using a system since it is another option for learning.

Hence, the same pattern and effect of performance expectancy could be expected in the intention to use e-filing technology. The adoption of e-filing system in corporate taxation would increase the performance of tax preparers effectively, and would

efficiently complete and return the return form electronically. Thus, it is predicted that there is a positive relationship between performance expectancy and the behavioural intention to accept e-filing in Malaysia among tax preparers (Aziz & Idris, 2012). In their study, McLeod *et al.* (2009) reported that performance expectancy measures the volume to which the individual believes that using tax software will help to upsurge the performance.

Studies on technology adoption have shown that the performance expectancy is a significant factor in determining the adoption and diffusion of information technology (Agarwal & Prasad 1999; Morris & Venkatesh 2000; Venkatesh & Davis, 2000; Wang, 2003).

According to Petersen and Washington (1993), e-filing will assist the taxpayers to compute their taxes more accurately and efficiently than the paper-based tax return. In addition, e-filing could decrease processing costs and reduce the time taken to make tax refunds. It is therefore reasonable to hypothesize that the adoption and diffusion of the e-filing system may be accelerated if performance expectancy is increased as taxpayers fully understand the usefulness of the system (Tan & Foo, 2012).

Schaupp *et al.* (2010) and Carter *et al.* (2011) found that the performance expectancy is a significant factor that affects the Americans' intention to use e-filing. Tan and Foo (2012) examined the relative importance of adoption determinants in predicting

the intention to use e-filing in Malaysia. The results showed that the usefulness and ease of use of the e-filing system, social referents' opinion related to e-filing and high control in the ability to use a web site were statistically significant determinants of tax e-filing adoption. Although e-filing in Malaysia is voluntary, determinants related to the behavioural intentions to adopt e-filing often help explain why some taxpayers are more likely to e-file their tax returns than others. Determinants that may be significant in explaining e-filing adopting intentions include effort expectancy, performance expectancy, perceived risk, personal innovativeness, web self-efficacy, and social influence (Tan & Foo, 2012).

According to Venkatesh *et al.* (2003), performance expectancy is a strong predictor of behavioural intention for both voluntary and mandatory settings in the context of information technology, with the addition that the relationship between performance expectancy and behaviour intention may be moderated by age and gender. Other researchers like Al-Gahtani, Hubona and Wang (2007) found that the performance expectancy had a positive effect on intention.

In a study by Wang and Shih (2009), it was established that the performance expectancy had the strongest effect on the behavioural intention among all the determinants of users' intention in the context of information kiosk acceptance in Taiwan. This demonstrates that an individual with high performance expectancy is likely to use information kiosk more than others with lower performance expectancy.

Thus, performance expectancy is the strongest predictor of behavioural intention (Anderson, Schwager & Kerns 2006; Darsono, 2005; Lu, Yu & Liu, 2009; Venkatesh *et al.*, 2003; Wang & Wang, 2009). In addition, age influences the drivers of the behavioural intention, where performance expectancy has a significant impact on younger workers. Hence, younger employees believe that using the technology could ease them to accomplish their task. Regarding research on gender differences, it was indicated that men tend to be highly task-oriented. As performance expectancy focuses on task accomplishment, men could influence the behavioural intention more than women. Considering the combined effects of age and gender on performance expectancy, the effect of aged females on behavioural intention is found to be weak (Lu *et al.*, 2009). Based on previous studies, PE is a strong predictor of the user's intention in the information and communication technology context (Davis *et al.*, 1992; Naor & Geri, 2008; Taylor & Todd, 1995; Venkatesh & Davis, 2000; Venkatesh *et al.*, 2003).

2.8.2 Effort Expectancy

Effort expectancy is concerned with the individual's perception that a particular system will be easy to use. Similar to performance expectancy, this construct is derived from three constructs, taken from other existing models (Payne & Curtis, 2008). It also refers to the degree of ease felt by individuals when they use the information system (Hung *et al.*, 2007; Venkatesh *et al.*, 2003). Several studies have indicated that the effort expectancy construct has a significant influence on the

behavioural intention to use an e-learning technology (Marchewk *et al.*, 2007; Naor & Geri, 2008; Nanayakkara, 2007).

For Venkatesh *et al.* (2003), effort expectancy is the level of ease connected with the use of the system. When a system such as ETF is found easy for handling by the users, it will require less effort to perform the task. Therefore, this definition is considered appropriate in the operationalization of the construct in the current study.

According to Venkatesh *et al.* (2003), the relationship between effort expectancy and behavioural intention is also influenced by three key moderators, that are age, gender and user's experience. In a study by AlAwadhi and Morries (2008) on e-government services adoption in Kuwait that was based on the UTAUT model. a questionnaire was administered to 1013 students. The findings showed that effort expectancy is a significant determinant of e-government services adoption.

Aziz and Kamil (2012) illustrated that the effort expectancy is the weak determinant in UTAUT model because individuals expect that the technology introduced should be free of effort. Therefore, when a technology is perceived to require more effort to use, the intention to use the technology would decrease and vice versa. In other words, when having the perception that technology takes more effort to use, this will show the less useful the technology is (Davis, 1989; Venkatesh & Davis, 2000). Such effect is predicted to be on the e-filing technology; when it is free of effort, it would improve as well as attract the tax preparers to adopt the system. Hence, it is

proposed that effort expectancy could have results in a positive relationship with the behavioural intention in accepting e-filing among tax preparers.

Carter *et al.* (2011) argued that taxpayers will not consider e-filing to submit their tax returns if the system is too complex to navigate. That is, taxpayers' intention to e-file their tax returns may be affected by the need to be assured of the ability to manage and control the electronic application system. Consequently, effort expectancy tends to be more significant during the early stages of the adoption of an electronic system. It becomes less important as taxpayers gain confidence in managing the system after an extended period of use (Venkatesh *et al.*, 2003). In this regard, Al-Gahtani *et al.* (2007) found that the effect of effort expectancy on the behavioural intention was not significant. In addition, gender, age, and experience do not moderate the relationship between effort expectancy and the behavioural intention. The findings concluded that with experience, computers ease of use becomes less important in predicting Saudi users' behavioural intention. However, the findings of Wang and Shih (2009) are in contrast with that of Al-Gahtani *et al.* (2007) in that effort expectancy had a significant influence on the Intention in the context of their studies. The findings stress the importance of user's friendliness as a prerequisite to information kiosk acceptance. To attract more citizens to use kiosks, kiosk developers should lessen the complexity of the hardware and software and introduce user's friendly interface, such as touch screen menus.

Effort expectancy has been found, in the research of Chiu and Wang (2008), to positively related to the intention to use web-based learning. The likely reason for this is that part-time students in Taiwan have a confidence in using information system and they know the usefulness of using web-based learning. Their career may be dealing with information technology, so they have a skill and knowledge to use the system. Therefore, they perceive the system as easy to use.

Wang and Shih (2009) supported the idea that effort expectancy had a positive effect on the intention to use information kiosks. Their results may be explained by considering ease of use of those information systems. Taiwanese believes that using information kiosks requires less effort. Therefore, user's friendly interface motivates users to have the willingness to use the system. Effort expectancy has been argued to be a very important determinant of the e-government usage behaviour in both the developing and developed countries (Abdulwahab & Dahalin, 2011; Al-Sobhi, Weerakkody & El-Haddadehet, 2011). The influence of effort expectancy on the behavioural usage of e-government services and citizen's skills has been identified as one of the major contributors of e-government success (Jain & Kesar, 2011). In addition, Khan, Khan, and Khan (2011) emphasized that for a successful e-government service, there must be skillful human resources. Venkatesh *et al.* (2003) indicated that effort expectancy has a significant influence on the behavioural intention of a user to use information technology. They added that the relationship between the behavioural intention and the effort expectancy may be moderated by gender, experience, and age (Venkatesh & Davis, 2000; Venkatesh *et al.*, 2003).

Many scholars (Rahman, Jamaludin, & Mahmud, 2011; Shafi & Weerakkody, 2009; Al-Sobhi et al., 2011; Carlsson et al., 2006; Foon & Fah, 2011; Venkatesh et al., 2003, 2011) found that effort expectancy has a significant influence on the intention to use behaviour. In contrast, Abdulwahab & Dahalin (2011), and Wu, Tao, and Yang (2007) argue that effort expectancy does not have a significant influence on the intention to use behaviour, where few of them were conducted in e-government service settings. The effect of effort expectancy on the behavioural intention was not significant (Al- Gahtani et al., 2007). In addition, gender, age and experience do not moderate the connection between effort expectancy and behavioural intention. The findings concluded that with experience, computers' ease of use becomes less important in predicting Saudi users' behavioural intention.

2.8.3 Social Influence

Social influence is defined as the extent at which a person perceives the importance others believe he or she should use the new system. This definition is chosen to be appropriate for the operationalization of the variable (Venkatesh *et al.*, 2003; Venkatesh, Sykes & Zhang, 2011). Social influence can also be defined as the degree to which an individual perceives other persons' belief about the system to determine if he or she should use the new system (Chiu & Wang, 2008).

Hence, social influence has been argued to be a very important determinant of the e-government usage behaviour in both the developing and developed countries

(Abdulwahab & Dahalin, 2011; Al-Sobhi *et al.*, 2011). This factor influences behavioural intention by the way that individual believe others' opinion could result in the individual acceptance of the technology (Lee, Cerreto & Lee, 2010; Lu *et al.*, 2009). Thus, social influence was suggested as a significant factor in influencing the individual's behavioural intention to acceptance a new IT (Venkatesh & Davis, 2000; Shaper & Pervan, 2007).

Social influence denotes the outcome of people's ideas of the view on individuals' use of technology (Hung *et al.*, 2007; Venkatesh *et al.*, 2003). That is, social influence is a sturdy analyst of the behavioural purpose to use an info and communication technology (Dadayan & Ferro, 2005; Venkatesh & Davis, 2000; Venkatesh *et al.*, 2003). As a result, numerous studies have specified that social influence has a straight effect on the behavioural intention to accept IT usage (Venkatesh *et al.*, 2003; Robinson, 2006; Bandyopadhyay & Fraccastoro, 2007; Lu *et al.*, 2009; Datta, 2011). In this regard, Robinson (2006) pointed out that social influence had an encouraging effect on student's aim to use technology. Lin and Anol (2008) indicated in their research that social influence is the utmost significant feature that disrupts straight and indirect online social provision and easing conditions connected to IT usage, even more than online social provision.

Al-Gahtani (2004) contends that social influences can play a significant part in closing the gaps regarding an improved understanding of IT/IS acceptance. In addition, Carter *et al.*, (2011) established that social influence was important features

that affect the Americans' aim to use the e-filing. As clarified by Ajzen (1991), the social impact denotes the social pressure to achieve or not to achieve the conduct giving the insights of other individuals. The taxpayers' aim to accept e-filing is therefore influenced by their social referents, such as their friends, family, or spouse, to either disagree or agree on using the e-filing. It has been noted that the social referents' impact is only established to be important when the usage of the invention is compulsory (Venkatesh *et al.*, 2003). Venkatech and Davis (2000) contended that the impact of social referents may reduce over time as operators gain skills to operate the system.

McLeod *et al.* (2009) also added that social influence took a constructive outcome on the intention to use tax training software. Their outcomes might be since the members in their study were ex-student and student students in commercial line, with a regular age of 24 years. These students can be simply convinced by their friends, parents, and co-workers.

Hussein, Mohamed, Ahlan, and Mahmud (2011) preceding studies evaluated the social influence issue on one's conduct through numerous dimensions (Malhotra & Galletta, 1999; Venkatesh & Davis, 2000; Morris & Venkatesh, 2000). The greatest widespread theory about social influence was based on the psychology field (Ajzen & Fishbein, 1975). The individual norm is a term used in social influence concept, and it denotes that to "*one's observation that most individuals who are vital to him reason he/she must or should not achieve the conduct in question*". Subjective norm

or social influence is thought to influence the aim to use since individuals may select to achieve a conduct, even if they are not themselves satisfactory in the direction of the conduct or the penalties (Venkatesh & Davis, 2000).

In e-filing implementation context, those who have revenue are appreciative to report and recompense taxes. The technique to relax the deal using e-filing is volunteer. Those who have used e-filing would gain from the efficiency in undertaking transactions online. Henceforth, the subjective norm is regarded to be a vital issue to clarify one's behavioural aim to use novel technology (Hussein *et al.*, 2011).

Also, Alawadhi and Morris (2008) used UTAUT to scrutinize the recognition of e-government facilities. Conclusions show that peer impact for students is more important in circumstances, where they have inadequate skill with an info method (e.g. mobile devices). Social influence has a significant effect on the intention of m-learning in the context of Taiwanese citizens (Wang *et al.*, 2009).

According to Aziz and Idris (2012), scholars found that social influence depicts a low positive relationship in the UTAUT model because in a voluntary condition, social influence constructs are not significant. Under a mandatory condition, this element of social influence seems to be significant only at early stages, and turns to be non-significant as experience increases. This means that when the individual becomes familiar with the technology, the influence from others has no effect on the behavioural intention. In e-filing acceptance among tax payers, there would be or

expected to have a relationship between social influence and behavioural intention. Even though in Malaysia e-filing is on a voluntary basis, the social influence could indirectly influence the intention to use. Thus, the social influence would be predicted to have a significant effect on the behavioural intention. Therefore, it is envisaging that there is a positive relationship between social influence and behavioural intention to accept e-filing in Malaysia among tax payers.

Previous studies suggest that social influence is significant in shaping the individual's intention to use a new technology (Taylor & Todd, 1995; Thompson *et al.*, 1991). For example, Wang and Shih's (2008) study in the context of information kiosk in Taiwan showed that social influence is a significant determinant of behavioural intention. In this domain, various studies showed that social influence is a factor that influences the acceptance and technology usage (e.g. Robinson, 2006; Bandyopadhyay & Fraccastoro, 2007; McLeod *et al.*, 2009; Wang & Shih, 2009; Yaghoubi, Kord & Shaker, 2010).

Research advocates that social influence in a compulsory setting is a significant factor in user's recognition of information technology (Davis, 1989; Venkatesh *et al.*, 2003). It also recommends that this might be due to the compulsory obedience in the behaviour receipt, which grounds social influence to touch the intention. However, other studies (Venkatesh *et al.*, 2003) specify that social influence is at its sturdiest level during the early phases of technology usage, and declines over time. In

addition, UTAUT appears to display that the outcome of social influence on conduct upsurges with age (Morris & Venkatesh, 2000).

Social influence is a strong predictor of the behavioural intention to use an information and communication technology (Dadayan & Ferro, 2005; Venkatesh & Davis, 2000; Venkatesh et al., 2003). More specifically, many studies indicate that the social influence construct has a significant influence on the user's intention to use e-learning system (Abbad, Morris & Nahlik, 2009; Marchewka et al., 2007; Shen, Laffey, Lin & Huang, 2006). According to Venkatesh et al., (2003), the relationship between social influence and the user's intention to use an information technology is moderated by three variables which are age, gender, and experience.

Findings by Wang and Shih (2008) in the context of information kiosk in Taiwan showed that social influence is a significant determinant of the behavioural intention. Wang and Shih (2009) found that social influence has a significant effect on the intention of m-learning in the context of Taiwanese citizens. Gender moderates the relationships between social influence and behavioural intention, which was significant for male, but is insignificant for female.

2.8.4 Facilitating Conditions

Facilitating conditions are the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of a new information technology (Venkatesh *et al.*, 2003; Venkatesh *et al.*, 2011). In addition,

facilitating conditions refer to a person's perception that the organization and technical infrastructure will help him/her to use the system (Payne & Curtis, 2008). The definition given by Venkatesh *et al.* (2003) is considered suitable for use as an operational definition of the variable in this research, and upon this, the measurement is based.

Facilitating conditions were found to have positively influenced the usage of information technology platform (Venkatesh *et al.*, 2003) In a study by Brown, Dennis and Venkatesh (2010) on the effect of facilitating conditions, the environment characteristics are considered to directly influence the intention to use the technology introduced.

Venkatesh *et al.* (2003) indicated that the facilitating conditions construct is a good predictor of use of information technology. The relation between the facilitating conditions and use behaviour is moderated by two variables, which are age and experience. Consequently, the system will affect older users who have a lot of experience (Venkatesh *et al.*, 2003).

Hung *et al.* (2006) developed a theoretical model to identify the factors that determine the public acceptance of e-government services in Taiwan. The results show that facilitating conditions are important predictors of citizen's acceptance of e-government services. The results also show a strong evidence of the impact of

citizens' attitude on using online tax filing and payment system (i.e. attitude toward behaviour) on their usage intention.

Taylor and Todd (1995) also stated that facilitating condition resources such as money and time will motivate a person to use a particular system. Several studies in the information technology context have indicated that the facilitating condition construct has a direct significant influence on the user's behaviour (Folorunso, Shawn, Ogunseye & Sharma, 2006; Selim, 2007; Jong and Wang, 2009). Also, Schaupp *et al.* (2010) and Carter *et al.* (2011) found that and facilitating conditions are significant factors that affect the Americans' intention to use e-filing.

Thompson *et al.* (1991) did not support a positive relationship between the facilitating conditions and computer utilization. In addition, Wang and Shih (2008) found a positive relationship between facilitating conditions and usage. On the other hand, Al-Gahtani *et al.* (2007) reported that the effect of facilitating conditions on usage was not supported. Thompson *et al.* (1991) concluded that the negative relationship obtained between facilitating conditions and usage could be attributed to the fact that only one dimension of facilitating conditions was measured in their study, including the technical support. The study suggested that other aspects of facilitating conditions such as network access should be included in the measurement.

The current study examines the relationship between FC and adoption which is consistent with the previous studies such as Mosweu, Bwalya and Mutshewa (2016), Aziz and Idris (2014), Mahzan and Lymer (2014), Alaiad, Zhou & Koru (2014), Schaupp *et al.* (2010), Aziz and Idris (2012). Studies by Loo, Yeow and Chong (2009) on the user's acceptance of Malaysian Government Multi-Purpose Smart card application found that Facilitating Conditions have a positive relation with the behavioural intention.

2.8.5 Training

The concept of training received a scholarly attention over the decades. Training is an organized method of learning and development which expand the efficiency of individual, group, and the organization (Goldstein & Ford, 2002). According to Khan (2012), training is conceptualized as a process of learning which covers concepts, rules, knowledge acquisition, skills and changing attitude and behaviour with the aim of enhancing employee's performance. Training provides and contributes information about performance accomplishment to individuals' self-commitment. In other words, relevant training will help individuals to work effectively in an IT environment (Sulaiman, 2004). The simplest definition of training can be obtained from the traditional training theory which defined training as obtaining skills and knowledge for tasks known presently (Crutchfield, 2014). According to Naqvi and Khan (2013), training is defined as a means of improving abilities, exposure, knowledge and skills in an individual.

Training consists of an organization's planned effort which will aid workers to work-related skills, knowledge, and behaviours with the objectives of applying these on the job (Noe *et al.*, 2009). For Saleem, Shahid, and Naseem (2011), training is an organized enhancement of the know-how skills and feelings required for employees to perform the offered process efficiently in the underlying situation. This training increases the employees' capability, make them well-organized and mannered in such a way to motivate and transform them to affect the organizational performance.

Gordon (1992), in his definition of training, posited that training is a kind of activity which is planned, systematic and meant for accomplishing an improved level of skill, knowledge and competency that are necessary to perform a work effectively. The definition is considered an operational definition, given the fact that it covers the whole domain of the variable based on the measurement to be used in this study.

Khan *et al.* (2011) argue that training is considered an important element in business due to its relevance in enhancing the efficiency and effectiveness of both workers and their organization. This indicates that the design of a training program should be in accordance with the employees' needs. Arising from this, those companies that design and develop training programs in line with their employees' need are likely to witness good operational results (Partlow, 1996). It is shown that the design of training plays a very crucial role for the employee, as well as the organizational performance, whereas the absence of good training design might lead to the organizational failure as time and money are wasted (Tsaur & Lin, 2004).

To perform a job effectively, training as a systematic process needs to be conducted so as to enhance the employee's skill, knowledge and competency. Thus, training enables organizational competitiveness, and increases revenue generation and overall the organizational performance. Invariably, this situation results in a high job turnover which eventually increases the cost of hiring new employees', which may slow down the organizational profitability, as well as productivity (Elnaga & Imran, 2013).

Elnaga and Imran (2013) postulate that one of the essential things that would increase the employees' productivity and high inspiration about their job is training because it motivates and encourages employees in their career, as well as the company development. Important benefits gained from employee's training cover employee's morale, motivation, increased job satisfaction, and increased efficiencies in processes. This eventually leads to financial benefits, capacity in adopting cutting-edge technologies, techniques and innovation in strategies and products, as well as reduces the employee's turnover (Elnaga & Imran, 2013).

Regarding the various functions of the software designed by programmers, training capability of software is another feature to meet the future needs of an organization. Thus, the essential training of users is an important way to attain business objectives for the organizations (Ramazani, Zanjani & Vali, 2012).

According to Sultana *et al.* (2012), training plays an important role in developing the organization, improving the performance, as well as increasing the productivity, and eventually putting the companies in the best position to face competition and remain relevant in their environment. This means that there is a significant difference between the organizations that train their employees and those organizations that do not have training activities (Appiah, 2010).

As for the problem related to staff training of information technology (IT) application, even though the solution is given by providing help desk and training workshop, the implementation procedure can still be enhanced in order to provide IT skill. The need for training can be seen to increase the performance of the employees; if employees are trained, they will be well aware of their job specifications and skill needed to perform job well, and would be able to use the new technology. When employees are given training, their performance will be better, and hence, they are expected to work hard and produce good results in order to achieve personal and organizational goals (Khan, Moon, Swar & Rho 2012).

Jordan requires incorporating suitable Privacy and Security Laws and Regulations to address the consumer's information confidentiality and trust issues. It is through improving the IT training and awareness of Jordan's e-government program, the resistance to change could be addressed, and e-readiness among the citizens would be enhanced (Alkhaleefah *et al.*, 2010).

Sharma and Yetton (2007) further assert that successful adoption and implementation of IS requires a substantial investment in end user training. It seems that the need to develop richer theoretical conceptualizations of the effect of training on the implementation success was highlighted in previous studies (Jaspersen, Carter & Zmud, 2005). Given Jaspersen *et al.*'s (2005) submission, training is included in the model proposed by the current study.

Chen, Hsu and Huang (2013) examined the lagged relationship between training and audit firm's financial performance in Taiwan. A panel data of one hundred and thirty-six firms from 1992 to 1998, using a year fixed effect regression model for data analysis was employed. The finding indicated that training and financial performance are positively related. Falola, Osibanjo, and Ojo (2014) argue on the effectiveness of employees' training and development on employees' performance of Banks located in Lagos and Nigeria. Two hundred and twenty-three valid questionnaire responses were received, using a simple random sampling technique. The results showed a strong relationship between training and development of the employee's performance. Similarly, Kim and Ployhart (2014) used a sample of three hundred and fifty-nine firms with over twelve-year longitudinal firm-level profit data. Internal training was found to have a strong influence on the firm's profit growth. In addition, prior studies highlighted that training can be a predictor of user's adoption of technology (Boothby, Dufour & Tang, 2010; Sharma & Yetton, 2007). Boothby *et al.*, (2010) argue that advanced technologies are thought to be

complementary to skills. Hence, the adoption of a new technology may require some skills and training to enable smooth implementation processes.

Several other previous scholars also agreed that training plays a critical role in enhancing technology adoption and use (Venkatesh, 1999; Boothby, Dufour & Tang, 2010). Besides, the form of training and modes of training, such as game-base or traditional training, also play big role in influencing users to accept the technology implemented (Venkatesh, 1999). Beardwell and Claydon (2007) posited that due to the technological evolution and organizational change, some employers realized that the success of their employees relied on their skills and abilities. Thus, there is a need for the continuation in investment in training and development for the enhancement of the employees' performance. In order to increase the computer self-efficacy of people by the government, peoples' familiarity and understanding of IT must be encouraged through organizing courses on various computer and internet programs. Although some courses cannot be directly linked with the electronic tax filing, it will encourage people's accumulation of ease of use and usefulness belief of IT system (Wang, 2003).

In this regard, Boothby et al. (2010) further pointed out that firms that adopt new technologies, such as computer-aided design and control and at the same time invest in skills (for example, training in computer literacy and technical skills), are more likely to generate higher productivity gains. Those firms that commit resources in training their staff are expected to experience successful adoption processes more than those who do not. In another study, it was emphasized that end-user training is a

critical intercession to enable the successful implementation or adoption of information systems innovations (Sharma & Yetton, 2007). Therefore, training is important in ETF adoption to enhance its effective usage.

2.8.6 IT Technological Sophistication

Technology has become a force to be reckoned in the contemporary society because it contributes to the growth and development of any setting. As the world is becoming more technological driven with a great expansion of electronic markets, the global competition continues unabated (Raymond, Croteau & Bergeron, 2011; Haines and Sharif, 2006). The extent of the growth and development of any setting will, therefore, depends on the level of its technological sophistication. The term “technology” is defined in different ways, by different authors, and from different perspectives (Science, Information Technology, Business, Social Science). For example, Haines and Sharif (2006) describe technology as the application of reason and knowledge to the development of techniques. Based on the outcome of the extensive review of different definitions of technology by many authors, Haines and Sharif (2006) describe technology as Intelligence-related resources involving many constituents bordering on physical instruments known as techno ware. These included skills constituents called human ware, codified facts constituent tagged Info-ware, and methods constituent labelled aware, that interact in various integration to upsurge productivity.

Technological sophistication, therefore, refers to the diversity of the hardware and software devices used in the operation of a particular entity (Hart, 2007; Raymond & Pare, 1992). Invariably, technological sophistication is a reflection of the number or multiplicity of IT used in an entity or operation (Ismail & King, 2007; Suraweera, 2004), and it indicates the degree to which a firm is already using IT in value-adding ways (Mishra & Agarwal, 2010). Based on Jones, Beynon, Apulu, Latham, and Moreton's (2011) accounting and business perspectives, technological sophistication refers to a set of specialist applications with a range of digital communication technologies that allow individuals and organizations to transmit and share information digitally. It is a capability that empowers firms to make use of IT productively in their business processes (Mishra & Agarwal, 2010). In other words, technological sophistication is a critical environmental dimension that has serious implications for the management of an organization. This implies that an organization with an advanced technology commonly refer to as "high-tech" and operates as a technologically sophisticated organization (Covin, Prescott & Slevin, 1990).

In addition, Raymond and Pare (1992) defined IT technological sophistication as the features, complexity, and interdependence of IT adoption in an organization. Based on the definition given by Mishra and Agarwal (2010), IT technological sophistication denotes the adoption and usage of IT to carry out operation in the organization effectively. This definition is considered more desirable in the operationalization of the construct in this study as it captures the conceptual domain

of the construct. The fact is that users who found it less complex and less interdependent in IT usage will equally find ETF less complex, and they will be less interdependent in its application. This measurement is chosen and adapted because it is directly related to this study.

Literature has shown that there is a relationship between the level of technology and the development of an organization, business or a government. Hennisz and Macher (2004), looking at technological sophistication from a business perspective, argue that the higher the advancement in technology is deployed by an organization, the greater its chance of having a direct foreign investment in countries with technological sophistication is. Many studies concentrated on the effect of technological sophistication on manufacturing setting, especially on Small and Medium-Size Enterprises (SMEs) on the ground that the use of Information Technology (IT) in SMEs has taken a more sophisticated dimension (Ismail & King, 2007). For example, Raymond and St-Pierre (2005) found technological sophistication to have a positive effect on the operational and business performance of SMEs in Canadian manufacturing industry. On the other hand, Jones *et al.*, (2011) argue that lack of adoption of Information and Communication Technology (ICT) at the sophisticated level is detrimental to the growth and development of SMEs in Nigeria. This aligns with the earlier finding of Covin *et al.* (1990) which stipulates that small organizations operating in high-tech industries normally compete and perform better than their counterparts in a low-tech industry.

However, the finding of Ismail and King (2007) takes a different variable. Their study hypothesized that there is a relationship or alignment between Accounting Information System (AIS) and IT sophistication comprising technological sophistication and informational sophistication in the Malaysian SMEs. However, the results of their study revealed only an association between informational sophistication and AIS alignment but not between technological sophistication and AIS alignment. This finding implies that informational sophistication carries weight and is more essential than technological sophistication for SMEs to achieve AIS alignment in Malaysia. Aside from business environment, technological advancement has an impact beyond the business transaction; it has an effect on all spheres of life. Technological sophistication plays a significant function in innovation behaviours (Mishra & Agarwal, 2010). Based on the marketing perspective, Governo and Teixeira (2011) consider technology deployed in the production process in the movies industry as one of the factors responsible for the level of purchase by the customers. Arising from the finding of their study, technological sophistication and the level of demand for movies emerge as intimately related.

Hart's (2007) study on the hospital environment examined the effect of the application of Sophisticated Information System and technology on the hospital performance with respect to the patient care outcome in Texas. The study, in line with the earlier grouping of Raymond and Pare (1992) and Suraweera (2004), classified Information Technology (IT) sophistication into four components,

comprising technological sophistication, informational sophistication, functional sophistication, and managerial sophistication. The finding of the study, which is also consistent with the previous findings in the literature, revealed a positive significant relationship between IT sophistication and the performance of the hospital.

The Accounting profession is not spared from the influence of technological development in the processing of accounting information. Al-Eqab & Adel (2013) posit that firms with a high level of sophisticated informational applications have a better chance of possessing a higher degree of AIS design more than those without sophisticated informational applications. Consequently, they examined the effect of IT sophistication on the usefulness of AIS in the listed companies in Jordan. Just like the result of Hart (2007), the study revealed significant and positive relationships between IT sophistication, consisting of technological sophistication, informational sophistication, functional sophistication and managerial sophistication, and perceived usefulness of accounting information characteristics. However, the study emphasized that informational, managerial, and functional IT sophistication are more essential than the technological aspect in influencing AIS and characteristics. Hence, companies are suggested to take this into consideration in their investment process.

As for the level of advancement in technology, its usefulness becomes irrelevant if it is not adopted for usages and benefits of mankind because it is a means to an end but not an end in itself. In other words, technological sophistication in isolation cannot impact the society but rather its adoption. The adoption of technology has become

the order of the day, hence common terms such as robotic process, e-governance, e-taxation, e-filing of tax, e-registration, e-conferencing, e-payment, e-booking among others, are products of the adoption of sophisticated technology in manufacturing industry, governance, educational institution, banking industry, airlines industry, and other business arms.

Literature has shown that the adoption of sophisticated technology has an impact and positive effects on the performance of any organization that embraces it properly. Findings based on empirical studies conducted by Covin et al. (1990), Henisz & Macher (2004), Raymond & St-Pierre (2005), Governo and Teixeira (2011), and Jones et al. (2011) indicate that there is a relationship between the adoption of sophisticated technology and the performance of the organizations. Thus, IT technological sophistication is crucial to the ETF adoption.

2.8.7 IT Informational Sophistication

Informational sophistication is an aspect of IT sophistication, and it refers to the extent to which computer-based systems can exchange information with each other internally and with external applications (Hart, 2007). Informational sophistication is a small informational context of IT sophistication that is characterized by the nature of its application portfolio including both transactional and administrative applications (Ismail & King, 2007; Suraweera, 2004; Raymond and Pare, 1992). Informational sophistication indicates the purpose of applying transactional and administrative applications and the extent of their integration (Mohamad & Ismail,

2012). According to Raymond, Croteau and Bergeron (2011) and Raymond and Pare (1992), IT sophistication refers to the nature, complexity and interdependence of IT usage and management in an organization.

Technological sophistication and informational sophistication are both aspects of IT usage (Suraweera, 2004; Hart, 2007; Raymond & Pare, 1992). In the attempt to distinguish between the two, Suraweera (2004) states that the IT usage dimension appears to address the 'what' aspects of IT sophistication, in which the technological sophistication factor attempts to provide answer to the question 'What technology is used? The informational sophistication dimension addresses issues related to 'For what are these technologies used?'

Based on this, informational sophistication has to do with the nature and functional coverage of the applications portfolio. Nature, in this context, refers to transactional and managerial nature, whereas the function includes accounting, finance, HRM, production, distribution, sales, customer service, marketing, and logistic (Raymond et al., 2011). Information System (IS) sophistication, on the other hand, can be described as the extent, intensity, and integration to which an organization has diffused major IS into its base foundation for the purpose of supporting business processes or activities (Salleh, Jusoh & Isa, 2010). Informational sophistication comprises platform technologies such as hardware and operating system, network and telecommunications technologies, databases, and a lot of shared services, such as electronic data interchange (EDI), e-mail, universal file access, video conferencing,

and teleconferencing services (Salleh, Jusoh & Isa, 2010; Armstrong & Sambamurthy, 1999).

IT informational sophistication is also an important construct of the study. IT informational sophistication refers to the belief that the adoption of IT is crucial to the enhancement of employee's portfolio including transactional and administrative portfolio (Rai, Brown & Tang, 2009). This definition is the operational definition adapted for the measurement of the variable in the present study.

Considering the administrative and transactional nature of informational sophistication, Xiao, Dyson and Powell (1996) documented the benefits accruable to accounting and non-accounting professions as a result of the usage of IT. They assert that IT usage can lead to an increase in profit, reduction in cost, information improvement, time savings, improvement in professional performance, speedy data transmission, staff job satisfaction, improved competitive position, and a better service delivery. Arising from these benefits, and considering the complexity (Estebanez, Grande & Colomina, 2010), volatility, and uncertainty surrounding business environment, small and big businesses are seriously investing in IT in anticipation of improved performance, productivity, effectiveness and efficiency (Raymond & Pare, 1992).

A vast number of studies has examined the relationship between information sophistication, under the platform of IT sophistication, and the performance of

organizations. The majority of these studies centered on the application of information technology for SMEs (Mohamad & Ismail, 2012; Raymond, Croteau & Bergeron, 2011; Estebanez, Grande & Colomina, 2010; Raymond & Pare, 1992), industries/manufacturing companies (Al-Eqab & Adel, 2013; Ismail & King, 2007), financial reporting (Xiao *et al.*, 1996), and other areas (Al-Eqab & Adel, 2013; Armstrong & Sambamurthy, 1999).

Estébanez *et al.* (2010) posit that the introduction of IT, involving its informational sophisticated component, leads to great changes in the global business. They argue that the use of Information and Communication Technology in Accounting, Banking, and Taxation leads to electronic banking and electronic tax filing, and promotes easy, reliable, and convenient transmission of information and data. The finding arising from their study reveals that there is a global dependence on the use of IT by SMEs. They indicated that SMEs apply IT for their banking and fiscal transactions, but they are not familiar with the contemporary IT, rather they are only keenly interested in the new international accounting practices that are supported by the new generation of IT. Estebanez *et al.* (2010) claim further that firms in the services sector in Spain make use of intensive IT accounting for their banking and fiscal management more than the firms in the manufacturing sector.

Another study by Suraweera (2004) examined the influence of IT management sophistication, technological sophistication, and informational sophistication on the IT impact and IS success in small business. The findings suggest that technological

and informational sophistications have a great influence on the IT impact, but the extent of their influence is not up to that of management sophistication. This correlates with the finding of Raymond *et al.*, (2011) which found IT usage sophistication as contributing most to IT performance. This indicates that if information technologies are appropriately deployed and utilized, there is a tendency for the enhancement in the strategic role of users.

Organizations, that aim at remaining relevant in the industry they belong and want to withstand competitiveness, will strive hard not only to embrace the use of technology but also adopt it for their day-to-day operation. Literature has shown that the adoption of informational sophistication technology has a great impact on the performance of organizations. Xu, Rohatgi and Duan (2007) explored the adoption of e-business by SMEs through conducting interviews with forty (40) managers in the electronic component industry. They found that the majority of the small firms in the industry adopt e-business at the low level. Their study revealed that two main factors categorized as internal and external factors are responsible for this low level of adoption. The internal factor that promotes the adoption of e-business includes operational benefits derivable, industrial practice, and the pressure emanating from the peer firms. However, the external factor that mars the adoption of e-business beyond the present level lacks the expected push from the suppliers and customers, and lacks the strategic focus on the use of advanced technology.

A further study by Hart (2007) tested the relationship between information technology sophistication and the clinical outcome of the hospital in Texas. The study examined a sample of one hundred and seventy-five (175) hospitals and related the effect of the adoption of information technology sophistication on seven clinical care indicators. The findings revealed that there is a significant relationship between information technology sophistication and the three indicators of clinical care, comprising mortality, postoperative hemorrhage, and postoperative hip fracture rate. In conclusion, information technology usage comprising technological and informational sophistications together with their adoption is important in all spheres of life and the operation of individuals, organizations and government. Based on the literature, the force for the adoption of technologies and sophistications appears to be indispensable, irresistible, compulsory and cannot be separated from for the growth, development, and competitiveness of individuals, organizations and governments.

Previous studies focused on IT sophistication with Accounting Information System (Al-Eqab & Adel, 2013; Al-Eqab & Ismail, 2011; Ismail & King, 2007; Hart, 2007). However, for the current study, IT sophistication is used with ETFA, and thus it is one of the first studied to examine the two variables together. Also, in the study of Raymond and Paré (1992), IT sophistication was measured with two dimensions involving technological and informational sophistication because both measured IT usage. However, the current study used technological and informational sophistication as distinct latent variables in line with Al-Eqab and Adel's (2013) study which used the two variables as latent variable under IT sophistication.

2.8.8 Gender

The way by which an individual reacts to an issue or behaves in a certain circumstance is naturally a function of his/her gender. Hence, gender is an essential sociocultural factor that cannot be underestimated (Gefen & Straub, 1997). By instinct, men are habitually more assertive and competitive than women, whereas women are more supportive, cooperative, and nurturing (Gefen & Straub, 1997). Within Arabic and Middle-Eastern communities, culture and gender segregation impose social impact on individuals, where women are required to abide by the social norms. This social impact can have its effect on workers' attitude within work environments and influence their attitude such as their adoption behaviour of new technologies (Hu, Al-Gahtani & Hu, 2010). Some studies have concluded that gender has an impact on the adoption and appreciation of new technologies, as male individuals have more tendency than females to try new technologies and web-based services (Bae & Lee, 2011; Fan & Miao, 2012). Other studies have investigated the effect of gender on technology adoption. However, the findings of these studies were inconsistent throughout different environments, respondents, and settings as highlighted within the next section.

The original UTAUT model examined the effect of gender as a moderator between the adoption of technology, and the performance expectancy, effort expectancy, and social influence, and found that its effect was significant on the determinants of the adoption. Based on performance expectancy, the findings revealed that the gender effect was stronger for men than women, which implies that male individuals are

more likely to make their adoption decisions depend on performance gains or outcomes (Venkatesh *et al.*, 2003). In a similar case, other studies also indicated that women are less keen and have less intention to use e-health technologies (De Veer, Peeters, Brabers, Schellevis, Rademakers & Francke, 2015). Supporting this line of argument, Hu *et al.*, (2010) also concluded that the usefulness of new technologies is considered as a catalyst and a significant driver in forming the opinion and the attitude towards the adoption of technology by male workers than their female worker counterparts. However, the study of Venkatesh *et al.*, (2011) presented contrasting findings as it did not prove a moderating effect of gender on the performance expectancy. This aligns with a study by Aldosari (2012), which did not find a significant moderation effect of gender on the perceived usefulness within the healthcare context.

In the literature, there appears contrasting findings regarding the effort expectancy. For example, within the original UTAUT model, the effect of gender in mediating the relationship between effort expectancy and the intention to use technology was found to be significant, and it was more important for females than males. This implies that women preferred simply designed technologies in order to make their adoption decision (Venkatesh *et al.*, 2003). In contrast, other studies (Aldosari, 2012; Hu *et al.*, 2010; Venkatesh *et al.*, 2011) did not find any significant effect of gender on EE (i.e. perceived ease of use) and its relationship with the technology adoption.

It can be reported that the moderation effect of gender on the relationship between social influence and behavioural intention showed inconsistent findings throughout the different studies. For example, in the original UTAUT model, social pressure influenced women rather than men regarding the use of new systems within the work environment (Venkatesh *et al.*, 2003). On the other hand, Hu *et al.*, (2010) conducted a study within the Arabic context that led to different results. They found that the society pressure and others' opinions influenced men in their decision more than women, which implies that men were more concerned about their integrity within the work environment more than female workers. In another study (Venkatesh *et al.*, 2011) within the healthcare context, the influence of gender on social influence was absent, which indicates that healthcare staff feel more independent in making their work decisions. Hence, such contrasting results about the influence or the significance of a certain variable highlight the effect of the environment and the study context on the findings.

Consequently, some scholars suggested that gender disparity and its effect on job-related issues such as innovativeness should be examined as there is a dearth of empirical research in this area (Marinova, Plantenga & Remery, 2015). In addition, another study declared that there are scanty studies on the assessment of innovativeness of females as entrepreneurs within business and organizations in certain contexts (Pantić, 2014).

2.8.9 Age

Prior literature on the adoption of technology considered age as a moderator. However, the effect of this variable on adoption of technology was context-dependent. Therefore, age's effect on adoption of technology was not uniform through the different settings and studies. Within the original UTAUT (Venkatesh *et al.*, 2003), the age significantly moderated the relationship between PE, EE, and SI with behavioural intention. Similar conclusions were obtained within the healthcare context (Venkatesh *et al.*, 2011), where age was the only factor that had a moderation effect on the study relationships. However, the case is different in another study related to technology adoption, where the age factor did not show any influence on the constructs of perceived usefulness and perceived ease of use (Aldosari, 2012). Similarly, in another literature within the healthcare context was also demonstrated (Ifinedo, 2016); age had no significant moderation effect on healthcare staff's perceived usefulness and perceived ease of use towards their attitude towards adopting health information system. These findings highlight the effect of the context on the obtained results. In relation to the effect of age on personal innovativeness, the respondents indicated that some of the older staff members are being skeptical in changing their work routines (i.e. to include and use health care information system in their daily practice). Another study concluded that older people have less intention and willingness to use e-health technologies (De Veer *et al.*, 2015).

2.8.10 Experience

Experience refers to a person's involvement or exercise of a certain action over a period of time (Venkatesh & Davis, 2000). The original UTAUT theory found that experience (i.e. as a moderator) had a significant influence on the three independent variables, comprising effort expectancy, social influence, and facilitating condition (Venkatesh *et al.*, 2003). However, when the UTAUT theory was applied within the healthcare setting (Venkatesh *et al.*, 2011), the results were contrasting as the moderation effect was insignificant. In an educational work environment, Abbasi, Chandio, Soomro, Fatah, and Shah (2011) found that experience had a negative moderating influence on both perceived usefulness and perceived ease to use towards the usage of new information systems. This implies that as people gain more experience, they become less dependent on perceived usefulness and perceived ease of use as yardsticks for their decision and attitude towards the use of technology. Rather, the enjoyment and the benefits obtained become the main drivers of their usage behaviour (Abbasi *et al.*, 2011).

2.8.11 Voluntariness of Use

The original UTAUT has four moderating factors: gender, age, experience, and voluntariness. For the current study, voluntariness as a moderating factor was excluded because it denotes the extent at which the use of the technology is understood as being voluntary or of free will (Moore and Benbasat, 1991). Regarding ISTD, tax employees are made to use ETF. The employees deal with ETF as a part of their daily routines. As such, several studies deleted voluntariness from

their studies to simplify the research framework (e.g. Abdulwahab & Dahalin, 2011; Foon & Fah, 2011; Venkatesh *et al.*, 2011).

2.9 Chapter Summary

This chapter presented the overview of Jordan, its tax system, details of the ETFA in the Jordanian tax system, and was followed by a review of UTAUT as an underpinning theory and TTF as a supporting theory. Likewise, this chapter presented the conceptual background of the employees' performance and factors influencing ETFA. Based on the literature review, this study is considered one of the first studies to examine ETF from the perspectives of tax employees in the context of Jordan. The literature review in this chapter also provided a firm basis for this study on the adoption of ETF in the Jordanian tax authority. The next chapter explained the research framework and the hypothesis development.

CHAPTER THREE

RESEARCH FRAMEWORK AND HYPOTHESIS DEVELOPMENT

3.1 Introduction

This chapter presents the research framework and hypotheses development. Research framework involves review of existing literature to establish the framework of the current research. Hypotheses development focuses on review of literature regarding the relationships between performance expectancy, effort expectancy, social influence and facilitating condition, training, IT technological sophistication, and IT informational sophistication and ETFA; and between ETFA and employee performance.

3.2 Research Framework

In this study, UTAUT is adopted to underpin the research framework in order to investigate the impact of electronic tax filing adoption on tax employees' performance in Jordan. There are many advantages that can be obtained from UTAUT. Reflecting on the model, the researcher believes that UTAUT is more suitable to be applied on large organizations more than other models of acceptance technology, because the design of this model is based on the data collected from employees' environment (Venkatesh *et al.*, 2003). In addition, UTAUT variables could successfully predict the adoption of information technology in approximately 70 percent of the cases, but other users' adoption models could do so in about 40

percent of the cases (Davis *et al.*, 1989; Venkatesh *et al.*, 2003). Moreover, the constructs of UTAUT are derived from the integration of eight models (Venkatesh *et al.*, 2003). Finally, this model covers almost the main factors that influence the user's acceptance of technology such as technology factor (Venkatesh *et al.*, 2003). The current study used the original UTAUT but adapted it to the ETF environment in Jordan. The behavioural intention is reflected by the variable ETF adoption intention in the current study. The adoption of ETFA to reflect adoption intention in this study is consistent with some studies such as Wang (2003); Azmi *et al.* (2012); Tan and Foo (2012); Liang and Lu (2013). The term ETF adoption is used throughout this thesis represents ETF adoption intention.

Besides, TTF Theory as a supporting theory which was developed by Goodhue and Thompson (1995) provides explanations regarding the effect of electronic tax filing adoption and employees' performance. Goodhue and Thompson (1995) assert that the linkage between information technology and individual's performance has been an undergoing area of research. The theory proposed that information technology can have a positive impact on the individual's performance (Goodhue & Thompson, 1995). Further assertion has been made by DeLone and McLean (1992) who stated that both, actual technology usage and attitude towards its usage, have positive impacts on the individual's performance.

Therefore, the proposed model of this study includes performance expectancy, effort expectancy, social influence, facilitating condition, training, IT technological

sophistication, and IT informational sophistication as independent variables and electronic tax filing adoption and tax employees' performance as dependent variables. In consistent with the previous studies, such as Mosweu, Bwalya, and Mutshewa (2016), Aziz and Idris (2014), Mahzan and Lymer (2014), Alaiad, Zhou, and Koru (2014), Schaupp *et al.* (2010), and Aziz and Idris (2012), the current study examines the relationship between facilitating condition and adoption. The findings of this study are expected to solidify the findings of the previous studies regarding facilitating condition-adoption nexus. In addition, the proposed model is to examine the impact of electronic tax filing adoption on tax employees' performance in Jordan as adapted from Venkatesh *et al.*, (2003). In the UTAUT theory, use behaviour is the dependent variable, but in the current study use behaviour is represents employees' performance from the employee's perspectives using TTF theory to support it and to ground the relationship between ETF adoption and employee's performance.

In addition, in this study, the four independent variables (performance expectancy, effort expectancy, social influence and facilitating condition) are derived from UATUT theory. In the original UTAUT model, there are four moderators, which are gender, age, experience, and voluntariness of use. However, this study adopts gender, age, and experience, excluding voluntariness of use. The reason for this is that voluntariness of use, according to Moore and Benbasat (1991), refers to the degree at which the use of the technology is understood as being voluntary or of free will, whereas in Jordan, ISTD's employees are made to use ETF. The employees deal with ETF as a part of their daily routines. Therefore, voluntariness is not

relevant to this study. Likewise, experience as moderator between facilitating condition and ETFA was dropped in the current study due to the nature of this study. The original UTAUT was a longitudinal study (Venkatesh *et al.*, 2003; Mosueu *et al.* (2016). The current study is cross sectional in nature, and it has been argued by Mosueu *et al.* (2016) that experience as a moderator between facilitating condition and behavioural intention can be dropped in the cross-sectional UTAUT study. Accordingly, the current study adopted the approach similar to Mosueu *et al.* (2016); Aziz and Idris (2014); Alaiad *et al.* (2014) which excluded experience from the model.

Regarding the three new variables, namely training, IT technological sophistication, and IT informational sophistication, they are added to offer a new contribution. Training is considered an important variable to be examined in this study, since the existing literature focused on the modes of training as either traditional or game-based. However, there is dearth of studies on the impact of training on improving the adoption behavioural of any new technology, especially tax e-filing. This is a research gap that requires a new research that will fill it (Saliza, 2014). Also, training has constituted a barrier to efficient IT implementation in Jordan (Abu-Samaha & Abdel Samad, 2007).

Regarding IT technological and IT informational sophistication, previous studies (e.g. Ismail & King, 2007; Al-Eqab & Adel, 2013) used them in the research field of accounting information system in a general manner. As for the current study, it

examines the two variables in relation to ETF to expand the scope of knowledge and to contribute to the body of knowledge. In addition, only the moderating effects of gender, age, and experience on the relationship between performance expectancy, effort expectancy, social influence and facilitating condition, and ETF adoption were examined, whereas the moderating effects were not investigated in relation to training IT technological and informational sophistication. For Baron and Kenny (1986), the moderator is a variable that modifies the strength or the direction of a relationship between two constructs, testing the moderating effects of age, gender, and experience on the relationship between training and ETF adoption; relationship between IT technological sophistication and ETF adoption; and relationship between IT informational sophistication and ETF adoption cannot be done because the relationship between these variables (i.e. training , IT technological, informational sophistication) and ETF adoption has not been established yet in the previous studies.

As suggested by Alomari *et al.* (2010), predictors which can influence the adoption of a specific online service of departments in Jordan such as the income and sales tax department should be examined. Likewise, Faaeq *et al.* (2013) in their research confirmed the need to investigate the adoption of the electronic system in various contexts and under different forms of environments in developing and developed countries.

This research framework is designed based on the exposition in this section as depicted below.

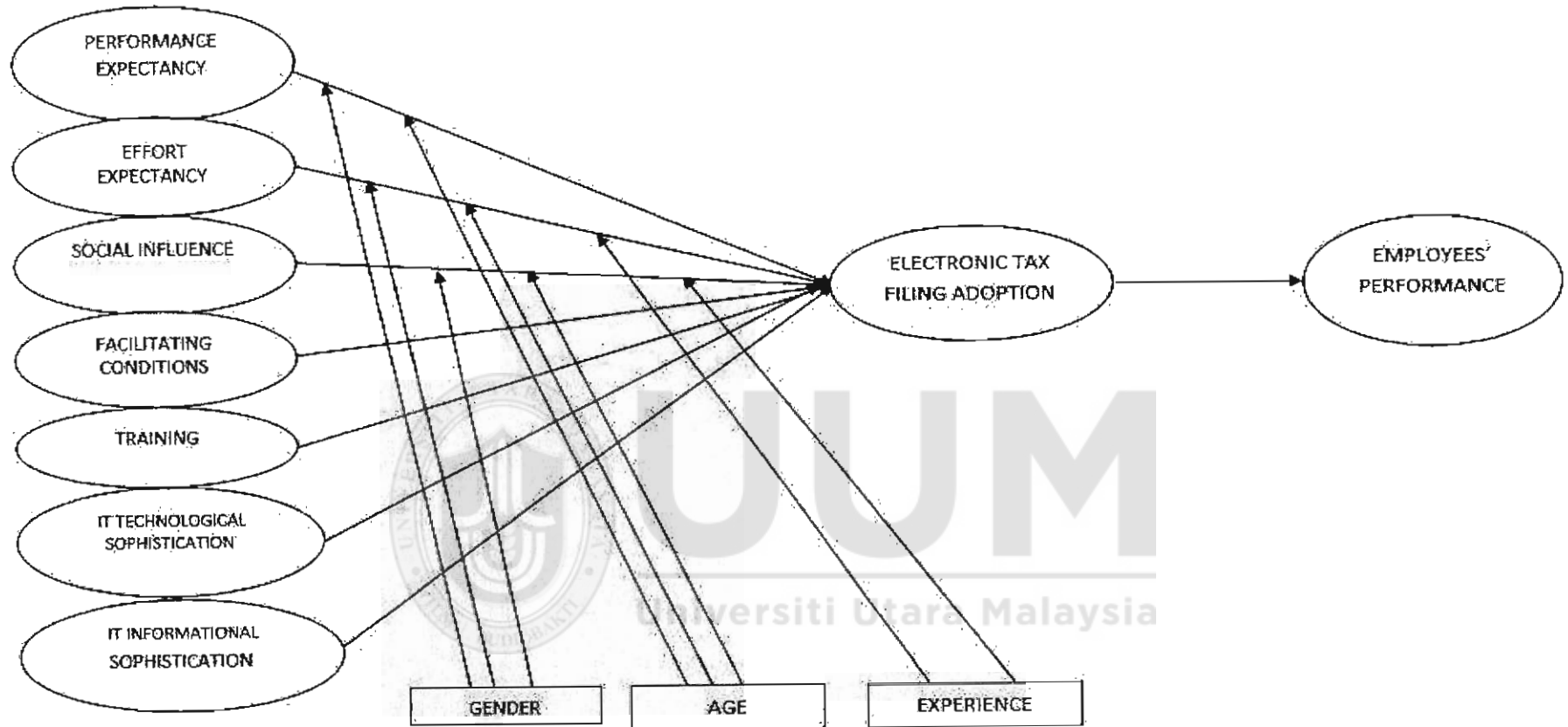


Figure 3.1 *Research Framework*

3.3 Hypotheses Development

In this section, to answer the research questions of this study, related hypotheses were developed by establishing the links between the variables of the study through reviewing the literature.

3.3.1 Performance Expectancy and Electronic Tax Filing Adoption

Performance expectancy has been defined by Venkatesh *et al.* (2003) as the extent to which an individual perceived that utilization of IT system will assist him or her in enhancing his/her job. Previous studies established that performance expectancy is one of the main factors that influence the acceptance and usage of a new technology (e.g., Venkatesh *et al.*, 2003; Anderson *et al.*, 2006; Bandyopadhyay & Fraccastoro, 2007; Al-Gahtani *et al.*, 2007; Chiu & Wang, 2008; Wang & Shih, 2009; McLeod *et al.*, 2009; Yuen *et al.*, 2010). Theoretically, UTAUT suggests that the performance expectancy is the strongest predictor of an individual's behavioural intention to use an information system/technology and is significant at all points of measurement of either mandatory or voluntary settings (Venkatesh *et al.*, 2003). In this aspect, Carter *et al.* (2011) found that the performance expectancy is a significant predictor of the Americans' intention to use the tax e-filing.

Other studies in the context of IT utilization also confirmed the positive influence of performance expectancy alongside other variables such as social influence and logic beliefs on the user's intention to adopt information technology (McLeod *et al.*, 2009; Robinson, 2006). Another study that confirms the influence of performance

expectancy was conducted by Al-Gahtani *et al.* (2007) who found that this construct together with the subjective norm had a direct positive effect on the intention to use desktop computers. However, the study did not establish a significant positive influence on other UTAUT variables that work together with performance expectancy, such as effort expectancy and facilitating conditions. This signifies the relevance of performance expectancy in application information technology related gadgets that are linked with a computer system such as ETF. Other studies (Chiu and Wang, 2008) established that performance expectancy, attainment value, utility value, and cost have a positive direct effect on web-based learning usage.

In contrast, several studies, such as Marchewka *et al.* (2007), Loo *et al.* (2009), Al-Sobhi *et al.* (2011), Al-Hadban, Hashim and Yusof (2016), Mahzan and Lymer (2014), Cheng *et al.* (2011), and Al-Shafi and Weerakkody (2009) have established a negative relationship between the performance expectancy and technology adoption. This research finding indicates that the findings of the existing literature on the performance expectancy and technology adoption relationship are inconclusive. Although some studies indicate negative relationship between the two variables, a large number of the existing research and UTAUT theory established the positive relationship between the variables. Therefore, in line with this argument, the following hypotheses are developed.

The research findings of these studies, such as Alsheri *et al.* (2012), Phichitchaisopa and Naenna (2013), Marchewka and Kostiwa (2007), Marchewka and Kostiwa (2014), and Celik (2016) confirmed the moderating effect of age and gender on the relationship between performance expectancy and adoption. This signifies that age and gender strengthen the relationship between performance expectancy and adoption. Hence, performance expectancy is a strong predictor of the behavioural intention in both voluntary and mandatory settings and in the context of information technology (Venkatesh *et al.*, 2003). Thus, it is supposed that age and gender can moderate the performance expectancy relationship with the behavioural intention. Given the above exposition, the following can be hypothesized.

H₁: There is a positive relationship between performance expectancy and electronic tax filing adoption.

H₂: Gender moderates the relationship between performance expectancy and electronic tax filing adoption.

H₃: Age moderates the relationship between performance expectancy and electronic tax filing adoption.

3.3.2 Effort Expectancy and Electronic Tax Filing Adoption

Effort expectancy has been described as the extent of ease associated with the use of an IT system (Venkatesh *et al.*, 2003. Venkatesh *et al.* (2003) and Venkatesh and Davis (2000) indicated that effort expectancy has a significant influence on the behavioural intention of a user towards the usage of information technology. Likewise, Chiu and Wang (2008) also found that effort expectancy is positively

related to the intention to use web-based learning. In addition, several studies also revealed that the effort expectancy construct has a significant influence on the behavioural intention to use an e-learning technology (Marchewk *et al.*, 2007; Naor & Geri, 2008; Nanayakkara, 2007). Effort expectancy has also been found to have a direct and positive effect on users' intention to use mobile services and devices (Carlsson *et al.*, 2006; Wang & Wang 2009). Theoretically, there are findings establishing the influence of effort expectancy on the adoption of IT related systems through UTAUT (e.g. Venkatesh *et al.*, 2003). Also, the application of UTAUT in the context of e-tax filing revealed that the effort expectancy had a positive effect on the intention to use tax preparation soft wares (McLeod *et al.*, 2009).

On the other hand, Al- Gahtani *et al.* (2007) found that the effect of effort expectancy on the behavioural intention was not significant. This inconsistency in the findings could be the reason why Venkatesh *et al.* (2003), and Venkatesh and Davis (2000) postulated that the influence of effort expectancy on the behavioural intention of a user towards the usage of information technology may be moderated by gender, experience, and age.

Other researchers like Alaiad *et al.* (2014), Bhuasiri, Lee and Ciganek (2016), Tarhini, El-Masri, Ali and Serrano (2016), Abdulwahab and Zulkhairi (2012), Carer *et al.* (2011), and Al-Gahtani *et al.* (2007) found that there is a negative relationship between the effort expectancy and technology adoption. This signifies indefiniteness in the findings of the existing literature on the effort expectancy and technology

adoption intention relationship. Though many studies indicated a negative relationship between the two variables, most of the existing research and UTAUT theory established the positive relationship between the variables.

Research findings (e.g. Ghalandari & Norouzi, 2012; Marchewka & Kostiwa, 2007; and Alshehri *et al.*, 2012) have indicated the moderating effect of gender, age, and experience on the nexus between effort expectancy and user's adoption of IT system. Also, Venkatesh *et al.* (2003), and Venkatesh and Davis (2000) postulated that the influence of effort expectancy on the behavioural intention of a user towards the usage of information technology can be moderated by gender, experience, and age. This signifies that age, gender and experience strengthen the relationship between performance expectancy and adoption. Thus, the following can be postulated.

H₄: There is a positive relationship between effort expectancy and electronic tax filing adoption.

H₅: Gender moderates the relationship between effort expectancy and electronic tax filing adoption.

H₆: Age moderates the relationship between effort expectancy and electronic tax filing adoption.

H₇: Experience moderates the relationship between effort expectancy and electronic tax filing adoption.

3.3.3 Social Influence and Electronic Tax Filing Adoption

Social influence has been defined as the degree to which an individual perceives that people who are important to him/her believe that he / she should use the new IT system (Venkatesh *et al.*, 2003). Studies indicated that social influence is a strong predictor of the user's intention to use a new technology. Specifically, Venkatesh *et al.* (2003) concluded that there is a significant relationship between the social influence construct and the behavioural intention. A similar finding was by Tung and Rieck (2005) who found that social influence alongside other variables perceived that benefits and external pressure have positive and significant relationships with the firms' decision to adopt e-government services.

Many studies also confirmed the strong effect of social influence on the behavioural intention to use an information and communication technology (Dadayan & Ferro, 2005; Venkatesh & Davis, 2000; Venkatesh *et al.*, 2003). Hsieh, Rai, and Keil (2008) also found that there are positive relationships between the subjective norms, including social influences and behavioural intention to use technologies. More specifically, the evidence is also available in the specific context of ETF that social influence had a positive effect on the intention to use tax preparation software (McLeod *et al.*, 2009). Venkatesh *et al.* (2003) postulated that the relationship between social influence and user's intention to use an information technology is moderated by three variables, which are age, gender, and experience.

However, a number of studies conducted by Carlsson *et al.* (2006), Alshehri, Drew, Alhussain and Alghamdi (2012), Chiu and Wang (2008), Louho *et al.* (2006), Al-Sobhi *et al.* (2011), and Nisha, Iqbal, Rifat, and Idrish (2016) has found a negative connection between the social influence and technology adoption. Consequently, it can be asserted that there is inconsistency in the findings of the existing literature on social influence and technology adoption relationship. Some studies indicated a negative relationship between the two variables, but majority of the existing research and UTAUT theory established the positive relationship between the variables.

The effect of social influence on the behavioural intention of a user towards the usage of information technology, as posited by Venkatesh *et al.* (2003), can be moderated by gender, experience, and age. This position can be substantiated by the research findings, such as Ghalandari and Norouzi (2012), Marchewka and Kostiwa (2007) and Alshehri *et al.* (2012), which established the moderating role of the three variables (age, gender, and experience) in the relationship between social influence on the behavioural intention of a user towards the usage of information technology. This signifies that age, gender and experience strengthen the relationship between performance expectancy and adoption. Thus, the following hypotheses are postulated.

H₈: There is a positive relationship between social influences and electronic tax filing adoption.

H₉: Gender moderates the relationship between social influences and electronic tax filing adoption.

H₁₀: Age moderates the relationship between social influences and electronic Tax Filing adoption.

H₁₁: Experience moderates the relationship between social influences and electronic tax filing adoption.

3.3.4 Facilitating Conditions and Electronic Tax Filing Adoption

Facilitating condition has been described as the extent to which an individual believes that a supporting organizational and technical infrastructure exist to assist him/her in using an information system (Venkatesh *et al.*, 2003). Venkatesh *et al.* (2003) postulated that the facilitating condition is a predictor of the adoption of information technologies. Empirically, Loo *et al.*'s (2009) study on users' acceptance of the Malaysian government multi-purpose smart card application found that the facilitating conditions have a positive relation with the behavioural intention of Malaysian usage of Mykad. Similarly, Wang and Shih (2008) found a positive relationship between the facilitating conditions and usage of information systems. Specifically, in the context of ETF, it was found (Schaupp *et al.*, 2010; Carter *et al.*, 2011) that the facilitating condition was a significant factor that affects the Americans' intention to use the e-filing.

However, some researchers, such as Hoque, and Sorwar (2017), Chiu and Wang (2008), Al-Sobhi *et al.* (2011), Al-Gahtani *et al.* (2007), Louho *et al.* (2006), Carlsson *et al.* (2006), Thompson *et al.* (1991), and Tan (2013) found negative nexus

between the facilitating conditions and technology adoption. Given this, it can be posited that there is inconsistency in the findings of the existing literature on the facilitating condition and technology adoption relationship. Some studies indicated a negative relationship between the two variables, whereas the majority of the existing research established the positive relationship between the variables. Hence, the following was hypothesized.

H₁₂: There is a positive relationship between the facilitating conditions and the electronic tax filing adoption.

3.3.5 Training and Electronic Tax Filing Adoption

Training, in some studies such as Boothby *et al.* (2010) and Sharma & Yetton (2007), has been found to be a determinant of the user's adoption of technology. For example, Marri, Gunasekaran, and Sohag (2007) posited that training is among the factors that affect the organizational intention to adopt technology. Likewise, training has been found to have a positive effect on perceived IT importance (Bedard, Jackson, Ettredge & Johnstone, 2003; Kim *et al.* (2009) and technology acceptance (Bedard *et al.*, 2003; Kim *et al.*, 2009).

Logically, the adoption of IT requires training of the end-users, because without appropriate training, adopting IT would be ineffective. Numerous studies (e.g. Falola, Osibanjo & Ojo, 2014; Issahaku, Ahmed & Bewa-Erinibe, 2014; Amin, Rashid & Lodhi, 2013; Khan, 2012) have revealed the role of training as a predictor of many organizational outcomes such as performance.

Al-Ansi, Ismail and Al-Swidi, (2013) found that IT-related training has a positively significant effect on IT utilization. In addition, Bedard *et al.* (2003) and Bierstaker, Janvrin, and Lowe (2014) established in their research that training has a positive impact on technology acceptance and utilization (Bedard *et al.*, 2003; Bierstaker *et al.*, 2014). In view of the above exposition, the following hypothesis is formulated.

H₁₃: There is a positive relationship between training and electronic tax filing adoption.

3.3.6 IT Technological Sophistication and Electronic Tax Filing Adoption

Regardless of the level of advancement in technology, its usefulness becomes irrelevant if it is not adopted for usage and the benefits of individuals because it is a means to an end rather than an end in itself. In other words, technological sophistication in isolation cannot impact the society but rather its adoption. The adoption of technology has become the order of the day. Hence, many terms have occurred, including robotic process, e-governance, e-taxation, e-filing of tax, e-registration, e-conferencing, e-payment, e-booking, etc. These terms are reflections of sophisticated technological adoption in manufacturing industry, governance, educational institution, banking industry, airlines industry, and other business arms.

Literature has shown that the adoption of sophisticated technology has an impact and a positive effect on the performance of any organization that embraces it properly. Findings emanating from the empirical studied conducted by Covin *et al.* (1990),

Henisz and Macher (2004), Raymond and St-Pierre (2005), Governo and Teixeira (2011), and Jones *et al.* (2011) indicate that there is a relationship between the adoption of a sophisticated technology and the performance.

Therefore, it is expected that tax department would intend to adopt sophisticated e-Tax, given the benefits of sophisticated technologies which encourage e-business usage, and subsequently improve business operations (Rai, Tang, Brown & Keil, 2006). However, based on reviewing the literature, several studies (Covin *et al.*, 1990; Henisz & Macher, 2004; Raymond & St-Pierre, 2005; Governo & Teixeira, 2011; Jones *et al.*, 2011) indicated that, despite the long established significant relationship between IT technological sophistication and IT adoption, research regarding the adoption of electronic tax filing is limited. In addition, the majority of the available studies are mostly conducted outside the Jordanian environment. Hence, the hypothesis below is formulated.

H₁₄: There is a positive relationship between technological sophistication and electronic tax filing adoption.

3.3.7 IT Informational Sophistication and Electronic Tax Filing Adoption

Organizations, that aim at remaining relevant in the industry they belong to and want to withstand competitiveness, will strive hard to not only embrace the use of technology but also adopt it for their day-to-day operation. Literature has shown that the adoption of informational sophistication technology has a great impact on the performance of organizations. For example, Xu *et al.* (2007) examined the adoption

of e-business by SMEs through the interview of 40 managers in the electronic components industry. The study found that the majority of the small firms in the industry adopted e-business at the low level. The study revealed that two main factors categorized as internal and external factors are responsible for this low level of adoption. The internal factor that promotes the adoption of e-business includes the operational benefits derivable, industrial practice, and the pressure emanating from the peer firms. As for the external factor that mars the adoption of e-business beyond the present level, it lacks the expected push from the suppliers and customers and lacks strategic focus on the use of advanced technology.

Hart (2007) tested the relationship between information technology sophistication and the clinical outcome of the hospital in Texas. The study examined a sample of 175 hospitals and related the effect of adoption of information technology sophistication on seven clinical care indicators. The finding of the study revealed that there is a significant relationship between information technology sophistication and the three indicators of clinical care, comprising mortality, postoperative hemorrhage, and postoperative hip fracture rate.

As earlier stated, the review of the literature indicated that despite the long established significant relationship between informational sophistication and IT adoption, research regarding the adoption of electronic tax filing is limited, and the available studies were mostly conducted outside the Jordanian context. Hence, the hypothesis below is formulated.

H₁₅: There is a positive relationship between informational sophistication and electronic tax filing adoption.

3.3.8 Electronic Tax Filing Adoption and Tax Employees' Performance

Goodhue and Thompson (1995) in their Tasks-Technology Fit (TTF) theory agree that the linkage between information technology and individual performance has been an undergoing area of research. The TTF theory proposed that information technology can have a positive impact on the individual's performance (Goodhue & Thompson, 1995). Further confirmation has been made by DeLone and McLean (1992) that both actual technology usage and attitude towards usage have positive impacts on the individual's performance. Despite the confirmation by Goodhue and Thompson (1995) that the linkage between information system and individual performance has been an ongoing area of study, little emphasis has been paid to the effect of technology on performance.

Earlier than Goodhue and Thompson (1995), the study of DeLeon and McLean (1992) found that utilization and user's attitudes about the technology lead to impacts on the individual's performance. Subsequently, it was stressed by Goodhue and Thompson (1995) that technology utilization and technology-fit are important predictors of the employee's performance. In health care services research, Devaraj and Kohli (2003) posited that academicians and practitioners have shown so much concern related to technology usage-performance. In line with this concern, Devaraj

and Kohli (2003) conducted a study on health care system industry and found a positive relationship in technology usage-performance link. With the application of task-to-performance chain model, Luarn and Huang (2009) investigated the implication and consequences of information systems on the government employee's performance. The study was conducted using a sample of 847 government employees' Taipei City through a stratified method. A multiple regression was conducted. The finding revealed that task-technology fit, computer self-efficacy, and technology utilization have an influence on the employee's performance.

In line with the theoretical insights from task-technology fit model and the available literature that highlights the positive effect of technology utilization on the individual's performance, the proposed framework in this study conceptualizes the effect of e-tax filing on tax employees' performance in Jordan. However, studies related to the electronic government services such as Al Hujran *et al.* (2013) did not link the adoption with the employees' performance and are not specifically related to taxation. Thus, it is important to link technology adoption and the employee's performance. Therefore, in line with the above arguments, the following hypothesis is proposed.

H₁₆: There is a positive relationship between electronic tax filing adoption and tax employees' performance.

3.4 Chapter Summary

In this chapter, the research framework and hypotheses development were discussed. The research framework of the current study was established through review of the existing literature. Hypotheses development was also done with the review of relevant studies to establish the relationships between (all variable). Next chapter delved on methodology used for the current study.



CHAPTER FOUR

METHODOLOGY

4.1 Introduction

This chapter presents the methodology adopted for the current study. It involves research design, operational definitions, under which the constructs of the study are defined, measurement of variables, population, questionnaire, and pilot test are presented. The chapter also involves data collection procedures, which explained the approach adopted in data collection, and techniques of data analysis.

4.2 Research Design

This study adopts a quantitative research approach to assess the structural relationships among the constructs of the study that are performance expectancy, effort expectancy, social influence, facilitating condition, training, IT technological sophistication, IT informational sophistication, electronic tax filing adoption, and tax employees' performance. The quantitative research is used to answer questions about the relationships among the measured variables with the purpose of explaining the predicting phenomena (Leedy & Ormrod, 2005). The study employs cross-sectional research design. In a cross-sectional research design, data are collected once during the whole study, then data are analyzed, and interpreted statistically. Cross-sectional research design was adopted over the longitudinal research design because of the resource constraints on the researchers in terms of time and money (Saunders, Lewis,

& Thornhill, 2009; Sekaran & Bougie, 2010; Zikmund, Babin, Carr, & Griffin, 2010).

Similarly, Zikmund (2003) observed that the survey technique was second to none, because each study method has its shortcomings. The survey approach enables a researcher to enhance feedback through a close communication with the participants, as well as through an organized set of survey questions (Sekaran, 2003). Ary, Jacobs, and Razavieh (2002) claimed that a survey research approach makes use of instruments, such as questionnaires and interviews, to collect data from groups of subjects and allows the researcher to summarize the characteristics of different groups or to measure their attitudes and opinions towards some issue. In addition, since the target population of the study was individual tax employees who use ETF in carrying out their tax-based tasks, the unit of analysis in this study was individual.

4.3 Operational Definitions and Measurements of Variables

This section discusses the operational definitions and measurements of variables used in the study.

4.3.1 Employees' Performance

Employees' performance has been operationalized by many researchers based on the context of their studies. However, in this study, employee's performance was operationalized in line with the definition given by Sultana *et al.*, (2012) who describes this variable as the achievement of a specified task or duty designed based on predetermined or identified standards bordering on quality, accuracy, and

completeness. This definition is considered more appropriate in this study as it captures a wider domain of the measurements of employee's performance used in this study. For the current study, the employees' performance was measured based on the perspective of the employees as used in TTF theory.

In terms of measurement, this construct was measured using 5 items adapted from Goodhue and Thompson (1995) and Tarafdar and Ragu-Nathan (2010). The first two items were adapted from Goodhue and Thompson, (1995), and it is deemed suitable and appropriate for this study, since the measures reflect Task-technology fit which is one of the underpinning theories of this study. Also, the other three items were adapted from Tarafdar and Ragu-Nathan's (2010) original four items. One of the four items were dropped to avoid repetition. This measure is also chosen for this study, given the fact that, it measures the impact of technostress on end-user satisfaction and performance which is related to this study.

The format of measurement is based on five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Goldberg and Velicer (2006) noted that applying a rating scale with five marks lets respondents deliberate on the meaning and is less prone to haste in their answering process. The adapted items are contained in Table 4.1 below.

Table 4.1
Construct Items of Employee's Performance

| Items |
|---|
| 1. Electronic tax filing system environment has a large positive impact on the effectiveness of my job. |
| 2. Electronic tax filing system is an important and valuable aid to me in the performance of my job. |
| 3. Electronic tax filing system helps improve the quality of my work. |
| 4. Electronic tax filing system helps me accomplish more works than it would otherwise be possible. |
| 5. Electronic tax filing system helps me perform my job better. |

Source: Adapted from Goodhue and Thompson (1995) and Tarafdar and Ragu-Nathan (2010)

4.3.2 Electronic Tax Filing Adoption

Electronic tax filing (ETF) system is a new approach to facilitate the payment of taxes through an electronic medium such as the Internet. This study aimed to study ETF adoption in the context of Jordan. Thus, the operational definition of ETF adoption intention, as discerned from the study of Barki, Titah, and Boffo (2007), denotes the effort, time, and resources put in place by an employee to ensure an effective tax filling system through an effective electronic medium. In addition, ETF adoption in the current study reflects the behavioural intention. The current study adapted measurement of ETFA from Barki *et al.* (2007) to measure ETF adoption which reflect the behavioural intention. This is consistent with the study of Yu and Yu (2010) which adapted measurement from Barki *et al.* 2007 to measure intention.

ETFA is measured in the current study using six items adapted from the study of Barki *et al.* (2007). The choice of this measurement is underpinned by the fact that it is made to reflect the individual behaviour which is related to this study. This study is about examining the individual's behaviour. Thus, the measurement is appropriate. The measurement to be used in the research instrument is a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The items are contained in Table 4.2 below.

Table 4.2

Construct Items of Electronic Tax Filing Adoption

Items

1. I will communicate with colleagues in order to better understand how electronic tax filing system operates.
2. I will communicate with IT specialists in order to better understand how electronic tax filing system operates.
3. I will research, on my own initiative, in order to increase my knowledge and my mastery of electronic tax filing system.
4. I will explore several information sources, on my own initiative, concerning electronic tax filing system.
5. I will spend enough effort (time and energy) to learn about electronic tax filing system.
6. I will invest much effort (in time and energy) in order to better use electronic tax filing system.

Source: Adapted from Barki, Titah and Boffo (2007)

4.3.3 Performance Expectancy

Performance expectancy is one of the key variables in UTAUT developed by Venkatesh *et al.* (2003). This construct was described by Venkatesh *et al.* (2003) as the level at which a person perceives that adopting the system will aid him or her to accomplish gains in job. Therefore, the fact that the measurements of performance expectancy were adopted directly from Venkatesh *et al.* (2003), their definition is also considered more appropriate in the operationalization of the construct. Therefore, the above definition which was given by Venkatesh *et al.* (2003) was used in the operationalization of performance expectancy in this study.

Regarding the measurements of performance expectancy, four items were directly adapted from Venkatesh *et al.* (2003) in measuring the construct. For the measurement format, similar to Venkatesh *et al.* (2003), five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) was used. The items for measuring the construct are included below in Table 4.3.

Table 4.3
Construct Items of Performance Expectancy

Items

1. I find electronic tax filing system useful in my job.
 2. Using electronic tax filing system enables me to accomplish tasks more quickly.
 3. Using electronic tax filing system increases my productivity.
 4. Using electronic tax filing system increases my chances of getting a raise.
-

Source: Adapted from Venkatesh *et al.* (2003)

4.3.4 Effort Expectancy

Effort expectancy is another important variable that formed UTAUT developed by Venkatesh *et al.* (2003). In their study, Venkatesh *et al.* (2003) defined effort expectancy as the level of ease connected with the use of the system. When a system such as ETF is found easy to handle by the users, it will require less effort to perform the task. Therefore, this definition is considered appropriate in the operationalization of the construct. In addition, the measurements that were used in measuring the effort expectancy were directly adopted from Venkatesh *et al.* (2003) who offered the above definition. Hence, it is considered more suitable for the operationalization of effort expectancy in this study.

Similar to performance expectancy, four items were used in measuring the effort expectancy which were adapted from Venkatesh *et al.* (2003). This measurement is chosen and adapted because it is in UTAUT which is the underpinning theory of this study. In addition, the format of the measurement was based on five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) as originally used by Venkatesh *et al.*, (2003). The four items are contained in Table 4.4.

Table 4.4
Construct Items of Effort Expectancy

| Items |
|--|
| 1. My interaction with electronic tax filing system is clear and understandable. |
| 2. It is easy for me to become skillful at using electronic tax filing system. |
| 3. I find electronic tax filing system easy to use. |
| 4. Learning to operate electronic tax filing system is easy for me. |

Source: Adapted from Venkatesh *et al.* (2003).

4.3.5 Social Influence

Social influence is an important construct in understanding the human behaviour. This construct has been a part of the subjective norms integrated into TRA and TPB by Ajzen and Fishbein (1975), and then subsequently considered by Venkatesh *et al.* (2003). Despite its prior integration and operationalization of other theories, in this study, social influence was operationalized in line with the definition given by Venkatesh *et al.* (2003) who described the construct as the level at which a person perceives the importance others believe he or she should use the new system.

Regarding its measurement, social influence was measured using four items adapted from Venkatesh *et al.* (2003). This measurement is chosen and adapted because it is in UTAUT which is the underpinning theory of this study. The items were measured using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) in line with its original measurement by Venkatesh *et al.*, (2003). Table 4.5 below contains the four items to be used in measuring the construct.

Table 4.5
Construct Items of Social Influence

| Items |
|---|
| 1. My co-workers who influence my behaviour think that I should use electronic tax filing system. |
| 2. My co-workers who are important to me think that I should use electronic tax filing system. |
| 3. Senior management at the tax office has been very helpful to me in the use of |

electronic tax filing system.

4. In general, the tax authority has supported me to use electronic tax filing system.

Source: Adapted from Venkatesh *et al.* (2003)

4.3.6 Facilitating Condition

The facilitating condition is the last variable in UTAUT. It was considered by Venkatesh *et al.* (2003), as the level at which a person believes that an organizational and technical infrastructure exists to support the adoption of a new information technology. The anticipation is that when individuals assume that supporting facilities are put in place for the use of new information technology, they will be more likely to adopt such system. Therefore, in this study, the variable is operationalized using the above definition offered by Venkatesh *et al.* (2003). Another reason for the operationalization of this variable using the definition given by Venkatesh *et al.*, (2003) is that the measurements to be used in this study were adapted from the said authors.

The variable was measured using four items contained in Table 4.6 below. This measurement is chosen and adapted because it is in UTAUT which is the underpinning theory of this study. The measurement format was a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) in line with its original usage by Venkatesh *et al.* (2003).

Table 4.6
Construct Items of Facilitating Condition

| Items |
|---|
| 1. I have the resources necessary to use electronic tax filing system. |
| 2. I have the knowledge necessary to use electronic tax filing system. |
| 3. Electronic tax filing system is not compatible with other systems I use. |
| 4. A specific person (or group) is available for assistance with electronic tax filing system difficulties. |

Source: Adapted from Venkatesh *et al.* (2003).

4.3.7 Training

Training is an important construct used in many IT-related researches. The fact is that many systems related to IT such as ETF require training which enables the user to make good use of the system. In this study, training was operationalized based on the definition given by Gordon (1992) who described it as a kind of activity which is planned, systematic and meant for accomplishing an improved level of skill, knowledge and competency that are necessary to perform a work effectively. The reason for operationalizing the construct using the definition offered by Gordon (1992) is that it covers the whole domain of the variable based on the measurement used in this study. The first part of training measures was adapted from Goodhue and Thompson (1995), and it is deemed suitable and appropriate for this study, since the measures reflect Task-technology fit which is one of the underpinning theories of

this study. The other part of the training measurement was adapted from Wei, Teo, Chan & Tan (2011). This measure is also chosen for this study since it is about training on technology.

For the measurement, the variable is intended to be measured using eight items adapted from Goodah and Thompson (1995) and Wei *et al.* (2011). The first two items were adapted from the former, whereas the remaining six items were adapted from the latter. The measurement was based on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) as used in the previous studies (e.g. Wei *et al.*, 2011). The items are included in Table 4.7 below.

Table 4.7
Construct Items of Training

| Items |
|--|
| 1. There is enough training for me on how to find, understand, access or use electronic tax filing system. |
| 2. I am getting the training I need to be able to use electronic tax filing system, languages, procedures, and data effectively. |
| 3. Training helps me be more confident in using the electronic tax filing system. |
| 4. Training helps me handle electronic tax filing system effectively. |
| 5. Training helps me make fewer mistakes when handling electronic tax filing system. |
| 6. Training helps me improve my skills in using electronic tax filing system. |
| 7. Training helps me be able to guide taxpayers in using electronic tax filing system. |
| 8. Training helps me solve electronic tax filing system problems for taxpayers. |

Source: Adapted from Goodhue and Thompson (1995) and Wei, Teo, Chan and Tan (2011)

4.3.8 IT Technological Sophistication

IT Technological Sophistication is another important variable in IT related literature. It is defined by earlier scholars, such as Raymond and Pare (1992), as the features, complexity, and interdependence of IT adoption in an organization. Based on the definition given by Mishra and Agarwal (2010), IT technological sophistication denotes the adoption and usage of IT to carry out the operation in the organization effectively. This definition is considered more desirable in the operationalization of the construct in this study as it captures the conceptual domain of the construct. Users who found it less complex and less interdependent in IT usage will equally find ETF less complex and they will be less interdependent in its application. Hence, this measurement is chosen and adapted because it is directly related to this study. IT Technological sophistication was measured using 4 items adapted from the studies of Mishra and Agarwal (2010). Like the remaining variables, the measurement for this variable was based on five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) as used in the previous studies (Mishra & Agarwal, 2010). The four items used are contained in Table 4.8 below.

Table 4.8

Construct Items of IT Technological Sophistication

Items

1. I employ electronic tax filing system extensively to share data and information with taxpayers.
 2. I employ electronic tax filing system extensively to share data and information within the Jordanian Tax Department.
 3. I employ electronic tax filing system to conduct transactions with taxpayers.
 4. I employ electronic tax filing system for logistics purposes (e.g., taxpayers
-

monitoring).

Source: Adapted from Mishra and Agarwal (2010)

4.3.9 IT Informational Sophistication

IT informational sophistication is also an important construct of the study. IT informational sophistication refers to the belief that the adoption of IT is crucial to the enhancement of employee's portfolio including transactional and administrative portfolio (Rai, Brown & Tang, 2009). This measurement is chosen and adapted because it is directly related to this study. IT Informational sophistication was measured using 6 items adapted from the studies of Rai *et al.* (2009). Like the remaining variables, the measurement for this variable was based on five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) as used in the previous studies (Rai *et al.*, 2009). The six items used are contained in Table 4.9 below.

Table 4.9
Construct Items of IT Informational Sophistication

| Items |
|--|
| 1. Electronic tax filing system is important for the fulfillment of operational costs reduction. |
| 2. Electronic tax filing system is important for the fulfillment of productivity improvements. |
| 3. Electronic tax filing system is important for the fulfillment of improved access to information. |
| 4. Electronic tax filing system is important for the fulfillment of improved quality of decision making. |
| 5. Electronic tax filing system is important for the fulfillment of improved competitiveness. |
| 6. Electronic tax filing system is important for the fulfillment of improved |

service to taxpayers.

Source: Adapted from Rai, Brown and Tang (2009)

4.4 Questionnaire Design

This research adopted a multi-items scale for the variables of the study since this would provide a complete assessment of the variables and the model as a whole in line with the suggestions made by Garland (1991), and Ackfeldt and Coole (2005). The items were modified according to the nature of this study, and therefore, they were validated through different measures during the pilot study. In addition, the operationalization of constructs was done using a 5-point interval scale which ranged from 1 (strongly disagree) to 5 (strongly agree). As for the demography, it was measured categorically. The selection of interval scale was carried out based on the recommendations of Zikmund *et al.* (2010) who observed that it is possible to perform powerful statistical calculations like standard deviation, variance, etc. when the scale used for an instrument is interval.

The questions used in the survey were developed based on the literature survey, and applied the variables as explained in Chapter Two. The questions were organized into ten parts, which are:

1. Section one gauged aspects related to the demographic data of the employees.
2. Section two gauged aspects related to the employee's performance. The feedback to each question was based on a five-point Likert scale.

3. Section three derived information on electronic tax filing adoption. A five-point Likert scale was applied for this part.
4. Section four gathered information about performance expectancy. A five-point Likert scale was applied for this part.
5. Section five comprised questions to derive information about effort expectancy. A five-point Likert scale was applied for this part.
6. Section Six had questions to derive information about social influence. A five-point Likert scale was used for this part.
7. Section seven had questions about facilitating condition. A five-point Likert scale was applied for this part.
8. Section eight gathered information about training. A five-point Likert scale was applied for this part.
9. Section nine had questions to derive information about IT technological sophistication. A five-point Likert scale was used for this part.
10. Section ten had questions to derive information about IT informational sophistication. A five-point Likert scale was used for this part.

This study's questionnaire was initially designed in English language. However, since the respondents of this research are Native Arabic speakers, the questionnaire was translated into Arabic language, and afterward, it was put through back translation process to guarantee the quality translation.

Based on Brislin's (1970) suggestion, the process for back-translation of this study was as follows:

1. Two competent translators who are familiar with the content and the source language questionnaires were recruited.
2. One translator was given two weeks to translate the questionnaire from the source language to the target language.
3. Another bilingual translator translated back the questionnaire from the target language to the source language. The time given was two weeks.
4. Two translators were invited to assess the original and back-translated versions for errors in differences in meaning.
5. The materials were tested on the target language-speaking respondents; some were given the English version, whereas other was give the translated questionnaire.

Both the English and Arabic versions of the questionnaire can be found in Appendix A and B, respectively.

4.5 Population

Population refers to a group or individuals with similar characteristics relevant to the study in context (Best & Kahn 2003). The target population for this study are the employees of Income and Sales Tax Department in Jordan whose opinions are to be obtained in understanding the antecedents of electronic tax filing system adoption and its impact on tax employee's performance. Based on the information provided by the human resource managers in Jordan on 10 April 2016, the total employees in the Jordanian ISTD were 1,681 (ISTD, 2016). However, out of 1,681 employees, only 371 employees were involved in ETF related work and activities in 19 offices

all over Jordan. For details about the 19 offices and the numbers of employees involved in ETF in each office see Appendix E. These 371 employees are all in the fifth level of the organizational chart of the ISTD, the same official position level.

However, the current study used 341 employees as the targeted respondents because 30 employees were earlier selected for pilot study. Thus, 341 employees are considered net population of the current study, and they were all selected in order to optimize response rate. The justification for using the whole population is because the units of the population are limited. In this regard, Zikmund (2003) stated that the researcher may decide to deploy the whole population rather than taking a sample for the study.

4.6 Pilot Study

The main aim of the pilot study is to assess the reliability and validity of measures used in a research instrument (Flynn, Sakakibara, Schroeder, Bates & Flynn, 1990). The pilot study is considered necessary because most of the scales used in measuring the constructs were developed in the United States (Goodhue & Thompson, 1995; Venkatesh *et al.*, 2003). Those who adapted such measures in the Jordanian context required the validation procedure prior to the instrument administration to the main subjects of the study.

The first step taken in examining the validity of the survey in this study was face validity. Three approaches of evaluating the validity of measures were used. The first

one is content or face validity. Before administering the questionnaire to the main subjects of the study, it was sent to experts in academia and industry for the assessment of content/face validity. Three (3) experts in academia and another three (3) experts in the industry, specifically the ISTD, were used in these processes. Several comments which were considered important for simplifying the instruments were considered.

It was recommended that 15-30 questionnaires are sufficient for a pilot study (Malhotra, 2008; Callegaro, Manfreda & Vehovar, 2015). Since there is need to maximize the response rate, 30 questionnaires were distributed to all 30 employees of ISTD, Irbid office in Jordan. After lots of efforts, 25 usable questionnaires were returned. This indicates a response rate of 83%. It should be noted that the 23 tax employees were not considered in the actual study. The returned questionnaires were then used for the pilot study. As mentioned earlier in this section, the prime motive for a pilot study is to test the reliability and validity. Thus, the results of these exercises which were computed using Smart PLS 2.0 M3 software (Ringle, Wende & Will, 2005) are discussed below. The use of PLS in conducting a pilot study was employed in other studies (Kura, 2014).

For the reliability analysis, the two most commonly approaches of evaluating reliability were used which are Cronbach alpha and composite reliability. The minimum requirement for a confirmatory research is 0.70 (Hair, Ringle & Sarstedt, 2011). The items for all the constructs satisfied the items loadings requirement of

0.40 and above (Hair, Ringle & Sarstedt, 2013). The result is depicted in Table 4.10 below.

Table 4.10
Reliability Analyses: Pilot Study

| Constructs | No. of Items | Cronbach Alpha | Composite Reliability |
|---------------------------------|--------------|----------------|-----------------------|
| Employees' Performance | 5 | 0.931 | 0.948 |
| Electronic Tax Filing Adoption | 6 | 0.878 | 0.907 |
| Performance Expectancy | 4 | 0.886 | 0.929 |
| Effort Expectancy | 4 | 0.872 | 0.910 |
| Social Influence | 4 | 0.796 | 0.850 |
| Facilitating Condition | 4 | 0.907 | 0.935 |
| Training | 8 | 0.956 | 0.963 |
| IT Technological Sophistication | 6 | 0.941 | 0.957 |
| IT Information Sophistication | 4 | 0.951 | 0.962 |

n=25

Following Hair *et al.* (2011), it can be said that the scales measuring each of the nine constructs achieved an acceptable level of internal consistency reliability, implying that the measures used in the research instrument are reliable.

In addition, the measures were also subjected to convergent and discriminant validity. For convergent validity, Average Variance Extracted (AVE) was computed, it is required that the AVE should be minimum of 0.5 (Hair *et al.*, 2011). For discriminant validity, Fornell and Lacker's (1981) criterion for assessing the discriminant validity was followed. The criterion required that the square-root of AVE of each latent construct in the research model should be higher than its correlation with any other construct (Fornell & Larcker, 1981). The results of the convergent and discriminant validity are contained in Table 4.11 below.

Table 4.11
Convergent and Discriminant Validity

| Variables | Discriminant Validity | | | | | | | | | Convergent Validity | |
|---------------------------------|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | AVE | |
| Effort Expectancy | .847 | | | | | | | | | | .718 |
| Electronic Tax Filing | .549 | .789 | | | | | | | | | .622 |
| Facilitating Condition | .631 | .495 | .885 | | | | | | | | .783 |
| IT Information Sophistication | .506 | .510 | .763 | .899 | | | | | | | .808 |
| IT Technological Sophistication | .581 | .476 | .729 | .887 | .921 | | | | | | .848 |
| Performance Expectancy | .636 | .589 | .718 | .747 | .787 | .902 | | | | | .814 |
| Performance | .839 | .589 | .704 | .609 | .682 | .780 | .885 | | | | .784 |
| Social Influence | .697 | .543 | .660 | .471 | .424 | .564 | .734 | .768 | | | .589 |
| Training | .725 | .583 | .836 | .816 | .838 | .858 | .751 | .621 | .875 | | .766 |

The results in Table 3.11 above indicate that the constructs have achieved an acceptable level of convergent validity and discriminant validity. For convergent validity, the AVE of each construct is higher than the minimum cut-off value of 0.5 (Hair *et al.*, 2011). Similarly, the results depict a strong level of discriminant validity among the latent constructs. It is evident that the square-root of AVE of each of the

nine latent constructs is higher than its correlation with any other latent construct in the research model (Fornell & Larcker, 1981; Hair *et al.*, 2011). Therefore, the overall results of the pilot study showed that the measures are reliable and valid for the main survey conducted in this study. Consequently, no amendment was done on the questionnaire.

4.7 Data Collection Procedure

The first step in data collection started with the collection of the official letter from Othman Yeop Abdullah Graduate School of Business (OYAGSB). The letter entailed an introduction of the researcher and the purpose of research. The aim of the letter is to facilitate data collection by seeking the support of the respondents. During the period of data collection, a total number of 341 questionnaires were distributed to the ISTD department comprising of 18 offices all over Jordan (ISTD, 2016). The data collection lasted for five (5) months; it started on Wednesday 9th March 2016 and ended on Monday 13th August 2016. Data collection was done in 2016 because ETF system was relaunched in 2015 (Hawamdeh, 2015).

First, the respondents were assured of their anonymity. They were also guaranteed that there is no right or wrong answer; only a truthful response is required. They were also informed that the findings of the study will have a possible implication to the policy formulation regarding electronic tax filing adoption and tax employee's performance in Jordan. The expectation is that these explanations will encourage the respondents to participate in the study. Second, the predetermined period of data

collection for the current study was four (4) months, but, only 184 responses out of 341 were obtained during the slated four months. Hence, an additional one month was slated to allow follow ups and reminders through contacting the human resource managers of ISTD. This could enhance the response rates (Dillman, 1991). The final step taken for the optimization of the response rate was traveling to the ISTD within the additional one month. This additional one month made the total duration of the data collection five (5) months. These efforts yielded additional 46 responses.

4.8 Data Analysis Techniques

To achieve the research objectives, the researcher used SPSS 22 and PLS version 2.0 M3 as statistical tools to facilitate data analyses. Before running the inferential analyses, the researcher started with the analysis of the survey responses including response rates and profile of respondents. Then data screening was performed on issues such as response bias, missing data, outliers (Mahalanobis distance), normality, linearity, and multicollinearity. All the above analyses and tests were run using an SPSS.

In the context of the inferential analysis, PLS-SEM application has been expanded successfully in different areas of research, more specifically, marketing, strategic management, IS, management science, and social psychology (Hair *et al.*, 2013; Hair, Hult, Ringle and Sarstedt (2016); Henseler, Ringle, Sinkovics, 2009; Pavlou & Fygenson, 2006). Various PLS-SEM improvements have been made more recently with the inclusion of the followings which are guidelines for analyzing the

moderating effects (Henseler & Fassott, 2010), utilization of confirmatory factor analysis (CFA) for the verification of the measurement model (Hair *et al.*, 2011), a model quality evaluation (Hair *et al.*, 2011), model's goodness of fit (Tenenhaus, Esposito, Chatelin & Lauro, 2005), and the model's predictive relevance (Hair *et al.*, 2011, 2013). These improvements have contributed to the expansion of PLS-SEM's general usefulness as a research tool in the field of marketing and social sciences (Hair *et al.*, 2011).

In addition, Hair *et al.*, (2016) and Reinartz, Haenlein, and Henseler (2009) confirmed the ability of PLS in analyzing data in complex models under the conditions of non-normality and small sample size, and in testing the moderating effects. Hence, the present study used PLS because it is an appropriate statistical analysis tool for complex models and small sample sizes (Hair *et al.*, 2016; Reinartz *et al.*, 2009; Valerie, 2012).

To estimate the moderation and moderating effects, the current study adopts product indicator approach via PLS-SEM was used Chin *et al.*, 2003; Helm, Eggert & Garnefeld, 2010; Henseler & Chin, 2010; Henseler & Fassott, 2010). The product term approach, which is considered equal or better than the group comparison approaches (Henseler & Fassott, 2010), is deemed fit for testing moderation and moderating effect in the present study. The product term approach with regards to this study involves creation of product term between exogenous variable (performance expectancy, social influence, effort expectancy and facilitating conditions) and moderator (age , gender and experience) in which the product will

serve as indicators of the interaction term in the structural model (Kenny & Judd, 1984). In addition, Cohen's (1988) rules were followed with regards to estimation of effect size in order to determine the strength of the moderating effects.

4.9 Chapter Summary

This chapter presented the explication about the research design, operational definitions and measurements of variables, population, the questionnaire design, and a pilot test. The chapter concluded by data collection procedure and technique of data analysis. Chapter five discusses the results of the data analysis.



CHAPTER FIVE

RESULTS

5.1 Introduction

This chapter discusses the analysis of data involving preliminary analysis and inferential analysis. The preliminary analysis was achieved using SPSS 22; it involved data screening to identify missing values, response rate, demographic and descriptive analysis as well as the identification of outliers. As for the inferential analysis, it was carried out using PLS-SEM, and it included measurement model and structural model. The measurement model is concerned with the validity and reliability of the research instruments, whereas the structural model deals with hypothesis testing and evaluation of R-squared, effect size, and predictive relevance.

5.2 Survey Instrument Distribution and Response Rate

A total of 204 usable responses were obtained out of 341 questionnaires distributed indicating a response rate of 60%. This response rate is acceptable based on the position of Sekaran (2003) and Sekaran and Bougie (2010) who claimed that a response rate of 30% can be considered adequate in a survey. It can be argued that a response rate in the current study which stood at 60%, and far higher than the recommended value of 30% is satisfactory for a further analysis. Past studies in Jordan have recorded similar response rates that ranged from 50% to 78%. For example, Qutaishat (2012) and Alsheikh, *et al.* (2016), who conducted their research in tax research field, achieved the response rate of 52.75% and 78.6%. Other studies

involving Al-Hujran and Al-dalahmeh (2011), had a response rate of 78.4%, and Al-Hujran *et al.* (2015) attained a response rate of 42.4%. Table 5.1 depicts the response rate analysis.

Table 5.1
Response Rate

| Response | Number | Rate |
|------------------------------------|---------------|-------------|
| Questionnaires distributed | 341 | |
| Returned questionnaires | 230 | |
| Returned but excluded | 26 | |
| Returned and usable questionnaires | 204 | |
| Usable response rate | | 60% |

5.3 Screening of Data and Preliminary Analysis

Data screening is important in a multivariate analysis. The essence is to examine whether the data meet the necessary assumptions for multivariate analyses or not (Hair, Money, Samouel & Page, 2007). When data are screened and preliminarily analysed, and the result reveals good fitness, it is an indication that all the necessary multivariate assumptions are not violated. It was outlined that data screening and preliminary analyses cover four crucial issues (Hair, Black, Babin & Anderson, 2010). These included (1) identifying and treating missing values, (2) identifying and treating outliers, (3) testing of normality, and finally (4) testing of multicollinearity. In this study, all the four steps were followed to ensure that the data were properly screened and necessary preliminary analyses were conducted.

However, it is crucial to mention that prior to the aforesaid screening and preliminary exercises, all the 204 usable responses were coded and entered into

SPSS software. Having entered the data into the SPSS, frequencies for minimum and maximum values were tabulated to check if any value is outside the five Likert scale used in the research instrument. It was learnt from this initial exercise that no value fell outside that range of either the scale or the categorical variables as labelled in SPSS.

In the subsequent sections, missing values identification and treatment, outlier's identification and treatment, normality test, and multicollinearity test are presented.

5.3.1 Missing Values Identification and Treatment

The research instrument had 45 scale items, excluding the categorical items. This number was multiplied by the number of respondents, which is 204 to obtain the data points of 9,180. About 8 data points were missed out of the total of 9,180 data points. For the variables, employee's performance has zero missing value, electronic tax filing adoption has 3, performance expectancy has 2, effort expectancy has 2, social influence has 0, facilitating condition has 1, whereas training, IT technological sophistication, and IT information sophistications have all zero. Table 5.2 reveals the missing values identified using an SPSS.

Table 5.2
Missing Values Analysis

| Constructs | No. of Missing Values |
|---------------------------------|------------------------------|
| Employees' Performance | 0 |
| Electronic Tax Filing Adoption | 3 |
| Performance Expectancy | 2 |
| Effort Expectancy | 2 |
| Social Influence | 0 |
| Facilitating Condition | 1 |
| Training | 0 |
| IT Technological Sophistication | 0 |
| IT Information Sophistication | 0 |
| Total Missing | 8 |
| Total Data Points | 9,180 |
| Percentage Missing | 0.087% |

Table 5.2 shows that a total of 8 missing values are identified from the data set which account for 0.087%. Thus, following Tabachnick and Fidell (2007) recommendation, the missing values were replaced by the mean substitution, considering the fact that the total missing values were less than the recommended maximum value of 5%.

5.3.2 Outliers Identification and Treatment

The most commonly used definition of outliers is the one offered by Aggarwal and Yu (2001) who consider the outlier as a data point which is significantly different from others within the same dataset based on an assigned value. The existence of the outliers in a dataset could have the effect of a significant distortion of estimators used in testing the hypothesized relationship, which in essence can render the result invalid and is insignificant for policy application.

To curtail the aforesaid anticipated problem, the data were subjected to both univariate and multivariate diagnostics. Hence, the recommendation of Tabachnick and Fidell (2007) was followed; any data point with z-score above ± 3.29 ($p < 0.001$) can be considered as an univariate outlier. Thus, the analysis for the identification of univariate outliers through SPSS revealed 26 univariate outliers in the dataset as shown in Table 5.3 below.

Table 5.3
Univariate Outliers

| Item | No. of Cases |
|-----------------------------------|---------------------|
| Employee's Performance 1 | 4 |
| Employee's Performance 2 | 1 |
| Employee's Performance 3 | 1 |
| Employee's Performance 4 | 1 |
| Employee's Performance 5 | 1 |
| Electronic Tax Filing Adoption 1 | 5 |
| Electronic Tax Filing Adoption 2 | 2 |
| Performance Expectancy 1 | 2 |
| Performance Expectancy 3 | 1 |
| Social Influence 3 | 3 |
| Facilitating Condition 1 | 1 |
| Facilitating Condition 4 | 1 |
| IT Technological Sophistication 3 | 1 |
| IT Information Sophistication 3 | 2 |
| Total | 26 |

Concerning the treatment of univariate outliers, all the 26 cases that exceeded that standardized value of ± 3.29 ($p < 0.001$) were deleted, leaving the study with 204 cases in the dataset. The failure to delete the outliers has the tendency of adverse effect statistical accuracy of estimates.

Apart from the univariate outliers, multivariate outliers were also identified and treated. Following the suggestion of Tabachnick and Fidell (2007), Mahalanobis

distance was used in the identification of the multivariate outliers. Mahalanobis is defined as the range of a case from the centroid of the remaining cases where the centroid is the point developed at the intersection of the means of all the variables. Chi-square table was used as a guide for identifying the multivariate outliers. The research instrument has 45 observed variables, for which the corresponding chi-square value is 78.75 ($p = 0.001$). Following this procedure which was in line with Tabachnick and Fidell (2007), no multivariate outlier was found in the dataset.

5.3.3 Test of Normality

Previous studies (e.g. Reinartz *et al.*, 2009; Wetzels, Odekerken-Schroder & Van Oppen, 2009) have signified that PLS-SEM offers precise model estimations in situations with tremendous non-normal data. Nevertheless, it has been lately suggested by Hair *et al.* (2016) that normality test of data should be conducted.

In highly skewed or kurtotic data, there could be rise in the bootstrapped standard error estimates (Chernick, 2008), which can eventually miscalculate the statistical significance of the path coefficients (Ringle, Sarstedt & Straub, 2012).

Besides, in a multivariate analysis, test of normality is a very important assumption (Tabachnick & Fidell, 2007). Test of normality has been a norm in PLS path modelling since it can accurately make a statistical estimation even with non-normal data (Wetzels *et al.*, 2009). However, this tradition is no longer applicable, because

the recent argument by Hair *et al.* (2013) implies that when data are highly skewed or Kurtosis, they can inflate estimates of bootstrapped standard errors.

Having understood that the test of normality remains an important postulation of the multivariate analysis, it is further recognized that normality can be tested through either the two approaches, statistical and visual, or through both of them (Ghasemi & Zahediasl, 2012). It was argued that each of the two methods of testing normality has its own weakness, thus, a recommendation implied that both statistical and visual approaches should be employed in testing normality. In line with this suggestion, the normality in this study was tested through both statistical and visual approaches as depicted in Table 5.4 and Figure 5.1 below.

Table 5.4
Skewness and Kurtosis for Normality Test

| Constructs | Skewness | | Kurtosis | |
|---------------------------------|-----------|------------|-----------|------------|
| | Statistic | Std. Error | Statistic | Std. Error |
| Employee's Performance | -0.843 | 0.170 | 3.158 | 0.339 |
| Electronic Tax Filing Adoption | -1.009 | 0.170 | 1.075 | 0.339 |
| Performance Expectancy | -0.987 | 0.170 | 2.463 | 0.339 |
| Effort Expectancy | -0.974 | 0.170 | 2.329 | 0.339 |
| Social Influence | -0.672 | 0.170 | 1.013 | 0.339 |
| Facilitating Condition | -0.797 | 0.170 | 2.434 | 0.339 |
| Training | -0.864 | 0.170 | 2.708 | 0.339 |
| IT Technological Sophistication | -0.788 | 0.170 | 3.843 | 0.339 |
| IT Information Sophistication | 0.196 | 0.170 | 1.466 | 0.339 |

For assessing normality, according to Curran, West, and Finch (1996), the threshold should be less than 2 for Skewness and less than 7 for Kurtosis. It was recently recommended that it should only be a problem when the absolute value for Skewness

exceeds 3 and that of Kurtosis exceeds 10 (Kline, 2015). Following these recommendations, it can be said that normality is not a problem in the current study since the values for all the variables were less than the recommended cut-off values.

In addition to statistical approach, the study also employed the application visual approach to assess the normality. Consequently, a histogram was used to assess the normality of the complete dataset. Figure 4.1 shows that the normality assumption has not been violated.

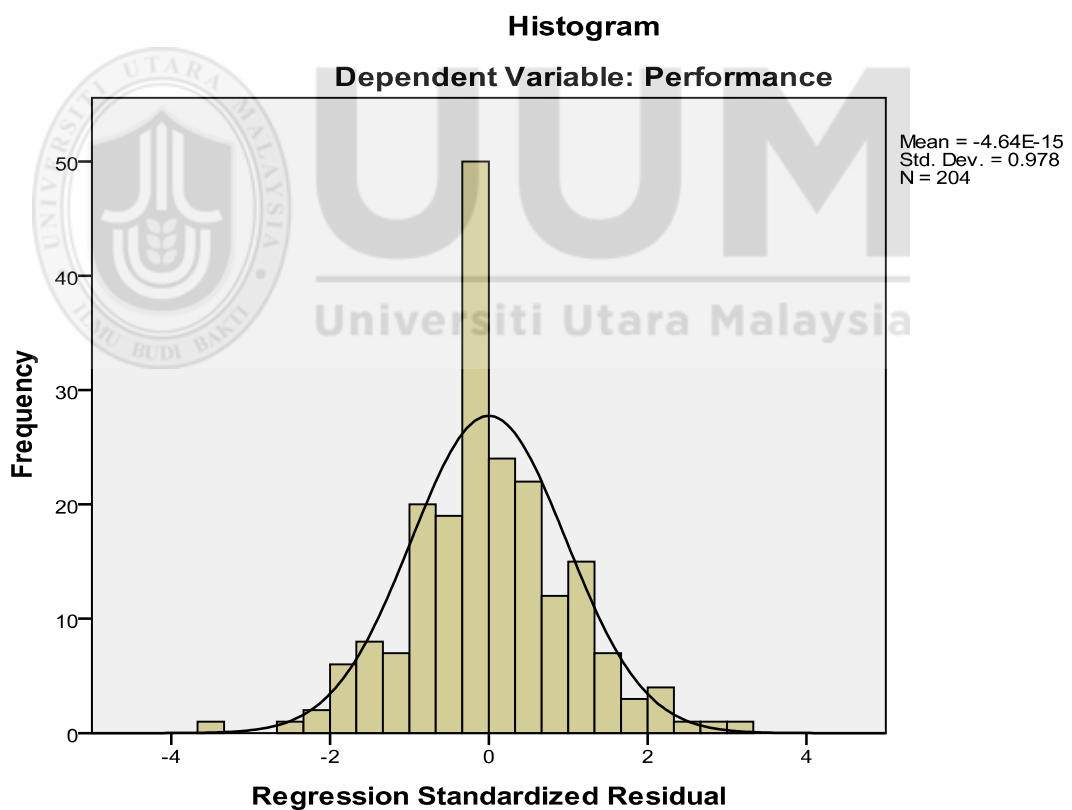


Figure 5.1 Normality Test using Histogram

Despite that there cannot be perfect normality, the visual inspection of Figure 5.1 indicates normality in the dataset of this study.

5.3.4 Test of Multicollinearity

In a multivariate analysis, multicollinearity refers to the situation in which two or more variables in a dataset depict an unacceptable level of correlation (Tabachnick & Fidell, 2007). The effect of multicollinearity is that the variables having a high level of correlation are doing the same job in the research model, thus depicting some possibility of redundancy. In essence, if multicollinearity is detected, but it is not treated, it can affect the accuracy of the statistical estimate and the significant level in the research model.

Variance Inflation Factor (VIF) and Tolerance are the most common used methods for assessing co-linearity in PLS path modelling (Hair *et al.*, 2013). Tolerance has been defined as a variance in one independent variable not explained by other independent variables within a research model. Regarding VIF, it is considered as the reciprocal of tolerance (Hair *et al.*, 2013). The acceptable value for tolerance should be ≥ 0.20 , whereas VIF should be ≤ 5 (Hair *et al.*, 2013). Otherwise there is a sign of co-linearly among the exogenous variables in the research model. The result of multicollinearity using tolerance and VIF is shown in Table 5.5.

Table 5.5
Tolerance and VIF for Multicollinearity Test

| Constructs | Co-linearity Statistics | |
|---------------------------------|-------------------------|-------|
| | Tolerance | VIF |
| Electronic Tax Filing Adoption | 0.613 | 1.630 |
| Performance Expectancy | 0.416 | 2.406 |
| Effort Expectancy | 0.425 | 2.351 |
| Social Influence | 0.496 | 2.018 |
| Facilitating Condition | 0.443 | 2.257 |
| Training | 0.378 | 2.646 |
| IT Technological Sophistication | 0.454 | 2.202 |
| IT Information Sophistication | 0.510 | 1.960 |

Table 5.5 demonstrates that all the tolerance values for the exogenous variables are above the cut-off value of 0.20. Likewise, the values of VIF are all below the maximum value of 5, depicting the non-existence of multicollinearity among the independent variables in the current research model. In addition to tolerance and VIF, the study employed the use of correlation analysis to further assess whether multicollinearity exists among the independent variables. The result of the multicollinearity assessment using the correlation matrix is illustrated in Table 5.6 below.

Table 5.6
Correlation Matrix for Multicollinearity Test

| Constructs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---|
| Electronic Tax Filing Adoption | 1 | | | | | | | |
| Performance Expectancy | 0.462** | 1 | | | | | | |
| Effort Expectancy | 0.397** | 0.661** | 1 | | | | | |
| Social Influence | 0.352** | 0.606** | 0.635** | 1 | | | | |
| Facilitating Condition | 0.419** | 0.561** | 0.602** | 0.550** | 1 | | | |
| Training | 0.460** | 0.640** | 0.617** | 0.549** | 0.659** | 1 | | |
| IT Technological Sophistication | 0.417** | 0.498** | 0.454** | 0.392** | 0.544** | 0.596** | 1 | |
| IT Information Sophistication | 0.212** | 0.486** | 0.430** | 0.396** | 0.436** | 0.506** | 0.589** | 1 |

** Correlation is significant at the 0.01 level.

It was recommended by Hair *et al.* (2010) that when examining the multicollinearity using a correlation matrix, a correlation coefficient of 0.90 and above depicts a sign of multicollinearity. Thus, based on Table 4.6, it can be said that the multicollinearity is not an issue in the current research model. At this stage, deduction can be made that upon the examination of multicollinearity through various approaches, such as Tolerance, VIF and correlation matrix, there is no high level of correlation among the independent variables used in this study.

5.4 Demographic Information of the Respondents

In this section, analyses were conducted on the demographic profile of tax employees in Jordan who responded to the research instruments in this study. The emphasis was on age, gender, level of education, and work experience. The result of this analysis is shown in Table 5.7.

Table 5.7
Respondents' Demographic Information

| Demographic Information | Number | % |
|--------------------------------|---------------|------------|
| Age | | |
| 25 Years and Below | 3 | 1.5 |
| 26-35 Years | 52 | 25.5 |
| 36-45 Years | 116 | 56.8 |
| 46-55 Years | 32 | 15.7 |
| 56 or Over | 1 | 0.5 |
| Total | 204 | 100 |
| Gender | | |
| Male | 152 | 74.5 |
| Female | 52 | 25.5 |
| Total | 204 | 100 |
| Level of Education | | |
| Diploma | 20 | 9.8 |
| Undergraduate | 155 | 76.0 |
| Postgraduate | 29 | 14.2 |
| Total | 204 | 100 |
| Work Experience | | |
| 1- 5 Years | 7 | 3.4 |
| 6-10 Years | 76 | 37.3 |
| 11-15 Years | 54 | 26.5 |
| Over 15 Years | 67 | 32.8 |
| Total | 204 | 100 |

n = 204

Table 5.7 shows that 1.5% of the respondents are 25 years and below, 25.5% are between 26 to 35 years, 56.9% are within the age range of 36 to 45 years, 15.7% are between 46 to 55 years, and the remaining 0.5% are 56 years and above. It can be concluded that the tax employees were middle aged of 36-45 years. For gender, the majority of the respondents are males, constituting about 74.5% of the respondents, whereas the remaining 25.5% are females.

This is in line with the fact that Jordan, as an Arab nation, is a male-dominant society (Jordanian Department of Statistics, 2017). Given that the minimum educational level for usage of ETF in ISTD is diploma, the level of education was categorized in to three. Therefore, the level of education of the respondents ranged from diploma to postgraduate qualifications; 9.8% have diploma, 76.0% are degree holders completing only an undergraduate program, whereas the remaining 14.2% are postgraduate qualification holders. This indicates that majority of the respondents had the first degree. As regards work experience, all ISTD officers who have to use ETF system must have at least one-year experience based on the policy of ISTD. Thus, 3.4% of the respondents work from 1 to 5 years in a tax office, 37.3% work from 6 to 10 years, 26.5% work from 11 to 15 years, whereas the remaining 32.8% work for more than 15 years. This implies that those who worked from 6 to 10 years were the majority.

In sum, majority of the respondents are male, degree holders, and are between the age group 36-45. Also, most of the respondents have some years of working experience which indicates that the respondents have relevant information with regards to ETFA and employee's performance.

5.5 Non-Response Bias Test

The commonly used definition of non-response bias was offered by Lambert and Harrington (1990) who considered response bias as the variances in the responses among non-respondents and respondents. For the purpose of examining whether or

not the response bias exists in the dataset, an exploration approach using time-trend was suggested by Armstrong and Overton (1977). The method required the comparison of early and late respondents; the argument signified that late respondents share similar features with non-respondents. In addition, there is another argument by Lindner and Wingenbach (2002) stating that when a researcher achieves 50% response rate, a non-response bias is not an issue. Since the response rate of 60% has been achieved, a non-response bias is not a problem in the current study.

To further confirm the non-existence of non-response bias, the study employed the application of the approach recommended by Armstrong and Overton (1977). This approach is based on dividing the response into two groups that are early and late responses. As mentioned, four months were allotted for data collection and an additional month was also allocated due to the low response rate. In the first four months, which represented the early responses, 184 responses were collected, whereas 20 responses were collected in the additional month, which was considered as late responses. Therefore, an independent sample t-test was conducted to detect any possibility of non-response bias. Consequently, all the study variables, including tax employee's performance, electronic tax filing, performance expectancy, effort expectancy, social influence, facilitating condition, training, IT technological sophistication, and IT information sophistication were subjected to the independent sample t-test to detect if there is a significant statistical difference between the early and late responses.

Table 5.8 demonstrates that non-response bias is not an issue. The result of Levene's test for equality of variances and t-test for equality of means indicated that, at 0.05, there is no significant statistical difference between early and late responses (Pallant, 2011). All the values were not significant at 0.05. Thus, it can be concluded that non-response bias is not an issue in this study. Details of the result is presented in Table 5.8 below.

Table 5.8
T-test for Non-Response Bias Test

| Constructs | Response | N | Mean | Levene's Test for Equality of Variances | |
|---------------------------------|----------|-----|--------|---|-------|
| | | | | F | Sig. |
| Employees' Performance | Early | 184 | 3.8316 | 0.002 | 0.967 |
| | Late | 20 | 4.3957 | | |
| Electronic Tax Filing Adoption | Early | 184 | 3.7078 | 3.035 | 0.083 |
| | Late | 20 | 4.0797 | | |
| Performance Expectancy | Early | 184 | 3.8149 | 1.121 | 0.291 |
| | Late | 20 | 4.1576 | | |
| Effort Expectancy | Early | 184 | 3.8259 | 0.011 | 0.916 |
| | Late | 20 | 4.2120 | | |
| Social Influence | Early | 184 | 3.8212 | 0.212 | 0.646 |
| | Late | 20 | 4.0978 | | |
| Facilitating Condition | Early | 184 | 3.8054 | 2.893 | 0.091 |
| | Late | 20 | 4.0652 | | |
| Training | Early | 184 | 3.8608 | 2.218 | 0.138 |
| | Late | 20 | 4.1793 | | |
| IT Technological Sophistication | Early | 184 | 3.9161 | 0.007 | 0.933 |
| | Late | 20 | 4.0489 | | |
| IT Information Sophistication | Early | 184 | 3.9863 | 0.408 | 0.524 |
| | Late | 20 | 4.1667 | | |

5.6 Common Method Bias Test

There is a general agreement among researchers that when dealing with self-reported survey, the common method bias should be regarded as an important concern in a research (Lindell & Whitney, 2001). It was asserted that the common method bias has the tendency of inflating the relationship between variables that are measured through self-reporting (Conway & Lance, 2010).

In this study, there is need for conducting a common method bias test since the respondents are reporting their behaviours, related specifically to their performance, thereby having a tendency of being biased. Several procedures are recommended in the literature for remedying the issue of the common method bias (Podsakoff, MacKenzie, Lee & Podsakoff, 2003; Podsakoff, MacKenzie & Podsakoff, 2012), such as the evaluation apprehension through informing the respondents that there is no right or wrong answer, scale improvement by making simple and unambiguous questions, and the statistical approach through Harman's (1967) single factor test.

In the first instance, explanation was made to the respondents that there is no right or wrong answer; they should feel free to respond to the question based on how they perceived it. Second, effort has been made in ensuring that the questions were simple and unambiguous. In other words, the questionnaires were distributed to experts in academia and industry for face and content validity who confirmed that the questions are clear and understandable.

In line with the above recommendation by Podsakoff and Organ (1986), the 45 items in the research instrument were subjected to confirmatory factor analysis. The results yielded 9 factors, which in total explained 71.82%, whereas the largest single factor explained 35.97% which is less than the maximum cut-off value of 50% (Podsakoff *et al.*, 2012). This indicated that no single factor explained the majority of variance among the variables. Thus, it can be said that the common method bias is not a problem in the current study.

5.7 Analysis of Descriptive Statistics for the Latent Variables

In this section, the descriptive statistics of the latent constructs are discussed; these cover minima and maximum scores, mean, and standard deviation. The measurements of all continuous variables were based on 5-point Likert scale, ranging from 1 = strongly disagree, 2=disagree, 3= neutral, 4= agree, to 5 = strongly agree. The results of the descriptive statistics are presented in Table 5.9 below.

Table 5.9
Descriptive Statistics for the Latent Constructs

| Constructs | N | Minimum | Maximum | Mean | Std. Dev. |
|---------------------------------|-----|---------|---------|-------|-----------|
| Employee's Performance | 204 | 2.00 | 5.00 | 3.958 | 0.438 |
| Electronic Tax Filing Adoption | 204 | 2.00 | 5.00 | 3.792 | 0.517 |
| Performance Expectancy | 204 | 2.00 | 5.00 | 3.892 | 0.489 |
| Effort Expectancy | 204 | 2.00 | 5.00 | 3.913 | 0.516 |
| Social Influence | 204 | 2.00 | 5.00 | 3.884 | 0.520 |
| Facilitating Condition | 204 | 2.00 | 5.00 | 3.864 | 0.444 |
| Training | 204 | 2.00 | 5.00 | 3.933 | 0.466 |
| IT Technological Sophistication | 204 | 2.00 | 5.00 | 3.946 | 0.452 |
| IT Information Sophistication | 204 | 3.00 | 5.00 | 4.027 | 0.413 |

Table 5.9 signifies the descriptive analysis of the latent variables. The mean score for all latent constructs ranges from the lowest of 3.792 to the highest 4.027. Based on this result, it can be asserted that the respondents perceive ETF as adoptable because the mean score of ETF adoption is 3.792, indicating the respondents' agreement on ETF adoption. The mean score of the expectancy performance is 3.892, indicating that the usage of ETF can enhance efficiency. The respondents believe that ETF is easy to use, given the mean score of effort expectancy which is 3.913. Regarding social influence, the result which is 3.884 signifies the respondents' position that the employee can perceive the importance in people's belief that he/she should use ETF. The mean score of facilitating condition, which is 3.864, signifies that the respondents agree that the organizational and technical infrastructure exists to support the use of ETF.

The mean score of training, which is 3.933, shows that training would improve the employees' skills, knowledge, and competency that are necessary to perform work effectively. The mean scores of IT technological sophistication and IT informational sophistication indicate the respondents' perception that adoption and usage of less complex and less interdependent IT can facilitate the effective operation in the organization and improve the employee's portfolio. For the employee's performance, the mean score of 3.958 signifies that the respondents believe that the performance involves achievement of a specified task designed based on predetermined or identified standards in terms of accuracy, completeness, cost, and that their

performance can be improved by ETF. (See Appendix C for detailed results of the descriptive statistics for the latent constructs.)

5.8 Analysis of PLS Path Models

Having concluded the data screening and the preliminary analysis, the results of the main PLS path modeling are presented in this section. Before delving in the subsequent analysis, it is important to mention that the current study adopts PLS-SEM because the study's model is complex in nature as it contains independent and dependent variables, and moderating variables. This rationalized the adoption of PLS-SEM using Smart PLS to statistically explicate the nexuses between the independent variables and the dependent variables along with the moderating variables. Highly complex models with many latent and manifest variables can be estimated via smart PLS, because it can easily estimate hierarchical models, or moderating and mediating effects (Chin, Marcolin & Newsted, 2003). PLS, as posited by Wold (1985), is suitably useful for complex models whereby the prominence shifts from individual variables and parameters to sets of variables and aggregate parameters. Also included as part of the PLS-SEM merits is the fact that, as mentioned by Hair *et al.* (2016), PLS-SEM enhance the already standing good reporting practices in disciplines such as management, accounting, marketing etc.

Also, unlike previous applications of PLS, it is argued recently that goodness-of-fit index is not suitable for model validation because it falls short in separating valid and invalid models (Hair *et al.*, 2013). Hence, it is not considered in this analysis.

Following the recent developments in the application of PLS path modeling, a two-stage approach was adopted in evaluating and reporting the results of the analysis. The two-steps which comprise the two model's evaluations are (1) measurement model evaluation, and (2) structural model evaluation as presented in Figure 5.2 (Hair *et al.*, 2013; Hair *et al.*, 2011; Henseler *et al.*, 2009). It is noteworthy that all the constructs of the current study are measured reflectively.

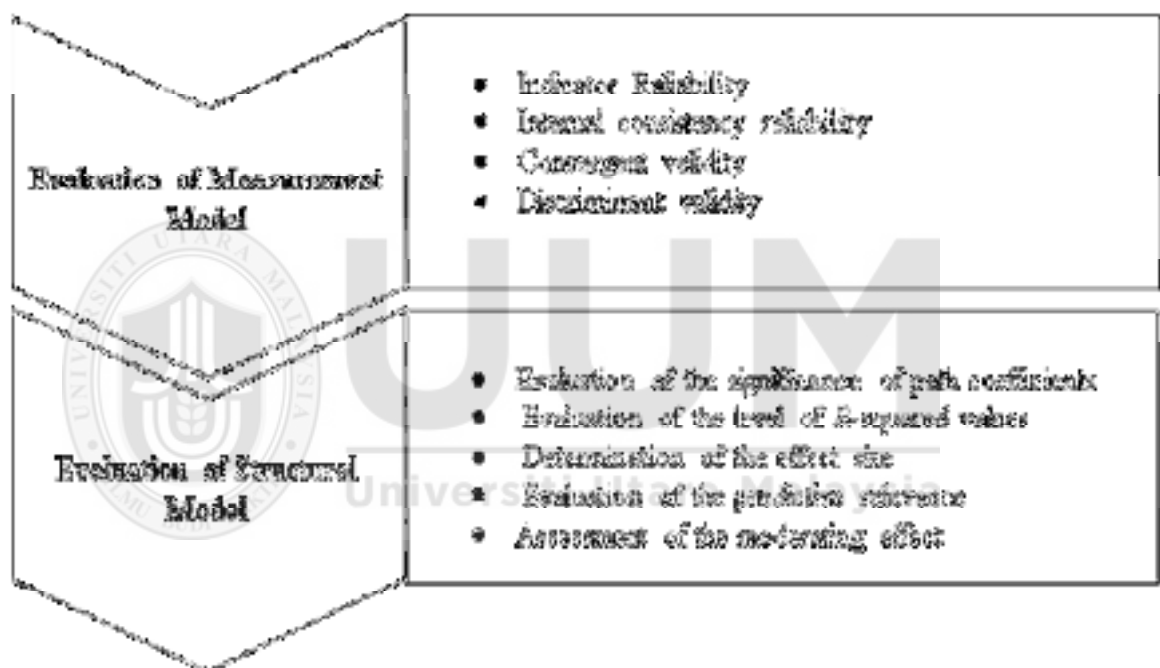


Figure 5.2 A Two-Step Process of PLS Path Model Evaluation
Source: Henseler *et al.* (2009).

5.8.1 Evaluation of PLS Measurement Model

Evaluation of PLS measurement model results requires the assessments of the indicator or individual items reliability, internal consistency reliability, convergent

validity, and discriminant validity (Hair *et al.*, 2013; Hair *et al.*, 2011; Henseler *et al.*, 2009). The measurement model is depicted in Figure 5.3 below.



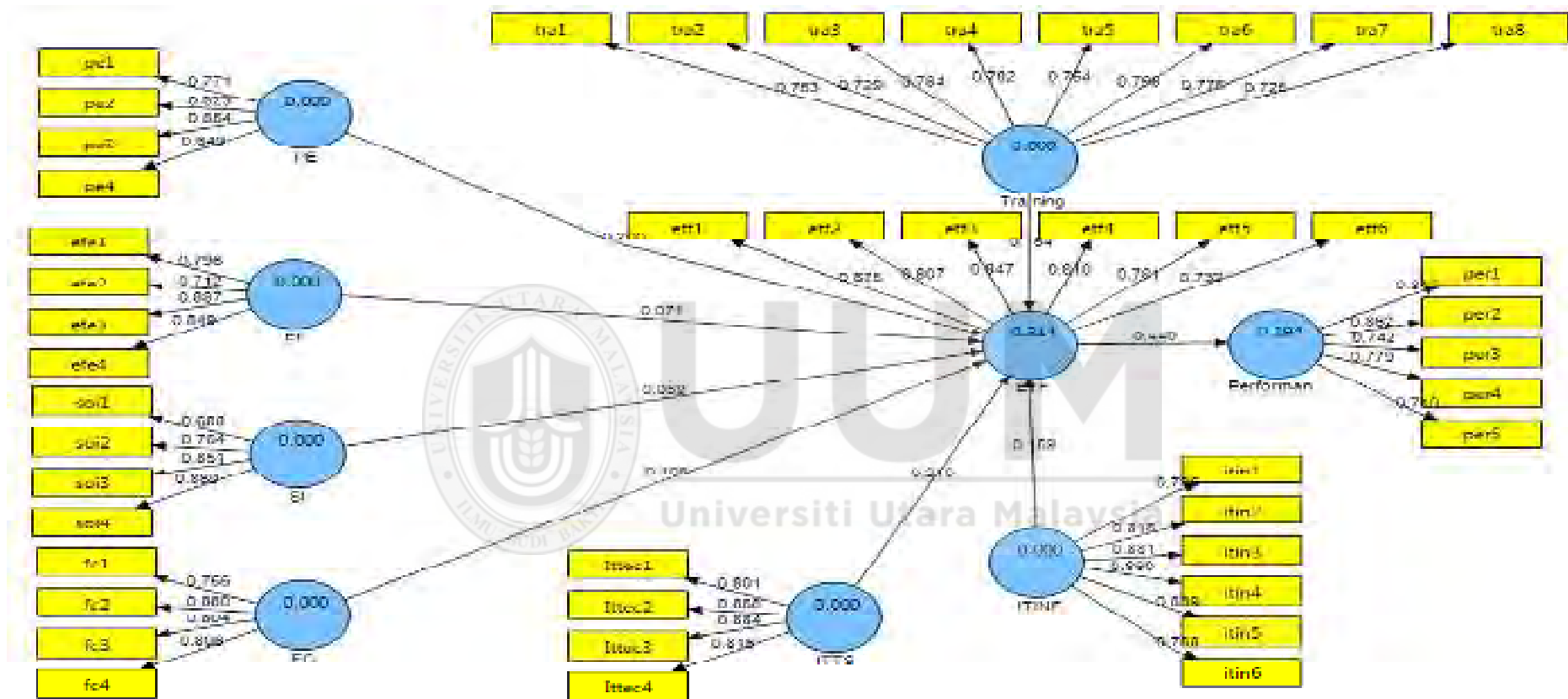


Figure 5.3 Measurement Model

5.8.1.1 Individual Item Reliability

The evaluation of individual item reliability was performed through the assessment of outer loadings of items, measuring each of the constructs in the research model (Hair, *et al.*, 2013; Hair *et al.*, 2011). It was recommended that items with loadings between 0.40 and 0.70 and above can be retained (Hair *et al.*, 2013). Following these procedures, none of the 45 items in the research instrument was deleted; all the items satisfied the minimum requirement of 0.40. This can be attributed to the proper pilot study that was conducted, where the necessary suggestions and clarification were made to ensure easy understanding among respondents. The loadings of the items ranged from 0.674 to 0.887.

5.8.1.2 Internal Consistency Reliability

The internal consistency reliability measures the extent to which indicators or items work as a group in measuring a construct or a sub-construct. There are two commonly used criteria in evaluating the internal consistency reliability; these are Cronbach's alpha and composite reliability (Peterson & Kim, 2014). However, the latter, composite reliability, is assumed to be the best measure of internal consistency for users of PLS path modelling compared to Cronbach's alpha (Hair *et al.*, 2013; Hair *et al.*, 2011). The cut-off point of both Cronbach's alpha and composite reliability is 0.70 for confirmatory research, though 0.60 is acceptable for exploratory (Hair *et al.*, 2013; Hair *et al.*, 2011). Considering the fact that the data were analysed using PLS path modelling, the composite reliability was used in evaluating the internal consistency in this study. The results of evaluating the internal consistency reliability

using the composite reliability revealed that all the constructs achieved an acceptable level of composite reliability. It ranged from 0.859 to 0.930, which is higher than the minimum acceptable value of 0.70 (Hair, *et al.*, 2011).

5.8.1.3 Convergent Validity

Convergence validity refers to how well the items represent the construct it is intended to measure (Hair, Tatham, Anderson & Black, 2006). In other words, convergence validity is a measurement of how a group of items strongly correlate in measuring it overall latent construct. Average Variance Extracted (AVE) is the most commonly used criterion for measuring the convergent validity (Hair *et al.*, 2013; Hair *et al.*, 2011). The threshold value for AVE is minimum of 0.50. When this is achieved, it can be said that a construct achieved an acceptable level of convergent validity, and its items highly correlate in its measurement (Hair *et al.*, 2011). Therefore, in this study, AVE was used as a measure of the convergent validity (see Table 5.10). Based on Table 5.10, the AVE ranged from 0.583 to 0.706, implying that all the constructs achieved an AVE higher than the recommended minimum value of 0.50 (Hair *et al.*, 2011).

Table 5.10

Indicator Reliability, Internal Consistency Reliability, and Convergent Validity

| Constructs | Items | Loadings | Composite Reliability | AVE |
|--|--------------|-----------------|------------------------------|------------|
| Effort Expectancy | EFE1 | 0.796 | 0.886 | 0.662 |
| | EFE2 | 0.712 | | |
| | EFE3 | 0.887 | | |
| | EFE4 | 0.849 | | |
| Electronic Tax Filing Adoption | ETFA1 | 0.675 | 0.901 | 0.605 |
| | ETFA2 | 0.807 | | |
| | ETFA3 | 0.847 | | |
| | ETFA4 | 0.810 | | |
| | ETFA5 | 0.781 | | |
| | ETFA6 | 0.732 | | |
| Facilitating Condition | FC1 | 0.755 | 0.886 | 0.661 |
| | FC2 | 0.880 | | |
| | FC 3 | 0.805 | | |
| | FC 4 | 0.806 | | |
| IT Technological Sophistication | ITTS1 | 0.801 | 0.930 | 0.690 |
| | ITTS 2 | 0.858 | | |
| | ITTS 3 | 0.884 | | |
| | ITTS 4 | 0.816 | | |
| IT Information Sophistication | ITIN1 | 0.796 | 0.906 | 0.706 |
| | ITIN 2 | 0.816 | | |
| | ITIN 3 | 0.881 | | |
| | ITIN 4 | 0.860 | | |
| | ITIN 5 | 0.839 | | |
| | ITIN 6 | 0.788 | | |
| Performance Expectancy | PE1 | 0.771 | 0.859 | 0.605 |
| | PE2 | 0.823 | | |
| | PE3 | 0.854 | | |
| | PE4 | 0.649 | | |
| Employees' Performance | PER1 | 0.812 | 0.888 | 0.613 |
| | PER 2 | 0.863 | | |
| | PER 3 | 0.742 | | |
| | PER 4 | 0.779 | | |
| | PER 5 | 0.710 | | |

Table 5.10 Continue

| Constructs | Items | Loadings | Composite Reliability | AVE |
|-------------------------|--------------|-----------------|------------------------------|------------|
| Social Influence | SOI1 | 0.688 | 0.873 | 0.634 |
| | SOI2 | 0.764 | | |
| | SOI3 | 0.851 | | |
| | SOI4 | 0.869 | | |
| Training | TR1 | 0.753 | 0.918 | 0.583 |
| | TR2 | 0.729 | | |
| | TR3 | 0.784 | | |
| | TR4 | 0.782 | | |
| | TR5 | 0.754 | | |
| | TR6 | 0.798 | | |
| | TR7 | 0.776 | | |
| | TR8 | 0.725 | | |

5.8.1.4 Discriminant Validity

Discriminant validity can be explained as the degree to which a particular latent construct distinguishes itself from others in a research model (Duarte & Raposo, 2010). As suggested by Fornell and Larcker (1981), the discriminant validity is computed using AVE. This is normally achieved by comparing the square-root of AVE of a latent construct with its correlation with another construct. The assessment of the discriminant validity can be also made by comparing the indicator's loading with its cross-loadings (Chin, 1998). The results of the discriminant validity using Fornell and Larcker's (1981) criterion is presented in Table 5.11 below.

Table 5.11
Assessment of Discriminant Validity using Fornell and Larcker's (1981) Criterion

| Constructs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Effort Expectancy | .814 | | | | | | | | |
| Electronic Tax Filing Adoption | .425 | .778 | | | | | | | |
| Facilitating Condition | .600 | .441 | .813 | | | | | | |
| IT Information Sophistication | .426 | .244 | .440 | .831 | | | | | |
| IT Technological Sophistication | .463 | .420 | .542 | .599 | .840 | | | | |
| Performance Expectancy | .646 | .464 | .563 | .496 | .496 | .778 | | | |
| Employees' Performance | .586 | .440 | .565 | .500 | .387 | .710 | .783 | | |
| Social Influence | .624 | .394 | .574 | .383 | .411 | .611 | .474 | .796 | |
| Training | .621 | .471 | .668 | .511 | .593 | .636 | .548 | .540 | .763 |

Table 5.11 indicated that all the nine latent constructs satisfied the discriminant validity requirements. The square-root of AVE of each of the latent construct is higher than its squared correlation with any other construct. Having achieved the discriminant validity using Fornell and Larcker's (1981) Criterion, the study followed the approach recommended by Chin (1998). Hence, the indicator's loadings were compared with its cross-loadings. The results of this exercise are presented in Table 5.12 below.

Table 5.12
Discriminant Validity Assessment using Indicators Loadings and Cross Loadings

| Items | ITTS | EFF | ETFA | FC | ITIN | PE | PER | SI | TR |
|--------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
| ITTS 1 | 0.801 | 0.376 | 0.340 | 0.494 | 0.375 | 0.368 | 0.249 | 0.316 | 0.533 |
| ITTS 2 | 0.858 | 0.333 | 0.331 | 0.433 | 0.468 | 0.416 | 0.325 | 0.349 | 0.492 |
| ITTS 3 | 0.884 | 0.417 | 0.370 | 0.471 | 0.545 | 0.445 | 0.363 | 0.368 | 0.470 |
| ITTS 4 | 0.816 | 0.425 | 0.366 | 0.424 | 0.614 | 0.435 | 0.358 | 0.348 | 0.502 |
| EFE1 | 0.400 | 0.796 | 0.364 | 0.425 | 0.295 | 0.541 | 0.381 | 0.483 | 0.504 |
| EFE2 | 0.288 | 0.712 | 0.236 | 0.468 | 0.377 | 0.555 | 0.456 | 0.508 | 0.427 |
| EFE3 | 0.421 | 0.887 | 0.381 | 0.522 | 0.342 | 0.509 | 0.538 | 0.516 | 0.506 |
| EFE4 | 0.380 | 0.849 | 0.374 | 0.544 | 0.394 | 0.528 | 0.539 | 0.540 | 0.572 |
| ETFA1 | 0.304 | 0.434 | 0.675 | 0.436 | 0.281 | 0.358 | 0.488 | 0.349 | 0.383 |
| ETFA2 | 0.311 | 0.366 | 0.807 | 0.380 | 0.163 | 0.362 | 0.377 | 0.305 | 0.323 |
| ETFA3 | 0.345 | 0.299 | 0.847 | 0.339 | 0.172 | 0.392 | 0.325 | 0.289 | 0.365 |
| ETFA4 | 0.342 | 0.293 | 0.810 | 0.331 | 0.189 | 0.359 | 0.279 | 0.290 | 0.420 |
| ETFA5 | 0.327 | 0.279 | 0.781 | 0.298 | 0.170 | 0.338 | 0.280 | 0.288 | 0.380 |
| ETFA6 | 0.324 | 0.265 | 0.732 | 0.220 | 0.131 | 0.340 | 0.240 | 0.298 | 0.308 |
| FC1 | 0.500 | 0.451 | 0.350 | 0.755 | 0.321 | 0.444 | 0.347 | 0.565 | 0.420 |
| FC2 | 0.436 | 0.515 | 0.342 | 0.880 | 0.350 | 0.472 | 0.468 | 0.445 | 0.511 |
| FC3 | 0.396 | 0.475 | 0.315 | 0.805 | 0.373 | 0.445 | 0.534 | 0.419 | 0.553 |
| FC4 | 0.423 | 0.501 | 0.409 | 0.806 | 0.381 | 0.464 | 0.486 | 0.433 | 0.664 |
| ITIN1 | 0.583 | 0.414 | 0.231 | 0.413 | 0.796 | 0.417 | 0.444 | 0.319 | 0.480 |
| ITIN2 | 0.563 | 0.423 | 0.204 | 0.386 | 0.816 | 0.399 | 0.424 | 0.368 | 0.410 |
| ITIN3 | 0.439 | 0.330 | 0.231 | 0.353 | 0.881 | 0.403 | 0.418 | 0.334 | 0.429 |
| ITIN4 | 0.506 | 0.345 | 0.178 | 0.368 | 0.860 | 0.417 | 0.408 | 0.319 | 0.418 |
| ITIN5 | 0.434 | 0.279 | 0.206 | 0.324 | 0.839 | 0.457 | 0.420 | 0.268 | 0.409 |
| ITIN6 | 0.423 | 0.297 | 0.062 | 0.329 | 0.788 | 0.350 | 0.321 | 0.282 | 0.356 |
| PE1 | 0.336 | 0.476 | 0.364 | 0.454 | 0.385 | 0.771 | 0.575 | 0.450 | 0.469 |
| PE2 | 0.407 | 0.470 | 0.305 | 0.453 | 0.448 | 0.823 | 0.578 | 0.499 | 0.491 |
| PE3 | 0.426 | 0.486 | 0.346 | 0.452 | 0.436 | 0.854 | 0.626 | 0.426 | 0.464 |
| PE4 | 0.363 | 0.544 | 0.398 | 0.380 | 0.278 | 0.649 | 0.424 | 0.500 | 0.525 |
| PER1 | 0.295 | 0.423 | 0.352 | 0.411 | 0.500 | 0.594 | 0.812 | 0.366 | 0.443 |
| PER2 | 0.337 | 0.503 | 0.382 | 0.447 | 0.406 | 0.608 | 0.863 | 0.400 | 0.489 |
| PER3 | 0.257 | 0.462 | 0.317 | 0.415 | 0.417 | 0.506 | 0.742 | 0.298 | 0.392 |
| PER 4 | 0.407 | 0.499 | 0.337 | 0.492 | 0.398 | 0.620 | 0.779 | 0.396 | 0.440 |
| PER5 | 0.213 | 0.408 | 0.330 | 0.448 | 0.233 | 0.444 | 0.710 | 0.392 | 0.372 |
| SOI1 | 0.299 | 0.544 | 0.210 | 0.387 | 0.336 | 0.415 | 0.411 | 0.688 | 0.442 |
| SOI2 | 0.220 | 0.434 | 0.222 | 0.334 | 0.340 | 0.445 | 0.317 | 0.764 | 0.419 |
| SOI3 | 0.380 | 0.565 | 0.328 | 0.528 | 0.345 | 0.594 | 0.425 | 0.851 | 0.440 |
| SOI4 | 0.376 | 0.480 | 0.421 | 0.526 | 0.256 | 0.487 | 0.377 | 0.869 | 0.447 |

Table 5.12 Continue

| Items | ITTS | EFF | ETFA | FC | ITIN | PE | PER | SI | TR |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|
| TR1 | 0.441 | 0.509 | 0.412 | 0.692 | 0.324 | 0.496 | 0.466 | 0.505 | 0.753 |
| TR2 | 0.455 | 0.486 | 0.328 | 0.569 | 0.364 | 0.467 | 0.403 | 0.502 | 0.729 |
| TR3 | 0.469 | 0.508 | 0.379 | 0.500 | 0.301 | 0.488 | 0.395 | 0.424 | 0.784 |
| TR4 | 0.404 | 0.540 | 0.402 | 0.476 | 0.338 | 0.471 | 0.416 | 0.342 | 0.782 |
| TR5 | 0.360 | 0.435 | 0.322 | 0.407 | 0.404 | 0.442 | 0.391 | 0.383 | 0.754 |
| TR6 | 0.527 | 0.434 | 0.381 | 0.521 | 0.507 | 0.555 | 0.496 | 0.406 | 0.798 |
| TR7 | 0.462 | 0.438 | 0.341 | 0.479 | 0.462 | 0.473 | 0.409 | 0.347 | 0.776 |
| TR8 | 0.523 | 0.414 | 0.270 | 0.384 | 0.462 | 0.488 | 0.342 | 0.388 | 0.725 |

ITTS: IT Technological Sophistication; EFE: Effort Expectancy; ETFA: Electronic Tax Filing Adoption; FC: Facilitating Condition; ITIN: IT Informational Sophistication; PE: Performance Expectancy; PER: Employee's Performance; SOI: Social Influence; TR: Training.

It can be deduced, based on Table 5.12, that the indicators' loadings of each of the nine constructs are higher than their cross-loadings, thereby satisfying the discriminant validity criterion suggested by Chin (1998).

Having assessed all the four criteria of measurement model evaluation including the indicator or individual items reliability, internal consistency reliability, convergent validity, and discriminant validity, it can be demonstrated that the data collected through the research instrument are valid and reliable. Consequently, it is highly probable to test the research hypotheses through the structural model.

5.8.2 Evaluation of PLS Structural Model

Following the assessment of PLS measurement model, the next section is to determine the structural model using bootstrapping technique. As recommended, the study applied the standard bootstrapping procedure using 5,000 samples for the evaluation of the significance of PLS path model (Hair *et al.*, 2013; Hair *et al.*, 2011).

It is important to note that five steps were followed in PLS structural model

evaluation. These are (1) assessment of the significance of path coefficients (2) assessment of the level of R-squared value, (3) assessment of the effect size (f^2), (4) assessment of model predictive relevance, and (5) testing the significance of the moderating effect. In addition, one-tail was used for the direct relationship between independent variables and dependent variables while two-tailed was adopted for testing moderating effect.

5.8.2.1 Assessment of the Significance Path Coefficients for Hypotheses Testing

It is important to note that PLS-SEM is the second-generation of data analysis techniques, where several paths, both direct and indirect, can be assessed at once (Hair *et al.*, 2013; Hair *et al.*, 2011). Therefore, the path coefficients of both direct and moderating effects were assessed concurrently. The assessment of the PLS-SEM structural model was performed using t-statistics and p - values using 5,000 bootstrapped samples with 204 cases. The result is presented below in Table 5.13 and Figure 5.4.

Table 5.13

Paths Coefficients for Direct and Moderating Effects

| Hypo Statement | Beta | Standard Error | T Statistics | P-Value | Decision |
|--|-------------|-----------------------|---------------------|----------------|-----------------|
| H1 Performance Expectancy -> Electronic Tax Filing Adoption | 0.158 | 0.041 | 3.901 | 0.000** | Supported |
| H2 Performance Expectancy -> Gender -> Electronic Tax Filing | 0.036 | 0.047 | 0.771 | 0.442 | Not Supported |
| H3 Performance Expectancy -> Age -> Electronic Tax Filing Adoption | -0.117 | 0.062 | 1.883 | 0.031* | Supported |
| H4 Effort Expectancy -> Electronic Tax Filing Adoption | 0.068 | 0.138 | 0.491 | 0.312 | Not Supported |
| H5 Effort Expectancy -> Gender -> Electronic Tax Filing Adoption | -0.094 | 0.031 | 3.027 | 0.003** | Supported |
| H6 Effort Expectancy -> Age -> Electronic Tax Filing Adoption | -0.119 | 0.051 | 2.342 | 0.020* | Supported |
| H7 Effort Expectancy -> Experience -> Electronic Tax Filing Adoption | 0.117 | 0.330 | 0.356 | 0.722 | Not Supported |
| H8 Social Influence -> Electronic Tax Filing Adoption | 0.054 | 0.043 | 1.260 | 0.105 | Not Supported |
| H9 Social Influence -> Gender -> Electronic Tax Filing Adoption | -0.097 | 0.029 | 3.279 | 0.001** | Supported |
| H10 Social Influence -> Age -> Electronic Tax Filing Adoption | -0.054 | 0.057 | 0.949 | 0.344 | Not Supported |
| H11 Social Influence -> Experience -> Electronic Tax Filing Adoption | 0.151 | 0.096 | 1.572 | 0.118 | Not Supported |
| H12 Facilitating Condition -> Electronic Tax Filing Adoption | 0.118 | 0.050 | 2.353 | 0.010** | Supported |
| H13 Training -> Electronic Tax Filing Adoption | 0.126 | 0.051 | 2.469 | 0.007** | Supported |
| H14 IT Tech. Sophistication -> Electronic Tax Filing Adoption | 0.113 | 0.049 | 2.307 | 0.011* | Supported |
| H15 IT Inform. Sophistication -> Electronic Tax Filing Adoption | -0.058 | 0.039 | 1.492 | 0.069 | Not Supported |
| H16 Electronic Tax Filing Adoption -> Tax Employee Performance | 0.441 | 0.038 | 11.473 | 0.000** | Supported |

Note: **Significant at 0.01, *significant at 0.05

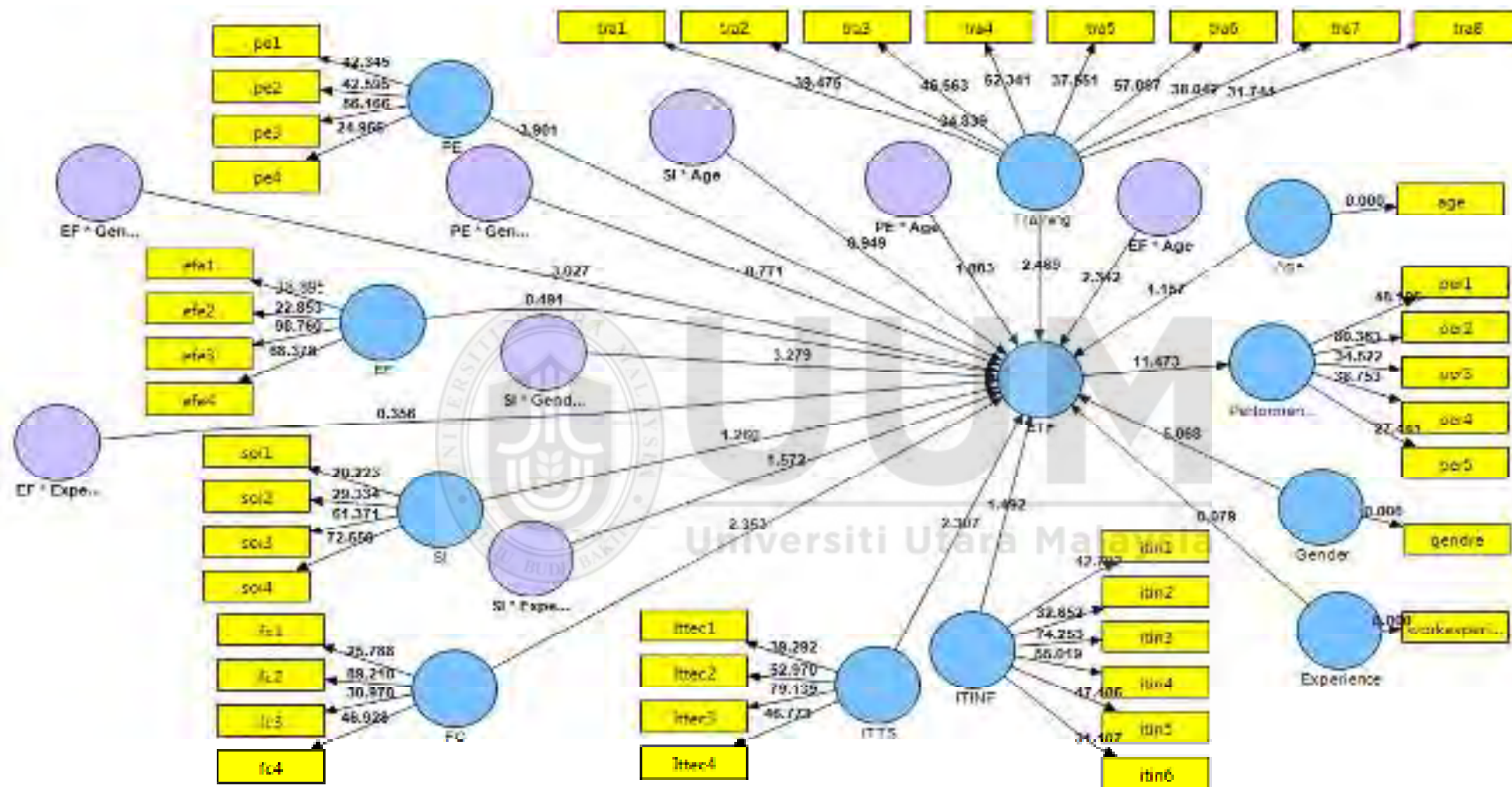


Figure 5.4 Structural Model

Table 5.13 and Figure 5.4 presented hypotheses stated in chapter 3. Based on Hypothesis 1 which stated that there is a positive relationship between performance expectancy and Electronic Tax Filing Adoption (ETFA) in Jordan, the result indicates significant and positive relationship between performance expectancy and ETFA ($\beta=0.158$, $t= 3.901$, $p < 0.01$). Thus, hypothesis 1 is supported.

Hypothesis 2 postulated that gender moderates the relationship between performance expectancy and ETFA in Jordan. However, the result signified non-significant relationship between performance expectancy and ETFA ($\beta = 0.036$, $t= 0.771$, $p > 0.05$). This implies that there is no difference between males and females in the influence of performance expectancy on electronic tax filing in Jordan. The composition of gender is not balanced and the finding is not significant indicating that both male and females have similar view with regards to ETF. This suggests that gender does not moderate the relationship between performance expectancy and electronic tax filing adoption in Jordan.

Hypothesis 3 proposed that age moderates the relationship between performance expectancy and electronic tax filing adoption. The findings indicated significant relationship between performance expectancy and electronic tax filing adoption, and thus hypothesis 3 is supported ($\beta= -0.117$, $t= 1.883$, $p < 0.05$). This implies that the effect of performance expectancy on electronic tax filing adoption is negative for older people, compared to younger ones. Following the recommendation of Dawson (2014), the values of the path coefficients for the moderation effect of age on the

relationship between performance expectancy and electronic tax filing was plotted on a graph. Figure 5.5 below explains the interaction effect of age and performance expectancy in explaining the electronic tax filing adoption.

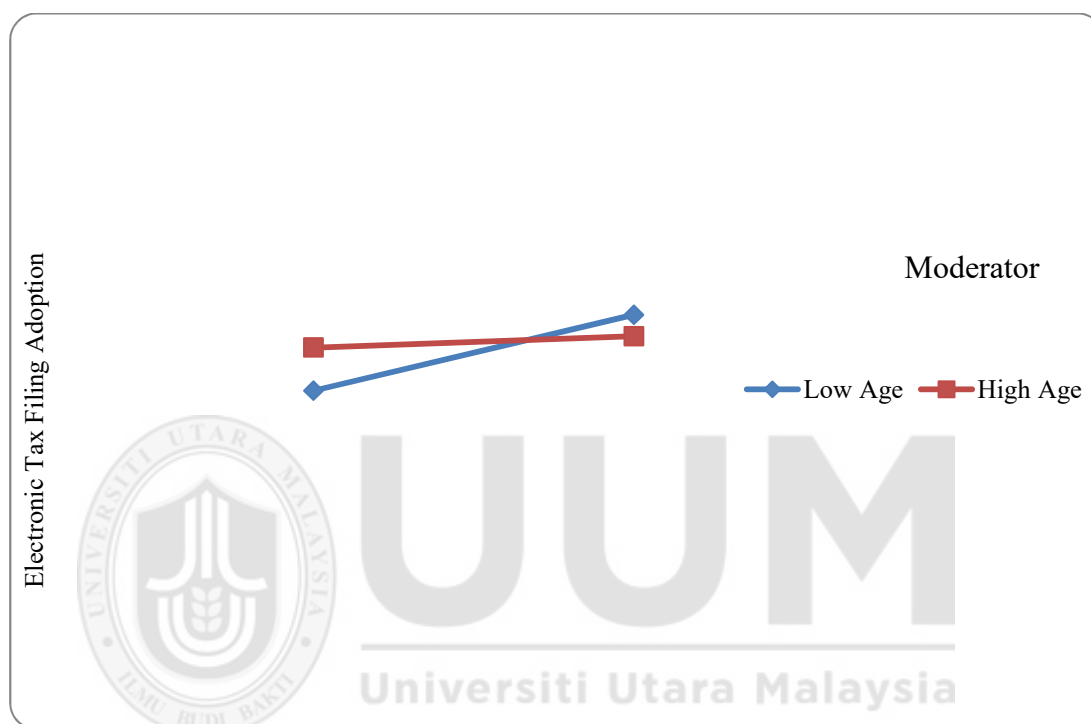


Figure 5.5 Interaction Effect of Age and Performance Expectancy in Explaining ETFA.

It was hypothesized in hypothesis 4 that there is a positive relationship between effort expectancy and electronic tax filing adoption in Jordan. However, this hypothesis was not supported because the results signified non-significant relationship between effort expectancy and electronic tax filing adoption ($\beta= 0.068$, $t= 0.491$, $p > 0.05$). In hypothesis 5, it is proposed that gender moderates the relationship between effort expectancy and ETFA. The result supports this postulation ($\beta= -0.094$, $t= 3.027$, $p < 0.01$), indicating that the influence of effort expectancy on electronic tax filing will be

weaker (negative) for females than with males. In other words, gender moderates the relationship between effort expectancy and ETFA in Jordan. Following the recommendation of Dawson (2014), the values of the path coefficients for the moderation effect of gender on the relationship between effort expectancy and electronic tax filing was then plotted on a graph. Figure 5.6 below depicts the interaction effect.

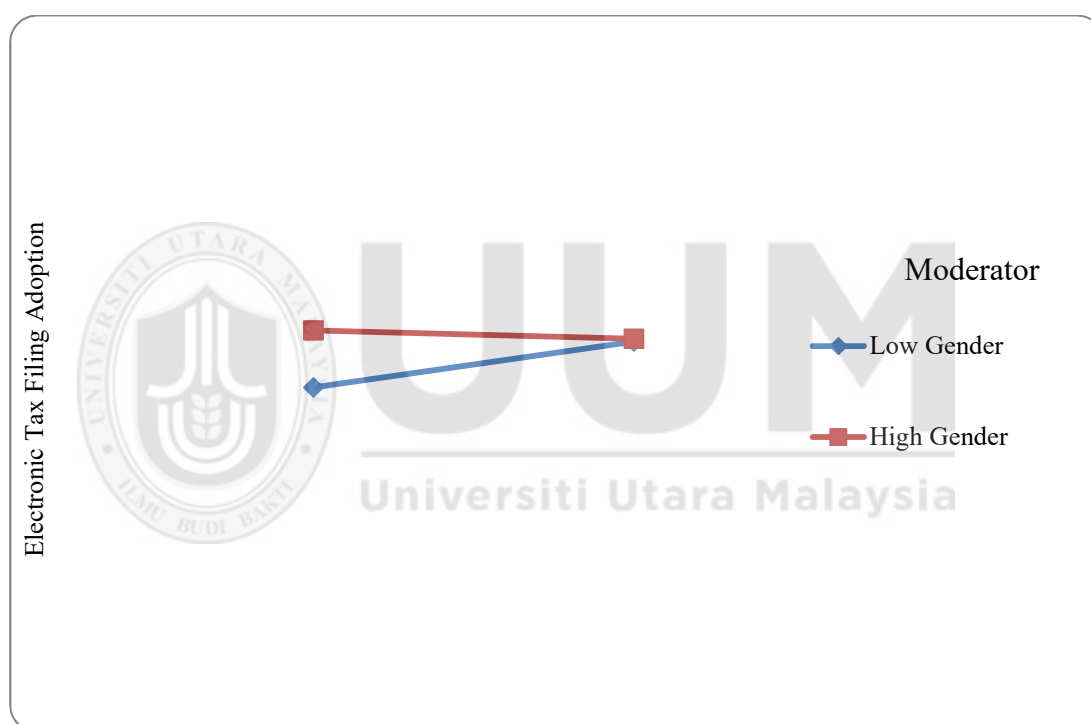


Figure 5.6 Interacting Effect of Gender and Effort Expectancy in Explaining ETFA.

It was proposed by hypothesis 6 that age moderates the relationship between effort expectancy and ETFA. The result ($\beta = -0.119$, $t = 2.342$, $p < 0.05$) signifies that hypothesis 6 is supported, indicating that the effect will be weaker for employees with older age than younger employees. In other words, the effect will be likely stronger for younger employees compared to older ones. Thereby, the result supports that age

moderates the relationship between effort expectancy and ETFA in the Jordanian tax office environment. Following the recommendation of Dawson (2014), the values of the path coefficients for the moderation effect of age on the relationship between effort expectancy and electronic tax filing was then plotted on a graph. Figure 5.7 illustrates the interaction effect.

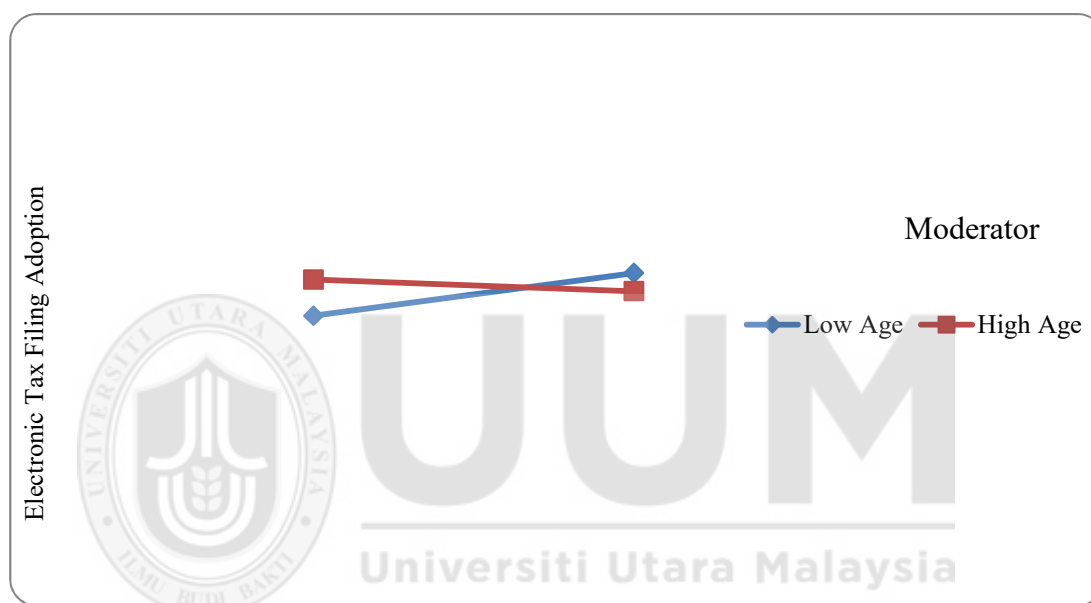


Figure 5.7 Interacting Effect of Age and Effort Expectancy in Explaining ETFA.

Hypothesis 7, which proposed that experience moderates the relationship between effort expectancy and electronic tax filing adoption, was not supported. The result ($\beta = -0.117$, $t = 0.330$, $p > 0.05$) indicates that the effect of effort expectancy on ETFA has no difference among the four categories of work experience used in the research instrument.

Similarly, hypothesis 8, which postulated that there is a positive relationship between social influences and electronic tax filing adoption in Jordan, was not supported. The finding ($\beta = .054$, $t = 1.260$, $p > 0.05$) indicates that there is non-significant relationship between social influence and ETFA. Hypothesis 9 postulated that gender moderates the relationship between social influences and ETFA. The result ($\beta = -0.097$, $t = 3.279$, $p < 0.01$) indicates that the effect of social influences on ETFA is negative for female tax workers compared to males. Thus, hypothesis 9 is supported. Following the suggestion of Dawson (2014), the values of the path coefficients for the moderation effect of gender on the relationship between social influence and electronic tax filing was then plotted on a graph. Figure 5.8 shows the interaction effect.

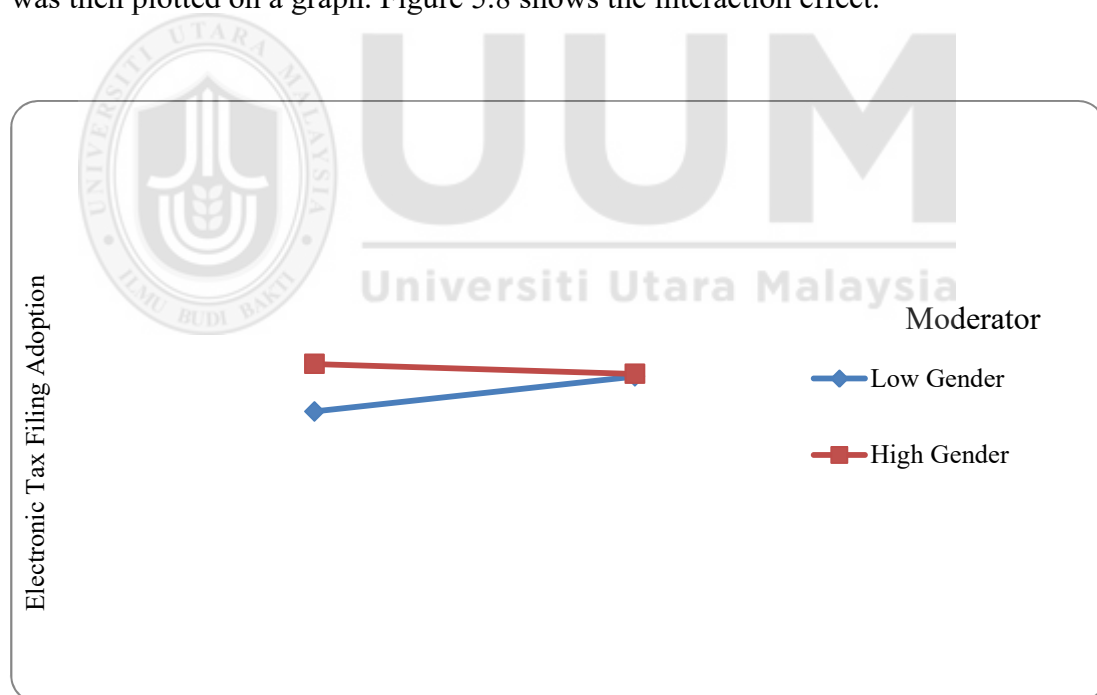


Figure 5.8 Interacting Effect of Gender and Social Influence in Explaining ETFA.

For hypothesis 10, it postulates that age moderates the relationship between social influences and electronic tax filing adoption. However, the result indicates non-

significant relationship between social influences and electronic tax filing adoption ($\beta = 0.054$, $t = 0.949$, $p > 0.05$), implying that the effect of social influences on ETFA has no difference across ages. Therefore, hypothesis 10 is not supported. Hypothesis 11 proposed that experience moderates the relationship between social influences and electronic tax filing adoption in the Jordanian tax department. However, the result ($\beta = 0.151$, $t = 1.572$, $p > 0.05$) indicates that the hypothesis is not supported.

Hypothesis 12 proposed that there is a positive relationship between facilitating conditions and electronic tax filing adoption. Based on the analysis, the results indicate that the hypothesis is supported ($\beta = 0.118$, $t = 2.353$, $p = 0.01$). Hypothesis 13 postulated that there is a positive relationship between training and electronic tax filing adoption. The result ($\beta = 0.126$, $t = 2.469$, $p = 0.01$) signifies that the hypothesis is supported. Hypothesis 14, which postulates that there is a positive relationship between IT technological sophistication and electronic tax filing adoption, was also supported, as follows ($\beta = 0.113$, $t = 2.307$, $p = 0.01$).

It was hypothesized by (H_{15}) that there is a positive relationship between IT informational sophistication and electronic tax filing adoption. However, the hypothesis is not supported because the result signifies non-significant and negative relationship between IT informational sophistication and electronic tax filing adoption ($\beta = -0.058$, $t = 1.492$, $p > 0.05$). Finally, hypothesis 16, which postulated that there is a positive relationship between ETFA and tax employee performance, is

supported, as the result indicates significant and positive relationship between ETFA and tax employee's performance ($\beta= 0.441$, $t= 11.473$, $p < 0.01$).

5.8.2.2 Assessment of the Level of R-square

Coefficient of determination popularly called R-square is another important criterion for assessing PLS-SEM structural model (Hair *et al.*, 2013; Hair *et al.*, 2011). R square explains the variance in the endogenous latent construct explained by one or more exogenous latent constructs in a research model (Hair *et al.*, 2013). R-square was offered by Chin (1998) who classified the R-square into 0.19, 0.33 and 0.67 that is weak, moderate, and substantial, respectively. A general guide line for the assessment of the R-square was offered by Falk and Miller, (1992) who recommended that R-square of 0.10 is the minimum acceptable level. Following these guidelines suggested from the previous researchers, the R-square of the current research model is presented in Table 5.14 and Figure 5.9 below.

Table 5.14
R-squares

| Endogenous Variables | Variance Explained |
|--------------------------------|---------------------------|
| Electronic Tax Filing Adoption | 39.5% |
| Employees' Performance | 19.4% |

As included in Table 5.14 and Figure 5.5 the variables involved in the research model explained 39.5% and 19.4% in the variation of the electronic tax filing and tax employee's performance respectively. More specifically, performance expectancy, effort expectancy, social influence, facilitating condition, training, IT technological sophistication and IT information sophistication jointly explained 39.5% of the

variation in the electronic tax filing. As for the electronic tax filing, it singularly explains 19.4% in the variation of tax employee's performance in the Jordanian Tax department. Thus, in line with the suggestions of Falk and Miller (1992) and Chin (1998), it can be deduced that the two endogenous variables revealed acceptable levels of R-squares.



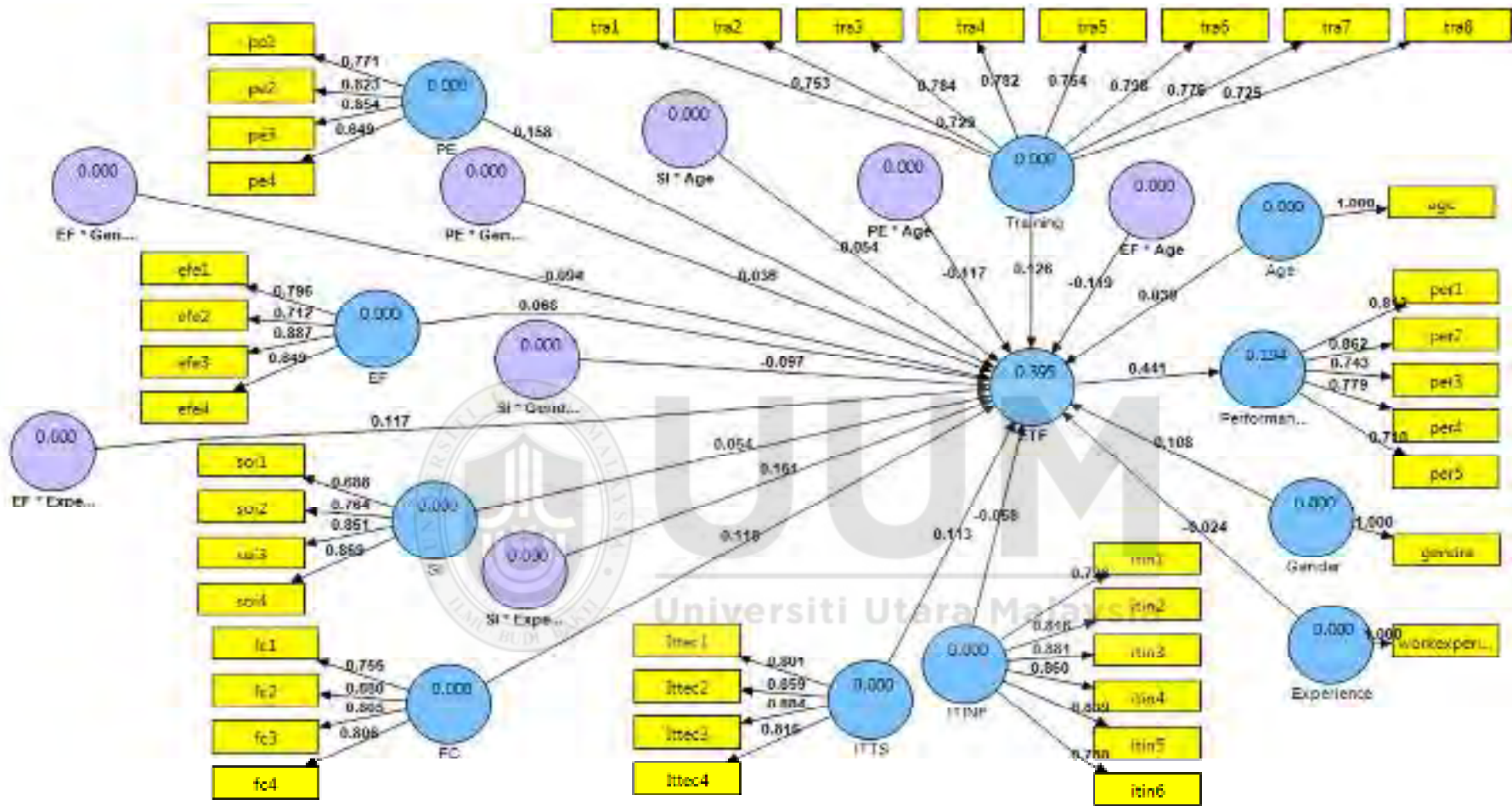


Figure 5.9 R-square of the Model

5.8.2.3 Evaluation of Effect Size

Effect size (f^2) is the third criterion used in the evaluation of PLS structural model. It was defined as the change in R-square of an endogenous latent construct contributed by a single exogenous construct (Chin, 1998; Hair *et al.*, 2011). Effect size is computed using a formula developed by Chin (1998) and Cohen (1988) as indicated below.

$$\text{Effect Size} = \frac{\text{R-squared Included} - \text{R-squared Excluded}}{1 - \text{R-squared Included}}$$

The classification is based on the recommendation of Cohen (1988) who classified f -squared into 0.02 as small, 0.15 as moderate, and 0.35 as substantial. Therefore, the results of the effect sizes of the independent variables on the dependent variables are presented in Table 5.15 below.

Table 5.15
Effect Size

| Exogenous Constructs | Endogenous Constructs | | | |
|---------------------------------|-----------------------|-------------|----------------------------|-------------|
| | Electronic Tax Filing | | Tax Employees' Performance | |
| | (f^2) | Effect Size | (f^2) | Effect Size |
| Performance Expectancy | 0.025 | Small | | |
| Effort Expectancy | 0.022 | Small | | |
| Social Influence | 0.033 | Small | | |
| Facilitating Condition | 0.010 | Very Small | | |
| Training | 0.010 | Very Small | | |
| IT Technological Sophistication | 0.007 | Very Small | | |
| IT Information Sophistication | 0.003 | Very Small | | |
| Electronic Tax Filing Adoption | | | 0.194 | Moderate |

It can be deduced based on Table 5.15 above that the effect sizes of performance expectancy, effort expectancy, social influence, facilitating condition, training, IT technological sophistication, and IT information sophistication on the electronic tax

filing are 0.025, 0.022, 0.033, 0.010, 0.010, 0.007, and 0.003 that can be classified as small, small, small, very small, very small, and very small, respectively. However, the effect size of Electronic Tax Filing on Tax Employees' Performance is 0.194 which can be classified as moderate.

5.8.2.4 Evaluation of Predictive Relevance

Predictive relevance (Q2) is the last criterion for PLS structural model evaluation; it measures the degree to which a research model predicts the omitted data cases (Chin, 1998; Hair *et al.*, 2013). The most commonly applicable method for computing a predictive relevance is blindfolding the popularly called Stone-Geisser test (Geisser, 1974; Stone, 1974). The test of predictive relevance based on Stone-Geisser test is considered as supplementary methods for testing PLS-SEM's goodness-of-fit (Duarte & Raposo, 2010). In using PLS-SEM, the predictive relevance is only computed when the variables in a research model are reflective in nature (Sattler, Völckner, Riediger & Ringle, 2010). The most commonly approach in assessing the predictive relevance is a cross-validated redundancy measure (Geisser, 1974; Stone, 1974; Hair *et al.*, 2011; Hair *et al.*, 2013). It was posited that any research model with Q2 above zero is considered to have a predictive relevance (Hair *et al.*, 2011). The results of the predictive relevance of the current research model are presented in Table 5.16 below.

Table 5.16
Predictive Relevance

| Total | SSO | SSE | 1-SSE/SSO |
|--------------------------------|------------|------------|------------------|
| Electronic Tax Filing Adoption | 1224.000 | 986.020 | 0.194 |
| Employees' Performance | 1020.000 | 893.473 | 0.124 |

Table 5.16 shows that the current research model has a predictive relevance, because the two endogenous latent constructs in the model have a Q2 larger than zero, implying a good predictive relevance of the model.

5.8.2.5 Evaluation of Strength of the Moderation Effects

Cohen's (1988) effect size is the most commonly applied method for evaluating the strength of the moderating effect. It is determined by comparing the main effect model which consists of only the direct effects with the full model that consists of both direct and indirect effects (Henseler & Fassott, 2010). The strength of the moderating effects is evaluated using the formula developed by Cohen (1988) and Henseler and Fassott (2010). The formula is expressed below.

$$\text{Effect Size of a Moderator} = \frac{R^2 \text{ Model with moderator} - R^2 \text{ model without moderator}}{1 - R^2 \text{ model with moderator}}$$

It is worth mentioning that there are three moderators that are gender, age, and experience. Gender was proposed as a moderating variable in the relationship between three exogenous variables that are performance expectancy, effort expectancy, and social influence, and the endogenous variable which is the electronic tax filing. Age was also proposed as a moderating variable in the relationship between three

relationship between three exogenous variables that are performance expectancy, effort expectancy, and social influence, and an endogenous variable which is the electronic tax filing. Finally, experience was proposed as a moderating variable between two exogenous variables that are effort expectancy and social influence and the endogenous latent construct which is the electronic tax filing. Following the formula expressed above, the effects sizes of the moderating variables are contained in Table 5.17 below.

Table 5.17
Effect Size of Moderators

| Moderators | R-square Included | R-square Excluded | (f²) | Effect Size |
|-------------------|--------------------------|--------------------------|------------------------|--------------------|
| Gender | 0.395 | 0.366 | 0.048 | Small |
| Age | 0.395 | 0.351 | 0.073 | Small |
| Experience | 0.395 | 0.373 | 0.036 | Small |

Table 5.17 demonstrates that all the effect sizes of the three moderating variables, age, gender, and experience, are 0.048, 0.073 and 0.036 which can be classified as small effects, respectively, given the position of Cohen (1988) who categorized f-squared of 0.02 as small, 0.15 as moderate, and 0.35 as substantial

5.9 Summary of Findings and Hypotheses Testing

Table 5.18 involves the summary of the hypotheses results of this research. Out of 16 hypotheses, nine hypotheses were supported, whereas the other seven hypotheses were not supported.

Table 5.18
Summary of Findings

| Hypotheses | Statement | Finding |
|-------------------|--|----------------|
| H ₁ | There is a positive relationship between performance expectancy and Electronic Tax Filing adoption. | Supported |
| H ₂ | Gender moderates the relationship between performance expectancy and Electronic Tax Filing adoption. | Not Supported |
| H ₃ | Age moderates the relationship between performance expectancy and Electronic Tax Filing adoption. | Supported |
| H ₄ | There is a positive relationship between effort expectancy and Electronic Tax Filing adoption. | Not Supported |
| H ₅ | Gender moderates the relationship between effort expectancy and Electronic Tax Filing adoption. | Supported |
| H ₆ | Age moderates the relationship between effort expectancy and Electronic Tax Filing adoption. | Supported |
| H ₇ | Experience moderates the relationship between effort expectancy and Electronic Tax Filing adoption. | Not Supported |
| H ₈ | There is a positive relationship between social influences and Electronic Tax Filing adoption. | Not Supported |
| H ₉ | Gender moderates the relationship between social influences and Electronic Tax Filing adoption. | Supported |
| H ₁₀ | Age moderates the relationship between social influences and Electronic Tax Filing adoption. | Not supported |
| H ₁₁ | Experience moderates the relationship between social influences and Electronic Tax Filing adoption. | Not Supported |
| H ₁₂ | There is a positive relationship between facilitating conditions and Electronic Tax Filing adoption. | Supported |
| H ₁₃ | There is a positive relationship between training and Electronic Tax Filing Adoption. | Supported |
| H ₁₄ | There is a positive relationship between IT Technological Sophistication and Electronic Tax Filing Adoption. | Supported |
| H ₁₅ | There is a positive relationship between IT Informational Sophistication and Electronic Tax Filing Adoption. | Not Supported |
| H ₁₆ | There is a positive relationship between Electronic Tax Filing adoption and tax employee's performance. | Supported |

5.10 Summary of the Chapter

Chapter presented the analyses and the results. Initially, the research instrument distribution and response rate were analyzed, which was followed by the demographic profiles of respondents. Data screening and preliminary analyses were also presented. The chapter primarily contained the PLS path models results for both the measurement model and the structural model. Having tested the 16 hypotheses, it was found that 9 were supported, whereas the other 7 were not supported.



CHAPTER SIX

DISCUSSION AND CONCLUSIONS

6.1 Introduction

This chapter discusses the results of the study in the context of the research questions, hypotheses and literature review. It also focuses on the discussion of the research findings on the basis of the analysed and presented results in the previous chapter. In addition, the chapter presents the theoretical and practical contributions and implications of the findings of this study. Moreover, the chapter highlights the research limitations and offers the direction for future research. In the final section, a conclusion is stated.

6.2 Overview of the Findings of the Study

The current study primarily assesses the influence of performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication, and IT informational sophistication on the electronic tax filing adoption and the subsequent effect of the electronic tax filing adoption on tax employees' performance in the ISTD. The study also investigates the moderating effect of the demographic factors on the relationship between a number of independent variables and the dependent variable. Overall, this study has succeeded in advancing the state of knowledge on the factors that predict electronic tax filing

adoption and employees' performance by achieving the following research objectives and hypotheses summarized in Table 6.1.

Table 6.1
Summary of Objectives and Hypotheses

| Research objectives | Hypotheses |
|---|---|
| To examine the relationship between performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication, IT informational sophistication, and the electronic tax filing adoption in Jordan. | <p>H₁: There is a positive relationship between performance expectancy and electronic tax filing adoption.</p> <p>H₄: There is a positive relationship between effort expectancy and electronic tax filing adoption.</p> <p>H₈: There is a positive relationship between social influences and electronic tax filing adoption.</p> <p>H₁₂: There is a positive relationship between facilitating conditions and electronic tax filing adoption.</p> <p>H₁₃: There is a positive relationship between training and electronic tax filing adoption.</p> <p>H₁₄: There is a positive relationship between IT technological sophistication and electronic tax filing adoption.</p> <p>H₁₅: There is a positive relationship between IT informational sophistication and electronic tax filing adoption.</p> |
| To examine whether the relationship between the performance expectancy and electronic tax filing adoption is moderated by demographic factors (gender and age) in Jordan. | <p>H₂: Gender moderates the relationship between performance expectancy and electronic tax filing adoption.</p> <p>H₃: Age moderates the relationship between performance expectancy and electronic tax filing adoption.</p> |
| To examine whether the relationship between effort expectancy and electronic tax filing adoption is moderated by a demographic factor (gender, age, and experience) in Jordan. | <p>H₅: Gender moderates the relationship between effort expectancy and electronic tax filing adoption.</p> <p>H₆: Age moderates the relationship between effort expectancy and electronic tax filing adoption.</p> <p>H₇: Experience moderates the relationship between effort expectancy and electronic tax filing adoption.</p> |
| To examine whether the relationship between social influence and electronic tax filing adoption moderated by a demographic factor (gender, age, and experience) in Jordan. | <p>H₉: Gender moderates the relationship between social influences and electronic tax filing adoption.</p> <p>H₁₀: Age moderates the relationship between social influences and electronic tax filing adoption.</p> <p>H₁₁: Experience moderates the relationship between social influences and electronic tax filing adoption.</p> |
| To examine the relationship between electronic tax filing adoption and tax employees' performance in Jordan. | <p>H₁₆: There is a positive relationship between electronic tax filing adoption and tax employees' performance.</p> |

Note: arrangement of the hypotheses were done in accordance with the research objectives.

Regarding the relationship between the independent variables and the dependent variables, the findings of this study indicated that of the 16 hypotheses, 9 were supported. The result of the PLS path model showed that the performance expectancy, facilitating condition, training, and IT technological sophistication are positively related to the electronic tax filing adoption. In contrast, effort expectancy, social influence, and IT informational sophistication were found negatively related to the electronic tax filing adoption.

With respect to the demographic factor as a moderator of the relationship between the independent variables and the dependent latent variables, some relationships were moderated by the demographic factors while some relationships were not moderated by the factors. Specifically, age was found to moderate the relationship between performance expectancy as well as effort expectancy and electronic tax filing adoption. On the other hand, age does not moderate the relationship between social influence and electronic tax filing adoption. In addition, gender moderates the relationship between effort expectancy as well as social influence and electronic tax filing adoption, but it does not moderate the relationship between performance expectancy and electronic tax filing adoption. Moreover, gender moderates the relationship between social influence and electronic tax filing adoption. However, experience does not moderate the relationship between effort expectancy and electronic tax filing adoption. Finally, electronic tax filing adoption was found to have a significant positive relationship with the employees' performance.

6.3 Discussion

In this section, the findings of the study were discussed in the light of the relevant theories and findings of previous research. The subheadings under this section were organized according to the research objectives.

6.3.1 First Research Objective

The first research objective of the current study examines the relationship between performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication, IT informational sophistication and electronic tax filing adoption in Jordan. The next subsection explains this objective in detail.

6.3.1.1 Performance Expectancy and Electronic Tax Filing Adoption

Regarding the first research hypothesis (H_1) and first research objective of this study, which examines the relationship between performance expectancy and electronic tax filing adoption, this section is dedicated to discussing it. Performance expectancy refers to the level at which a person perceives that adopting the system will aid him or her to accomplish gains in job (Venkatesh *et al.*, 2003). Hence, this study hypothesized that that performance expectancy is positively and significantly related to the electronic tax filing adoption (H_1). Regarding the proposed hypothesis, the result revealed a significant positive relationship between performance expectancy

and electronic tax filing adoption ($\beta = 0.158$, $t = 3.901$, $p < 0.01$). Thus, this result indicates that when the employees perceive that the adoption of electronic tax filing system would improve their job performance, they are more likely to adopt the new system.

This finding is congruent with the UTAUT theory (Venkatesh *et al.*, 2003) which proposes that performance expectancy will theoretically encourage the adoption of a new technology. UTAUT suggests that performance expectancy is the strongest predictor of an individual's behavioural intention to use an information system/technology and is significant at all points of measurement for mandatory and voluntary settings (Venkatesh *et al.*, 2003). This positive relationship is consistent with the findings of several studies conducted by Anderson *et al.* (2006), Bandyopadhyay and Fraccastoro (2007), Al-Gahtani *et al.* (2007), Chiu and Wang (2008), Wang and Shih (2009), McLeod *et al.* (2009), and Yuen *et al.* (2010) who demonstrated that performance expectancy is one of the main factors in the acceptance and the use of technology. For Carter *et al.* (2011), the performance expectancy is a significant factor that affects the Americans' intention to use the e-filing.

Likewise, Al-Gahtani *et al.* (2007) found results that are similar to the present study. They reported that performance expectancy has a direct positive effect on the intention to use desktop computers. Similarly, Chiu and Wang (2008) reported that performance expectancy is positively related to web-based learning usage. In another

study, performance expectancy was found to have a positive influence on the behaviour to adopt the e-government services by citizens (Alsheri *et al.*, 2012). Hence, the result of this study revealed that a high level of performance expectancy is an important factor in improving the perception towards the adoption of the electronic tax filing system. In short, this result suggests that tax employees, in the context of this study, have a high level of performance expectancy regarding the adoption of electronic tax filing system as it can help them to accomplish gains in job which in turn will result in a higher performance. In addition, the mean score of performance expectancy in the previous chapter indicates the employees' positive perception of the constructs in relation to ETF. Other studies that supported the findings of this study included Aziz and Idris (2014), Bierstaker, Janvrin, and Lowe (2014), Celik (2016), Lu and Nguyen (2016), Zawaideh (2016), Tarhini *et al.* (2016), Bhuasiri *et al.* (2016), Hoque and Sorwar (2017), and Nisha, Iqbal, Rifat, and Idrish (2016).

6.3.1.2 Effort Expectancy and Electronic Tax Filing Adoption

The first objective of the study examines the relationship between effort expectancy and electronic tax filing adoption. The study found that effort expectancy does not explain electronic tax filing adoption. In contrast to hypothesis four that effort expectancy is associated with the degree of ease associated with the use of the IT in the UTAUT theory (Venkatesh *et al.*, 2003), the finding of the present study shows that effort expectancy had no significant influence on the electronic tax filing adoption ($\beta = 0.068$, $t = 0.491$, $p > 0.05$). Most of the existing literature reported significant relationship between effort expectancy and BI, but the current study

found otherwise (i.e. no significant relationship between EE and ETFA). The likely reason for this could be that the previous studies examined it in the context of end user, but the current study focusses on employee, and not on taxpayer (the end-user). Also, the probable reason for this finding can be connected with the ease of use which is less important in predicting the employer's adoption in the context of this research. Besides, the finding of the current study is consistent with the findings of the most recent studies such as Celik (2016), Lu and Nguyen (2016), Zawaideh (2016), Tarhini *et al.* (2016), Bhuasiri *et al.* (2016), Hoque and Sorwar (2017).

Likewise, this finding is consistent with the result of previous studies like Abdulwahab and Zulkhairi (2012), Al-Gahtani *et al.* (2007), Alaiad *et al.* (2014), Algahtani *et al.* (2007), Anderson *et al.* (2006), Bierstaker *et al.* (2014), Celik (2016), Tarhini *et al.* (2016), and Wu *et al.* (2007) who found that the effect of effort expectancy on the behavioural intention or adoption is not significant. Abdulwahab and Zulkhairi (2012) explained that the ease of use becomes less relevant in technology acceptance few months after the system implementation in Nigeria. In Taiwan, Wu *et al.* (2007) revealed that effort expectancy does not influence the intention to adopt. In another related study, Foon and Fah (2011) investigated the determinants of the internet banking adoption in Malaysia using UTAUT theory. They reported that effort expectancy does not influence the behaviour to adopt a new technology. Hence, the result of this study revealed that a high level of tax employees' perception on the ease of use of the IT is not an influential factor in improving the adoption of e-tax filing. In short, this result shows that tax employees'

perception on the ease of use in the context of this study does not have influence on the ETF adoption.

6.3.1.3 Social Influences and Electronic Tax Filing Adoption

Venkatesh *et al.* (2003) define social influence as the level at which a person perceives that importance others believe he or she should use the new system. Accordingly, the first research objective examines the relationship between social influences and electronic tax filing adoption. Hypothesis eight stated that there is a positive relationship between social influences and electronic tax filing adoption. However, this study found that non-significant effect exists between social influence and electronic tax filing adoption as ($\beta = 0.054$, $t = 1.260$, $p > 0.05$).

The finding is consistent with the finding of Carlsson, Carlsson, Hyvonen, Puhakainen, and Walden (2006) who tested the UTAUT related to the European mobile consumers. They showed that performance expectancy and effort expectancy have a significant power to explain the intention to use mobile technology, whereas social influence does not have significant power to explain the intention to use mobile technology. According to Venkatesh and Davis (2000), the concept of social influence is complex since it involves compliance related to social pressure such as subjective norm. Thus, the result of social influence is influenced by environmental factors (e.g. norms, image and working environments). Under a mandatory condition

like in ISTD social influence seems to be significant only at early stages, and turns to be non-significant as when the employees get familiar with the system. This means that when the individual becomes familiar with the technology, the influence from others has no effect on the behavioural intention (Venkatesh *et al.*, 2003).

In addition, many researchers, such as Chau, Hu, Lee, and Au (2007), Schaper and Pervan (2007), Al-Sobhi *et al.* (2011), Alshehri *et al.* (2012), Anderson *et al.* (2006), Al-Sobhi *et al.* (2011), Aziz and Idris (2014), Nisha *et al.* (2016), Tarhini *et al.* (2016), Alaiad *et al.* (2014), and Abdulwahab and Zulkhairi (2012) found the effect of social influence on the intention or adoption to use a new technology insignificant.

6.3.1.4 Facilitating Conditions and Electronic Tax Filing Adoption

Facilitating condition refers to the level at which a person believes that an organizational and technical infrastructure exists to support the adoption of a new information technology (Venkatesh *et al.*, 2003). According to Aziz and Idris (2012), facilitating conditions are the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system. Facilitating condition is one of the significant factors that has been empirically supported by various studies to have a positive influence on the adoption a new technology. For example, the facilitating factor has been used to predict the technology acceptance (Schaupp *et al.*, 2010; Carter *et al.*, 2011). Venkatesh *et al.* (2003) indicated that the facilitating conditions construct is a good predictor of using information technology. Facilitating condition, like money and time, was mentioned

by Taylor and Todd (1995) as a motivating factor that encourages a person to use a particular system.

Consistent with (H₁₂), a significant positive relationship between the facilitating conditions and the electronic tax filing adoption was found ($\beta = 0.118$, $t = 2.353$, $p = 0.01$). Several empirical studies indicated that facilitating condition is an important key for technology adoption (Aziz & Idris, 2014; Bierstaker *et al.*, 2014; Zawaideh, 2016; Venkatesh *et al.*, 2003, 2011, 2012; Al-Sobhi *et al.*, 2011; Foon & Fah, 2011; Suki & Ramayah, 2010; Abdulwahab & Dahalin, 2011; Selim, 2007; Jong & Wang, 2009). For example, Venkatesh *et al.* (2003) found that the facilitating condition has positively influenced the usage of information technology platform. This result is also similar to Schaupp *et al.* (2010) and Carter *et al.* (2011) who found that three out of the four UTAUT constructs have a significant influence on the effect of the Americans' intention to use e-filing. Other studies (Maldonado, Khan, Moon & Rho, 2011; Wu *et al.*, 2007) found that the facilitating conditions construct has a significant effect on the user's innovation. They also found that it is a significant predictor of the technology use. Hence, this result suggests that the electronic tax filing adoption in the context of this study needs to have a good facilitating condition which will result in a higher organizational acceptance to adopt e-tax system.

6.3.1.5 Training and Electronic Tax Filing Adoption

Training is a systematic activity which is planned through an enhanced level of skill, knowledge and competency that are necessary to perform the work effectively (Gordon 1992). Training is a process which entails concepts, rules, knowledge

acquisition, skills, and changing attitude which enhance the employees' performance (Khan, 2012). It enhances the individual employees' self-commitment, which consequently helps the individual work effectively. Training consists of an organization's planned effort which will aid workers to work-related skills, knowledge, and behaviour with the objectives of applying these on the job (Noe *et al.*, 2009).

Regarding (H₁₃), the current study found a significant relationship between training and electronic tax filing adoption ($\beta = 0.126$, $t = 2.469$, $p = 0.01$). This result suggests that employees' training significantly influences the adoption of electronic filing tax adoption by tax employees in Jordan. This finding is consistent with previous studies (e.g. Venkatesh 1999) that investigated the role of training in technology adoption and the intention to use. The majority of the studies (Venkatesh 1999) agreed that training plays a critical role in enhancing the technology adoption and use. Beardwell *et al.* (2003) found that the success of technological changes in the organization often requires additional employees' training to improve their skills and ability. Therefore, a continuous investment in employees' training and development is important for the employees' performance. Boothby *et al.* (2010) and Sharma and Yetton (2007) found that training influences the user's intention to adopt technology. In addition, Piccoli, Ahmad, and Ives (2001), Venkatesh (1999), and Venkatesh (1999) reported that the likelihood of using ICT system depends on the satisfaction that users gained during training.

In the same vein, the research conducted by Al-Ansi Ismail & Al-Swidi (2013) corroborate the findings of the current study. The research found that IT-related training influences IT utilization positively. In addition, Bedard *et al.* (2003) and Bierstaker, Janvrin. and Lowe (2014), in their studies, confirmed that training has a positive effect on the technology acceptance and utilization.

6.3.1.6 IT Technological Sophistication and Electronic Tax Filing Adoption

IT technological sophistication denotes extensive adoption and usage of less complex and less interdependent IT to facilitate the effective operation in the organization (Mishra & Agarwal, 2010). The sophistication of IT structure determines the successful implementation of IT project. Invariably, when an appropriate IT structure is developed, the process of incorporating the newly developed technology with the existing ones is carried out with ease and cost effectively (Iacovou, Benbasat & Dexter 1995; Pflugheoft *et al.*, 2003). Regarding hypothesis fourteen, the result of this study supported that technological sophistication is a significant predictor of the intention to adopt electronic tax filing and employees' performance ($\beta = 0.113$, $t = 2.307$, $p = 0.01$). The findings of this study on the linkage between technological sophistication and electronic tax filing adoption give support to the theoretical proposition that technological sophistication determines the successful adoption of IT project. It indicates that increasing IT technological sophistication will lead to an increase in technology acceptance and the overall tax employees' performance. This suggests that IT technological

sophistication is critically important to the acceptance of electronic tax filing and employees' performance in Jordan.

This finding is also consistent with the extant literature which supports a positive relationship between IT technological sophistication and the intention to adopt and the employees' performance (Pflughoeft *et al.*, 2003; Dembla Palvia & Krishnan, 2007). For example, Ismail and King (2007) reported a significant relationship between IT technological sophistication and AIS alignment. Accordingly, firms with sophisticated IT are more likely to adopt a new technology more than those that are not. Similarly, Pflughoeft *et al.* (2003) found that a high IT technological sophistication is positively associated with the more extensive web usage. In this regard, Dembla *et al.* (2007) submitted that IT technological sophistication leads to e-business adoption.

6.3.1.7 IT Informational Sophistication and Electronic Tax Filing Adoption

Information sophistication can be operationally defined as the adoption and usage of simple and interdependent IT for the improvement of employees' portfolio, including transactional and administrative portfolio (Rai *et al.*, 2009). According to Targowski and Tarn (2007), information system implementation affects the application of portfolio. Therefore, this study predicts a positive relationship between the informational sophistication and electronic tax filing adoption in Jordan. In contrast to this expectation, this study found that the informational sophistication has a non-significant influence on the electronic tax filing adoption ($\beta = -0.058$, $t =$

1.492, $p > 0.05$). These results are consistent with Ismail (2007), Weill (1992), and Raymond, Croteau, and Bergeron, (2011). This implies that the introduction of informational sophistication in ISTD has caused confusion for tax employees in utilizing ETF, and this has consequently hampered their performance.

Also, the probable reason for this result might be that the variable is a newly introduced variable in the ETF research area. Reviewing the literature indicated non-existence of research on the relationship between IT informational sophistication and ETF adoption. Hence, this study appears to be one of the first studies that examines this relationship, and the results showed a negative relationship between the IT informational sophistication and ETF adoption.

Some of the studies (e.g. Cragg and King, 1992; Raymond *et al.*, 1995) on IT have revealed non-significant relationship between IT and performance. The reason for this has been given by the scholars that IT is an indispensable tool, but it is not enough by itself to be really effective. It can rather be linked with other factors bordering on the organizational information requirements (Chang & Lee, 1992). According to Egelhoff (1982), the effectiveness of IT will hinge on information requirements, which is represented by the availability of that information. Also, studies, such as Levy *et al.* (2001) and Levy and Powell (2000), have signified that IT utilization (e.g. IT informational sophistication) can lead to numerous advantages to organizations, including increase in the performance.

In a firm where sophisticated IT is used, there would be more available information which will consequently give rise to increased information accessibility to support decision makings. Firms with extensive IT resources and sophisticated IT resources can bring about competitive edge by deploying them in supporting or fortifying the business (Ismail, 2007).

Given the above discussion, the result of this research on the relationship between IT informational sophistication is not conclusive but is a starting point for future research.

6.3.1.8 Summary of the First Objective

Generally, the first objective, which aimed to examine the relationship between performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication, IT informational sophistication, and electronic tax filing adoption in Jordan, has been achieved. Under the first objective, seven hypotheses were designed. Four hypotheses, involving the relationship between performance expectancy, facilitating condition, training, and IT technological sophistication and ETF, were supported. However, the remaining three hypotheses, bordering on the relationship between effort expectancy, social influence, and IT informational sophistication, were not supported. Thus, this research signifies that performance expectancy, facilitating condition, and IT

technological sophistication influence ETF positively. However, effort expectancy, social influence, and IT informational sophistication do not influence ETF.

6.3.2 Second Research Objective

The second research objective of the current study examines whether the relationship between the performance expectancy and electronic tax filing adoption is moderated by demographic factors (gender and age) in Jordan. The next subsection explains this in detail.

6.3.2.1 Moderating Effect of Gender on the Relationship between Performance Expectancy and Electronic Tax Filing Adoption

The second hypothesis (H_2) states that gender moderates the relationship between performance expectancy and electronic tax filing adoption, and it was tested. The result was not supported ($\beta = 0.036$, $t = 0.771$, $p > 0.05$); it revealed that the relationship between performance expectancy and electronic tax filing adoption was not moderated by gender. This translates to the fact that there is no difference between males and females on the influence of performance expectancy on electronic tax filing in Jordan. This means that gender does not moderate the relationship between performance expectancy and electronic tax filing adoption in Jordan. According to Venkatesh *et al.* (2003), performance expectancy is a strong

predictor of the behavioural intention in both voluntary and mandatory settings with respect to information technology acceptance. Therefore, the result of this study is opposing the second hypothesis; the statistics revealed that the relationship between electronic tax filing adoption and performance expectancy is not moderated by gender.

The implication of this finding is that the decision to electronic tax filing adoption consequence on performance expectancy is not dictated by the gender of the employees. Therefore, there is no difference between both men and women on their performance expectancy, suggesting that both think alike regarding their perceptions towards the performance expectancy of the electronic tax system. This finding is consistent with those of Alsheri *et al.* (2012), Phichitchaisopa and Naenna (2013), Marchewka and Kostiwa (2007), Marchewka and Kostiwa (2014), Celik (2016), and Phichitchaisopa and Naenna (2013) who investigated the factors that affect healthcare information technology adoption in Thailand. They reported an insignificant moderating effect of gender on the relationship between performance expectancy and electronic tax filing adoption. Hence, the result of this study suggests that gender of the tax employees does not significantly enhance the relationship between performance expectancy and electronic tax filing adoption.

6.3.2.2 Moderating Effect of Age on the Relationship between Performance Expectancy and Electronic Tax Filing Adoption

The third hypothesis (H₃) examines the moderating effect of age on the relationship between performance expectancy and electronic tax filing adoption. Consistent with this research objective, the third hypothesis of this study aimed at understanding the moderating effect of age on performance expectancy and electronic tax filing adoption. The UTAUT theory addresses the role of age difference in the areas of technological acceptance and usage in workplace. It is argued that physiological process declines with age. Hence aged workers are less likely to get along with complex information processing (Birren, Woods & Williams, 1980). In addition, aged workers find it difficult to adjust or get along with new processes because they are more comfortable working with process that they are familiar with. Consistent with this theoretical proposition, this study found that age moderates the relationship between performance expectancy and electronic tax filing adoption. This suggests a difference in age perception about the relationship between performance expectancy and electronic tax filing adoption ($\beta = -0.117, t = 1.883, p < 0.05$).

Hence, technology adoption is more important for young workers and the influence of older work force is more silent. The implication of this result is consistent with the argument that technology adoption has more influence for younger people (Abushanab & Pearson, 2007). This indicates that junior workers easily accept technological innovation and have more confidence in electronic tax filing adoption. In addition, junior workers are more eager to improve their service delivery. This view is consistent with similar studies, such as Plude and Hoyer (1985) who found that age is associated with the difficulty to process complex stimuli and allocating attention to task relevant information. Similarly, Moris and Venkatesh (2000) found

that there is a relationship between age and technology adoption and usage. In this regard, Abushanab and Pearson (2007) examined the factors that influence internet banking adoption in Jordan. According to their findings, age moderates the relationship between internet banking adoption and performance expectancy.

6.3.2.3 Summary of Second Research Objective

In sum, the second objective examines whether the relationship between the performance expectancy and electronic tax filing adoption is moderated by demographic factors (gender and age) in Jordan. This objective has two hypotheses; one of the hypotheses was supported, whereas the other was not supported. The hypothesis (H₃) which was supported implies that age moderates the relationship between performance expectancy and ETF adoption. On the other hand, the second hypothesis (H₂), which was not supported, signifies that gender moderates the relationship between performance expectancy and ETF adoption. Thus, this objective has been accomplished. Therefore, the findings of the current study indicate that age difference has its role in the areas of technological acceptance and usage in workplace, and that aged workers find it difficult to adjust or get along with new process because they are more comfortable working with the process they are familiar with. Conversely, the finding of this research indicates that there is no difference between males and females in the influence of performance expectancy on electronic tax filing in Jordan.

6.3.3 Third Research Objective

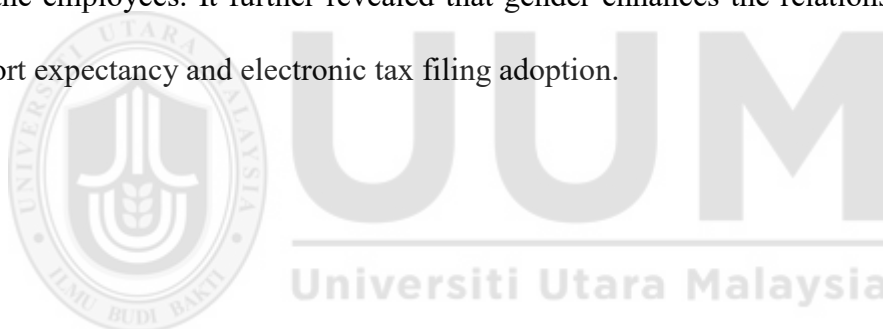
The third research objective of the current study examines whether the relationship between effort expectancy and electronic tax filing adoption is moderated by a demographic factor (gender, age, and experience) in Jordan. The next subsection explains this in detail.

6.3.3.1 Moderating Effect of Gender on the Relationship between Effort Expectancy and Electronic Tax Filing Adoption

In line with this research objective, the fifth hypothesis (H₅) of this study investigated the relationship between effort expectancy and electronic tax filing adoption as moderated by gender. According to research on gender differences, men tend to be more highly task-oriented more than women (AlAwadhi & Morris 2008). Effort expectancy is the level of ease connected with the use of the system (Venkatesh *et al.*, 2003). Morris and Venkatesh (2000) explained that women are more sensitive to others' opinion and reported that peer influence was more significant to women in the intention to use technology. Consistent with the fifth hypothesis, it was found that the relationship between electronic tax filing adoption and effort expectancy is moderated by gender ($\beta = -0.094$, $t = 3.027$ $p < 0.01$).

The finding of this study is consistent with previous studies like Marchewka & Kostiwa (2007), Choudrie and Lee (2004), and Morris and Venkatesh (2000) who investigated the role of gender on the adoption and usage of technology. For example, Venkatesh *et al.* (2000) found that male users use a computer more than

females, which reveals the importance of gender in technology acceptance. In this aspect, Venkatesh *et al.* (2003) found that the effect of perceived usefulness on the behavioural intention was moderated by gender. In this research, the authors followed Dwivedi and Lal's (2007) proposition that gender (as a social variable) can be considered as a moderating variable to explain the differences between adopters and non-adopters of technology (e-government). Alsheri *et al.* (2012) found that gender does not moderate the relationship between effort expectancy and the behavioural intention to use e-government. This finding implies that the decision to adopt electronic tax filing consequence on effort expectancy is influenced by gender of the employees. It further revealed that gender enhances the relationship between effort expectancy and electronic tax filing adoption.



6.3.3.2 Moderating Effect of Age on the Relationship between Effort Expectancy and Electronic Tax Filing Adoption

The sixth Hypothesis (H_6) investigated the relationship between effort expectancy and electronic tax filing adoption as moderated by age. The UTAUT stated that age moderates based on the argument that young individuals are more receptive to new information system because of their early exposure to the technology environment, hence they adopt and accept it (Morris & Venkatesh, 2000). In developed countries specifically, the younger generation are exposed to the technology environment right

from their tender age. According to this proposition, the present study found that age moderates the relationship between effort expectancy and electronic tax filing ($\beta = -0.119$, $t = 2.342$, $p < 0.05$). It can be concluded based on this finding that the age of tax employees in Jordan, most specifically younger employees, has influence on high effort expectancy of the employees towards the adoption of electronic tax filing.

The finding is consistent with those of other studies (i.e. Celik, 2016; Morris & Venkatesh, 2000) in similar areas that found evidences of the significant, direct and moderating effect of age on the intention to adopt and use a new technology. Specifically, Venkatesh *et al.* (2000) reported that the age group of those adopting a computer in USA falls in the middle age. This suggests that those in the middle age groups are indifferent to adoption, whereas the older group is less likely to adopt. Abu Shanab and Pearson (2007) and Phichitchaisopa and Naenn (2013) also replicated the UTAUT theory to test the internet banking adoption in Jordan and health care information technology adoption in Thailand. It was found that age significantly moderates the relationship between effort expectancy and adoption. Therefore, the finding of this study supported the assertion of UTAUT by indicating that age of the tax employees in the context of this study moderates the relationship between effort expectancy and the adoption of electronic tax filing. In addition, in this digital age, young employees are more receptive of technology than older employees because they use technology in almost all the spheres of their lives (Phichitchaisopa & Naenn, 2013). Older people tend to exhibit high levels of computer anxiety and resistance to adopt new information technology.

6.3.3.3 Moderating Effect of Experience on the Relationship between Effort Expectancy and Electronic Tax Filing Adoption

The seventh hypothesis (H₇) examined the moderating effect of experience on the relationship between effort expectancy and electronic tax filing adoption. The present finding found no significant moderating effect of experience on the relationship between effort expectancy and electronic tax filing adoption ($\beta = 0.117$, $t = 0.356$, $p > 0.05$). This indicates that the effect of effort expectancy on electronic tax filing has no difference among the four categories of work experience used in the research instrument. The possible explanation for this finding is that the study was conducted after the adoption of ETF; therefore, the moderating effect of experience would have worn off by the time the study was conducted. The non-significant effect of experience on the relationship between effort expectancy and electronic tax filing adoption could be explained by the fact that the system is new and the experience of the employees is at the same level. Thus, experience does not moderate the relationship between effort expectancy and electronic tax filing adoption. In addition, it is not necessary that experience moderates the relationship between EE and ETFA, given that the employees might have started working at younger age or immediately after his/her graduation from university. Such employees grow in age as well as in working experience. So, experience would likely be of no value to technology use since he/she might have been familiar with it since the beginning of his/her employment.

According to the UTAUT theory, when users acquire some knowledge about a new technology by virtue of past usage of a similar technology, such individuals will have more knowledge sources when learning a new IT. Consequently, the effort expectancy might not be a big issue. Accordingly, the moderating effect of experience wears off over time (Venkatesh *et al.*, 2003). The result is consistent with the empirical findings of Middleton and Chambers (2010) who reported an insignificant effect of experience on UB. In addition, Taylor and Todd (1995) established differences between experienced users and inexperienced users towards the adoption of a new technology.

6.3.3.4 Summary of the Third Objective

Overall, the third objective examined whether the relationship between effort expectancy and electronic tax filing adoption is moderated by a demographic factor (gender, age, and experience) in Jordan. This objective has three hypotheses; two hypotheses were supported, whereas the remaining one was not supported. The hypotheses which were supported indicate that age and gender moderate the relationship between effort expectancy and ETF adoption. However, the third hypothesis (H₃), which was not supported, indicates that experience does not moderate the relationship between performance expectancy and ETF adoption. Thus, this objective has been accomplished. In short, this study established that men tend to be more highly task-oriented more than women, and that peer influence was more significant to women in the adoption of technology. Also, young individuals are more receptive to a new information system because of their early exposure to the technology environment, and thus they adopt and accept it. Users acquire some

knowledge about a new technology by virtue of past usage of a similar technology; such individuals have more knowledge sources when learning a new IT. Consequently, the effort expectancy might not be a big issue.

6.3.4 Fourth Research Objective

The fourth research objective of the current study examined whether the relationship between social influence and electronic tax filing adoption moderated by a demographic factor (gender, age, and experience) in Jordan. The next subsection explicates this in detail.

6.3.4.1 Moderating Effect of Gender on the Relationship between Social Influences and Electronic Tax Filing Adoption

The study seeks to understand the moderating effect of gender on the relationship between social influence and electronic tax filing adoption. In line with the expectations, this study found a significant moderating effect of gender on the relationship between social influences and electronic tax filing adoption ($\beta = -0.097$, $t = 3.279$, $p < 0.01$). The research conducted by Celik (2016) also supported this finding. This implies that there is a significant gender difference with respect to the electronic tax filing adoption. The result of this finding is in line with the general argument that in an IT behavioural research the decision-making process differs between women and men (Venkatesh & Morris, 2000). More related to the social influence construct is the perception that women have great feelings for others and could easily influence others (Venkatesh & Morris, 2000). Consistent with the

gender difference argument, Cheng *et al.* (2011) observed that social influence influenced the behavioural intention to use m-learning more strongly by women more than men because women are generally more empathic than men. In addition, Abu Shanab and Pearson (2007) found that social influence was moderated by gender with the implication that females had a stronger effect.

Hence, the result of this study revealed that a high level of social influences with the effect of gender improves the adoption of electronic tax filing system in the context of this study. This also supports the assertion of UTAUT theory.

6.3.4.2 Moderating Effect of Age on the Relationship between Social Influences and Electronic Tax Filing Adoption

With respect to the moderating effect of age on the relationship between social influences and electronic tax filing adoption, the study found no significant effect ($\beta = -0.054$, $t = 0.949$, $p > 0.05$), implying that the effect of social influences on electronic tax filing adoption has no difference across ages. The implication of the finding is that age difference does not influence the relationship between social influences and electronic tax filing. A plausible explanation for this result is the secretiveness in age. In addition, the result is expected since all the employees across age categories have access to technologies in Jordan. Thus, the findings are in line with other extant studies, like Marchewka and Kostiwa (2014) and Khan *et al.* (2010, 2012). Alsheri *et al.* (2012) did not find any significant moderating effect of age on the relationship between social influence and electronic tax filing adoption.

6.3.4.3 Moderating Effect of Experience on the Relationship between Social Influences and Electronic Tax Filing Adoption

Following the moderating effect of age, the study examined the moderating effect of experience on the relationship between social influence and electronic tax filing adoption. Experience is defined as an opportunity to use a target technology, and is typically operationalized as the passage of time from the initial use of technology by an individual (Kijisanayotin, Pannarunothai & Speedie, 2009). Hypothesis eleven stated that experience plays a moderating role between social influence and electronic tax filing adoption. In line with the proposition, the study found that experience does not moderate the relationship between social influences and electronic tax filing adoption ($\beta = 0.151$, $t = 1.572$, $p > 0.05$).

The finding is consistent with prior studies, such as Al-Gahtani *et al.* (2007), Alshehri *et al.* (2012), Phichitchaisopa & Naenna (2013), Mahzan & Lymer (2014), and Celik, (2016). The probable reason for this is that, based on the position of Phichitchaisopa and Naenna (2013) in their research, tax employees, regardless of their working experience, do not need to perceive pressure from social influences. That is to say, their decision to adopt ETF is not influenced by any pressure from other people in ISTD.

6.3.4.4 Summary of Fourth Research Objective

In conclusion, the fourth objective examined whether the relationship between social influence and electronic tax filing adoption is moderated by a demographic factor (gender, age, and experience) in Jordan. This objective has three hypotheses; one of

the hypotheses was supported, whereas the remaining two were not supported. The hypothesis which was supported indicates that gender moderates the relationship between effort expectancy and ETF adoption. On the other hand, the second and third hypotheses, which were not supported, indicate that age and experience do not moderate the relationship between performance expectancy and ETF adoption.

Thus, as earlier stated, these findings indicate that women have great feelings towards others, and could easily influence them. In addition, the social influence influenced the behavioural intention to use ETF more strongly for women more than men because women are generally more empathic than men. Nevertheless, the finding indicates that age difference does not influence the relationship between social influences and electronic tax filing because of the secretiveness in age, and all the employees across age categories have access to technologies in Jordan. In addition, tax employees regardless of their working experience do not succumb to pressure from social influences, and their acceptance of ETF is not influenced by pressure from other people in ISTD.

6.3.5 Fifth Research Objective

The Fifth research objective of the current study examined the relationship between electronic tax filing adoption and tax employee's performance in Jordan. The next subsection explains this in detail.

6.3.5.1 Electronic Tax Filing Adoption and Tax Employees' Performance

Consistent with the last hypothesis (H_{16}), the results revealed a significant positive relationship between electronic tax filing adoption and tax employees' performance ($\beta = 0.441$, $t = 11.473$, $p < 0.01$). The findings suggest that the adoption of electronic tax filing improves tax employees' performance. This finding is congruent with DeLone and McLean's (1992) theoretical proposition that information technology positively impacts the individual's performance. DeLone and McLean (1992) reported that both actual technology usage and the attitude towards its usage have positive impacts on the individual's performance. Subsequently, empirical studies provided support for this theory. In addition, it is found that the user's attitude toward technology adoption improves the individual's performance, and also that the technology utilization and technology-fit are important predictors of the employees' performance.

The findings of this study are consistent with Devaraj and Kohli (2003), who reported a positive linkage between technology usage and performance. In this aspect, Luarn and Huang (2009) investigated the implication and consequences of information systems on the government employees' performance, and documented that task-technology fit, computer self-efficacy, and technology utilization have an influence on the employees' performance. The results of this study suggest that the adoption of electronic tax filing system positively influences the performance of tax employees'. Therefore, electronic tax filing systems needs tax organisation to improve their employees' performance.

Regarding Tasks-Technology Fit (TTF) theory, it signifies the nexus between the information technology and the individual's performance. This theory posits that information technology can have a positive impact on the individual's performance (Goodhue & Thompson, 1995). Similarly, DeLone and McLean (1992) found that actual technology usage and the attitude towards usage have positive impacts on the individual's performance.

6.3.5.2 Summary of Fifth Research Objective

The final research objective with its corresponding hypothesis 16 was achieved. This objective examines the relationship between electronic tax filing adoption and tax employees' performance. The hypothesis, which indicates that there is a positive relationship between electronic tax filing adoption and tax employees' performance, was supported. Consequently, the result of this study signifies that ETFA can boost and enhance the employees' performance.

6.4 Implications of the Study

Based on the data analysis and the results of this study, it can be asserted that this research has provided some theoretical and practical contributions within and outside the global academic field. The following subsections discuss these aspects in detail.

6.4.1 Theoretical Contribution

The current study has its foundation built on extant literatures on technological adoption. Based on this, the current study's theoretical gaps were identified. The gaps identified were supported and explained in line with UTAUT and TTF theories. Therefore, based on the theoretical framework and the context of this study as well as the discussion of the current study's findings, this study has succeeded in making few theoretical contributions in the research of technology adoption, employees' performance, and electronic tax filing adoption.

First and foremost, it is evident based on the literature that very few studies have been conducted in the accounting field and electronic tax filing in the Middle East region, especially in the context of Jordan. It can be said that, in some Asian countries, such as Malaysia, Taiwan, India and Thailand, some studies were conducted on adopting electronic tax filing. Consequently, this current study can be considered as one of the first studies that adopted the electronic tax filing in ISTD within the Jordanian context. Hence, the current study has made a contribution to the extant studies since it revealed the relationship between performance expectancy, effort expectancy, social influence, facilitating conditions, IT technological sophistication, IT informational sophistication, training and electronic tax filing adoption, as well as the employees' performance in the Jordanian context. However, the related literature has not provided any empirical evidence of studies conducted in the Jordanian context. Consequently, this study has provided further demographic bases for comparative studies and further validation that relates to a significant

relationship between performance expectancy, effort expectancy, social influence, facilitating conditions, IT technological sophistication, IT informational sophistication, training and electronic tax filing adoption, as well as employees' performance.

This study provided a theoretical implication by giving additional empirical evidence in the domain of technologic adoption and electronic tax filing. The theory adopted in this study posits that performance expectancy, effort expectancy, social influence, and facilitating conditions should be theoretically able to encourage a new technology adoption, thus improving the performance. Instead of focussing on the impact of technology adoption on the tax payers as used in previous studies (Hung *et al.*, 2006; Lu, Huang & Lo, 2010; Tan & Foo, 2012; Ibrahim, 2012), this study extended previous studies by investigating the performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication, IT informational sophistication, and their impact on the electronic tax filing adoption, as well as the subsequent effects of this ETFA on the performance of the employees in ISTD. This is important because focussing on taxpayers' behavioural response to electronic tax filing provides an incomplete view of the impact of electronic filing tax adoption. Despite the growing number of extant studies on technology adoption, only a few studies have explored how electronic tax filing adoption affects the employees' performance. Based on this, this research extends the understanding of the adoption of technology by integrating the theory of UTAUT and TTF to develop an all-encompassing model of the adoption in Jordan,

and to understand the technology acceptance process with respect to the electronic tax filing.

UTAUT theory had found that a direct relationship between the performance expectancy, effort expectancy, social influence, and the facilitating conditions had influence on technology adoption. As for age, experience, and gender, they moderate the relationship between the performance expectancy, effort expectancy, social influence, and the facilitating conditions had influence on technology adoption. However, this study proceeded to consider the effect of training, IT technological sophistication, and IT informational sophistication on electronic tax filing adoption. Further, this study examined the effect of electronic tax filing adoption on tax employees' performance. The basic premise is that the electronic tax filing adoption are adopted and accepted more easily when the employees receive intensive training on the technology to be adopted. With the availability of IT infrastructure and the number of the infrastructure, such as process, technology and people, especially in the developing countries, the computer literacy is at low level. Consistent with this premise, the current study has demonstrated the significant direct relationship between training, IT technological sophistication, IT informational sophistication, and electronic tax filing adoption and employees' performance.

6.4.2 Practical Implications

Governments in the 21st century have profited significantly from information technology in many ways. Electronic tax-filing is one of many e-government

services provided by the Jordanian government. Hence, it is important to understand the employees' perception and obtain ways to encourage taxpayers' adoption of electronic tax-filing system because tax employees' acceptance of ETF will offer a huge cost savings and annual investment in technology. Based on the results of this study, ISTD can be advised to improve the employees' training in order to improve their performance.

In addressing the gap in the literature regarding the determinants of electronic tax filing adoption, most especially by the tax employees, and developing a research framework that examines the impact of ETF on tax employees' performance, a contribution was proposed and was empirically supported. The research framework is based on an empirical work that provides a comprehensive structure for understanding the adoption process in the ETF context. It included, as predictors, technological, organizational and environmental factors and ETF adoption challenges, drawn from the literature and tested empirically. Thus, this research seeks to improve the understanding of the ETF adoption and its consequent impacts on the employees' performance.

The findings of this research have increased the understanding of ETF adoption in the ISTD. Also, the study adds a contribution to the ETF and IT adoption literature by identifying additional predictors (training, IT technological sophistication, and IT informational sophistication) of ETF adoption. Those predictors could help ISTD decision makers consider adopting ETF, and enhance the effective IT adoption

process. In addition, this research has proposed that ISTD should ensure the motivation of the employees before knowledge gathering stage of IT adoption.

Moreover, the electronic tax filing literature has emphasised that its adoption will improve tax collection and improve the overall service delivery. This consequently encouraged the adoption of electronic tax filing in Jordan as a method of tax assessment and collection. Empirically, this study has revealed that those factors (e.g. performance expectancy, effort expectancy, social influence, facilitating conditions, training, IT technological sophistication, and IT informational sophistication) affect the electronic tax filing adoption and the employees' performance in Jordan. As mentioned previously, this study argues that there are no prior empirical studies that examined the electronic tax filing adoption in Jordan.

Accordingly, the full potential of the electronic tax filing system is unlikely to be realised without the support of the employees and their full participation in such initiatives. This study has successfully identified that performance expectancy, effort expectancy, social influence, facilitating conditions, and electronic tax filing adoption are important factors to be considered in the context of Jordan. The empirical finding also reveals the importance of the effect of training and IT technological sophistication, and IT informational sophistication. Thus, this research presents an initial attempt towards understanding the adoption of electronic tax filing from the Jordanian perspective.

Though the results presented in this study are encouraging, electronic tax filing adoption and employees' performance has not been fully developed in Jordan. Therefore, it can be suggested that in order to fully reap the full benefits of electronic tax filing, the Jordanian government needs to understand the need of the employees, their perceptions towards the advantages and ease of using the electronic tax filing system. To the best of the researcher's knowledge, this study is one of the first studies to investigate the issue of employees' performance at the national level in Jordan using UTAUT and TTF theories.

Moreover, the research gives an image of what the context is in Jordan's ISTD and highlights some issues that could be used by decision makers and IT specialists in government agencies to adopt e-government initiatives.

6.5 Limitations and Future Research Directions

Despite the enormous contributions of this study theoretically and practically, several limitations must be taken into cognizance. The empirical evidence of this nature is always subjected to further developments and this study is not an exception. Therefore, this study suggests that future studies can explore the adoption determinants, such as culture and trust that might influence the employees to adopt a new technology.

Also, this research represents the beginning of research in the e-government adoption, most specifically ETF adoption in the Jordanian context. Hence, this study

can be used as a background theoretical framework for researchers. However, the research is confined to the limited geographical area where it has been conducted. Consequently, future studies could extend the model of this study to other countries in the Middle East in the form of a comparative analysis of electronic tax filing adoption. Similarly, future studies could try to adopt a longitudinal design approach to examine the theoretical constructs at different points in time to confirm the findings of the present study because this study used a cross sectional design approach with limitation to the extent of causal inference to be made from the population.

Similar to any other research, the explained 39 percent of variance suggests that the research model may have excluded other possible constructs that might influence the adoption of electronic tax-filing system. Also, there are other possible predictors of employees' performance, as the 19.4 percent of variance. The difference in the variance between this study and the original UTAUT could be due to different culture factors and different government policies. Also, the research was conducted in a different context with different perceptions of IT adoption. Moreover, probable reason can also relate to the fact that UTAUT study was a longitudinal research while the current study is cross-sectional research.

Electronic tax-filing system incorporates the use of internet technology and the Worldwide Web to develop from paper-based operations to computer-based operations. Hence, the government should pay attention to the employees'

technology acceptance and search for ways to encourage the employees' adoption of e-government services. Therefore, a further research is expected to examine the ways to be adopted by the government in order to encourage the employees' adoption of the e-government services.

In addition, electronic tax-filing can be done in a number of methods; it can be carried out using the Internet or tax agents. Thus, it is very important that future research investigates which methods are adopted by tax employees and taxpayers. Also, the tax employees will have a role in terms of educating their clients because tax employees are crucial to effective tax collection. Therefore, future research should investigate what policy can be put in place to the educational role of the tax employees.

Since this research appears to be one of the first studies to examine the relationship between IT informational sophistication and ETF adoption, the result indicated a negative relationship. Hence, a future research should test the relationship in another context to solidify the result of this research.

This study examined performance expectancy, effort expectancy, social influence, facilitating conditions, IT technological sophistication, IT informational sophistication, training, electronic tax filing adoption, as well as the employees' performance in Jordan ISTD from the employees' perspective. The unit of analysis

of this research is the individual employee. Therefore, future studies can further examine this aspect based on the management perspectives.

6.6 Conclusion

This research presented an in-depth study on the performance expectancy, effort expectancy, social influence, facilitating conditions, IT technological sophistication, IT informational sophistication, training, electronic tax filing adoption, as well as the employees' performance in Jordan ISTD. The present study provides additional empirical evidences to the extant studies concerning the electronic tax filing adoption and the employees' performance. In addition, the findings provide further support to the theoretical postulation of UTAUT and TTF theories. Accordingly, the study has successfully answered all the research questions and objectives raised in this study. Though many studies examined the determinants of the electronic tax filing adoption, the present study addressed the theoretical gap by incorporating the employees' performance in the electronic tax adoption, and introducing IT technological sophistication, IT informational sophistication, as well as training into the model. Conclusively, the study identified the various important constructs that aid the electronic tax filing in Jordan, and consequently, they could be applied by other technology adoption studies in Jordan and other contexts around the world.

REFERENCES

- Abbad, M. M., Morris, D., & De Nahlik, C. (2009). Looking under the bonnet: Factors affecting student adoption of e-learning systems in Jordan. *The International Review of Research in Open and Distributed Learning*, 10(2), 1-25.
- Abbasi, M., Chandio, H., Fatah A., & Shah, F. (2011). Social influence, voluntariness, experience and the internet acceptance: An extension of technology acceptance model within a south-Asian country context. *Journal of Enterprise Information Management*, 24(1), 30-52.
- Abdul-Jabbar, H., & Pope, J. (2008). The effects of the self-assessment system on the tax compliance costs of small and medium enterprises in Malaysia. *Australian Tax Forum*, (23), 289-307.
- AbuShanab, E., & Pearson, J. M. (2007). Internet banking in Jordan: The unified theory of acceptance and use of technology (UTAUT) perspective. *Journal of Systems and Information Technology*, 9(1), 78-97.
- Abu-Samaha, A., & Abdel Samad, Y. (2007). Challenges to the Jordanian electronic government initiative. *Journal of Business Systems, Governance and Ethics*, 2(3), 101-109.
- Ackfeldt, A. L., & Coole, L. V. (2003). A study of organizational citizenship behaviour in a retail setting (electronic version). *Journal of Business Research*, 58(2), 151-159.
- Abdulwahab, L., & Dahalin, Z. (2011). Effectiveness of telecentre using a model of unified theory of acceptance and use of technology (UTAUT): Structural equation modeling approach. *Emerging Trends in Computing and Information Sciences*, 2(9), 402-406.
- Abdulwahab, L., & Zulkhairi, M. D. (2012). Modeling the determinants and gender, age and ethnicity differences in telecommunication center acceptance. *Research Journal of Information Technology*, 4(3), 85-105.
- Agarwal, R., & Prasad, J. (1999). Are individual differences germane to the acceptance of new information technologies? *Decision Sciences*, 30(2), 361-391.
- Aggarwal, C. C., & Yu, P. S. (2001). Outlier detection for high dimensional data. *Association for Computing Machinery Sigmod Record*, 30(2), 37-46.
- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and*

- Human Decision Processes*, 50(2), 179-211.
- Ajzen, I., & Fishbein, M. (1975). *Belief, attitude, intention and behaviour: Introduction to theory and research*. MA: Addison-Wesley.
- Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of consumer expertise. *Journal of Consumer Research*, 13(4), 411-454.
- Almahdy, M (2017, March 19) . Tax evasion value in 2016 (in Arabic). Assabeel, Retrieved from <http://assabeel.net/news>
- Alshehri, M., Drew, S., Alhussain, T., & Alghamdi, R. (2012). The impact of trust on e-government services acceptance: A study of users' perceptions by applying UTAUT model. *International Journal of Technology Diffusion*, 3(2), 50-61 .
- Al-Ansi, A. A., Ismail, N. A. B., & Al-Swidi, A. K. (2013). The effect of IT knowledge and IT training on the IT utilization among external auditors: Evidence from Yemen. *Asian Social Science*, 9(10), 307-323.
- Al Hujran, O., Aloudat, A., & Altarawneh, I. (2013). Factors influencing citizen adoption of e-government in developing countries: The case of Jordan. *International Journal of Technology and Human Interaction*, 9(2), 1-19.
- Alibraheem, M.H., & Abdul-Jabbar, H. (2016). Electronic tax filing adoption and its impact on tax employee's performance in Jordan: A proposed framework. *World Applied Sciences Journal*, 34(3), 393-399.
- Al kattatbah, H., Bni Salamah, R., Al kattatbah., M., & ALzoubi, A. (2013). Methods of tax avoidance and evasion: The incapability of the Jordanian Income Tax Law to face tax avoidance and evasion. *Almanarah Journal*, 19(4), 9-36.
- Al Qeisi, K. I., & Al-Abdallah, G. M. (2014). Website design and usage behaviour: An application of the UTAUT model for internet banking in UK. *International Journal of Marketing Studies*, 6(1), 75-89.
- Alaiad, A., Zhou, L., & Koru, G. (2014). *An empirical study of home healthcare robot's adoption using the UTUAT model*. Conference proceedings of the Transactions of The International Conference on Health Information Technology Advancement, Michigan, USA. Retrieved from http://scholarworks.wmich.edu/cgi/viewcontent.cgi?article=1019&context=ic_hita_transactions
- AlAwadhi, S., & Morris, A. (2008). *The use of the UTAUT Model in the adoption of e-government services in Kuwait*. Conference proceedings of the 41st Hawaii International Conference on System Sciences, Hawaii, USA. Retrieved from

<http://ieeexplore.ieee.org/abstract/document/4438923/>

- Al-Dalou, R., & Abu-Shanab, E. (2013, May 8-10). *E-participation levels and technologies*. Paper presented at the 6th International Conference on Information Technology, Amman, Jordan. Retrieved from https://www.researchgate.net/profile/Emad_Abu-Shanab/publication/273632293_E-participation_levels_and_technologies/links/552d38fb0cf29b22c9c4c7b3.pdf
- Al-Deraawee. (2013, January 8). Budget deficit a change number, (in Arabic). *Alrai*. Retrieved from www.alrai.com.
- Aldosari, B. (2012). User acceptance of a picture archiving and communication system (PACS) in a Saudi Arabian hospital radiology department. *BMC Medical Informatics and Decision Making*, 12(1), 44-54.
- Al-Eqab, M., & Adel, D. (2013). The impact of IT sophistications on the perceived usefulness of accounting information characteristics among Jordanian listed companies. *International Journal of Business and Social Science*, 4(3), 145-155.
- Al-Eqab, M., & Ismail, N. A. (2011). Contingency factors and accounting information system design in Jordanian companies. *International Business Information Management Association Business Review*, 2011(1), 1-13.
- Al_Frijat, Y. S. (2014). The impact of accounting information systems used in the income tax department on the effectiveness of tax audit and collection in Jordan. *Journal of Emerging Trends in Economics and Management Sciences*, 5(1), 19-25.
- Al-Gahtani, S. S. (2004). Computer technology acceptance success factors in Saudi Arabia: An exploratory study. *Journal of Global Information Technology Management*, 7(1), 5-29.
- Al-Gahtani, S. S., Hubona, G. S., & Wang, J. (2007). Information technology (IT) in Saudi Arabia: Culture and the acceptance and use of IT. *Information and Management*, 44(8), 681-691.
- Al-Hadban, W. K. M., Hashim, K. F., & Yusof, S. A. M. (2016). Investigating the organizational and the environmental issues that influence the adoption of healthcare information systems in public hospitals of Iraq. *Computer and Information Science*, 9(2), 126- 133.
- Al Hujran, O., Aloudat, A., & Altarawneh, I. (2013). Factors influencing citizen adoption of e-government in developing countries: The case of

- Jordan. *International Journal of Technology and Human Interaction*, 9(2), 1-19.
- Al-Hujran, O., Al-Debei, M. M., Chatfield, A., & Migdadi, M. (2015). The imperative of influencing citizen attitude toward e-government adoption and use. *Computers in Human Behaviour*, 53(1), 189-203.
- Al-Jaghoub, S., Al-Yaseen, H., & Al-Hourani, M. (2010). Evaluation of awareness and acceptability of using e-government services in developing countries: The case of Jordan. *The Electronic Journal Information Systems Evaluation*, 13(1), 1-8.
- Al-Jaghoub, S., & Westrup, C. (2003). Jordan and ICT-led development: Towards a competition state. *Information Technology and People*, 16(1), 93-110.
- Alkhaleefah, M., Alkhalwaldeh, M., Venkatraman, S., & Alazab, M. (2010, May 7-9). *Towards understanding and improving e-government strategies in Jordan*. Paper presented at the International Conference on e-Commerce, e-Business and e-Service, Paris, France. Retrieved from https://www.researchgate.net/profile/Mamoun_Alazab/publication/230554533_Towards_Understanding_and_Improving_E-Government_Strategies_in_Jordan/links/0912f50149f14e3bbf000000.pdf
- Allawzi, M. S. (2010). The difficulties faced by the application of e-services as perceived by workers in the civil service in Jordan. *Jordanian Journal in Business*, 6(2), 184-209.
- Almarabeh, T., Majdalawi, Y. K., & Mohammad, H. (2016). Cloud computing of e-government. *Communications and Network*, 8(01), 1-8.
- Al-Moumany.S., & Al Ebbini.M. (2013). The role of accounting information systems (AIS) in combating tax evasion, interdisciplinary. *Journal of Contemporary Research in Business* 5(6), 73-91.
- Al-Naimat, S. M. A. (2013). Theoretical and analytical study of tax law in Jordan according to the: Income Tax and Sales Tax and its relationship with revenues and tax evasion. *International Journal of Financial Research*, 4(3), 107-126.
- Al-Omari, A., & Al-Omari, H. (2006). E-government readiness assessment model. *Journal of Computer Science*, 2(11), 841-845.
- Alomari, M. K., Sandhu, K., & Woods, P. (2010). Measuring social factors in e-government adoption in the Hashemite Kingdom of Jordan. *International Journal of Digital Society*, 1(2), 163-172.

- Alomari, M., Woods, P., & Sandhu, K. (2012). Predictors for e-government adoption in Jordan: Deployment of an empirical evaluation based on a citizen-centric approach. *Information Technology and People*, 25(2), 207-234.
- Alsheikh, E. Y., AlAdham, M. A. A., & Yousef, A. A. (2016). Factors affecting corporate tax evasion: Evidence from Jordan. *International Journal for Innovation Education and Research*, 4(6), 1-15.
- Al-Sobhi, F., Weerakkody, V., & El-Haddadeh, R. (2011). *The roles of intermediaries in e-government adoption: The case of Saudi-Arabia*. March 17-18, 2011, Brunel University, West London, UB8 2PH, Workshop 11.
- Al-Soud, A., Al-Yaseen, H., & H. Al-Jaghoub, S. (2014). Jordan's e-government at the crossroads. *Transforming Government: People, Process and Policy*, 8(4), 597-619.
- Al-Zoubi, A., H. Khatatba, R.B., Salama & Khatataba, M. (2013). Methods of tax avoidance and evasion: The incapability of the Jordanian income tax law to face tax avoidance and evasion. *Almanara Journal*, 19(4), 9-36
- Amin, A., Saeed, R., Lodhi, R. N., Mizna, S., Iqbal, A., & Tehreem, R. (2013). The impact of employees training on the job performance in education sector of Pakistan. *Middle-East Journal of Scientific Research*, 17(9), 1273-1278.
- Anderson, J. E., Schwager, P. H., & Kerns, R. L. (2006). The drivers for acceptance of tablet PCs by faculty in a college of business. *Journal of Information Systems Education*, 17(4), 429-440.
- Anderson, T., Fox, M., & Schwartz, B. N. (2005). History and trends in e-filing: A survey of CPA practitioners. *The CPA Journal*, 75(10), 66-69.
- Anitha, J. (2014). Determinants of employee engagement and their impact on employee performance. *International Journal of Productivity and Performance Management*, 63 (3), 308-328.
- Anitha, R., & Kumar, M. A. (2016). A study on the impact of training on employee performance in private insurance sector, coimbatore district. *International Journal of Management Research and Reviews*, 6(8), 1079.-1089
- Appiah, B. (2010). *The impact of training on employee performance: A case Study of HFC bank Ghana* (Bachelor thesis, Ashesi University College, Berekuso, Ghana). Retrieved from <https://air.ashesi.edu.gh/bitstream/handle/20.500.11988/63/Appiah%2C%20Benedicta%20%20The%20impact%20of%20training%20on%20employee%20performance.pdf?sequence=1&isAllowed=y>
- Armstrong, C. P., & Sambamurthy, V. (1999). Information technology assimilation

in firms: The influence of senior leadership and IT infrastructures. *Information Systems Research*, 10(4), 304-327.

- Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14(4), 396-402.
- Armstrong, M., & Taylor, S. (2014). *Armstrong's handbook of human resource management practice*. UK: Kogan Page Publishers.
- Ary, D., & Jacobs, L. C. (2002). *Introduction to research in education* (8th ed.), CA: Wadsworth.
- Avi-Yonah, R. S. (2006). Three goals of taxation, *The Tax Law Review*. 60(1), 1-29.
- Aziz, S. A., & Idris, K. M. (2012). The determinants of tax e-filing among tax preparers in Malaysia. *World Journal of Social Sciences*, 2(3), 182-188.
- Aziz, S. A., & Idris, K. M. (2014). Does design matter in tax e-filing acceptance? *Procedia-Social and Behavioural Sciences*, 4(1), 451-457.
- Azmi, A. A. C., Kamarulzaman, Y., & Hamid, N. H. A. (2012). Perceived risk and the adoption of tax e-filing. *World Applied Sciences Journal*, 20(4), 532-539.
- Bae, S., & Lee, T. (2011). Gender differences in consumers perception of online consumer reviews. *Electronic Commerce Research*, 11(2), 201-214.
- Bahl, R. W., & Bird, R. M. (2008). 'Tax policy in developing countries: Looking back and forward'. *National Tax Journal*, 61(2), 279-301.
- Bandyopadhyay, K., & Fraccastoro, K. A. (2007). The effect of culture on user acceptance of information technology. *Communications of the Association for Information Systems*, 19(1), 522-543.
- Barki, H., Titah, R., & Boffo, C. (2007). Information system use-related activity: An expanded behavioural conceptualization of individual-level information system use. *Information Systems Research*, 18(2), 173-192.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1183.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44(1), 1-26.

- Bataineh, L., Bataineh, L., Abu-Shanab, E., & Abu-Shanab, E. (2016). How perceptions of e-participation levels influence the intention to use e-government websites. *Transforming Government: People, Process and Policy*, 10(2), 315-334.
- Beardwell, J., & Claydon, T. (2007). *Human resource management: A contemporary approach* (5th ed.). London, UK: Pearson Education.
- Bedard, J. C., Jackson, C., Ettredge, M. L., & Johnstone, K. M. (2003). The effect of training on auditors' acceptance of an electronic work system. *International Journal of Accounting Information Systems*, 4(4), 227-250.
- Becker, B. E., Huselid, M. A., & Ulrich, D. (2001). *The HR scorecard: Linking people, strategy, and performance*: Boston, Massachusetts, USA: Harvard Business Press.
- Best & Kahn (2003). *Research in Education* (9th ed.). Boston: Pearson Education.
- Bhuasiri, W., Zo, H., Lee, H., & Ciganek, A. P. (2016). User acceptance of e-government services: Examining an e-tax filing and payment system in Thailand. *Information Technology for Development*, 22(4), 672-695.
- Bierstaker, J., Janvrin, D., & Lowe, D. J. (2014). What factors influence auditors' use of computer-assisted audit techniques? *Advances in Accounting*, 30(1), 67-74.
- Birren, J. E., Woods, A. M., & Williams, M. V. (1980). *Behavioural slowing with age: Causes, organization, and consequences*. In L. Poon (ed.), *Aging in the 1980s: Psychological issues* (293-308). Washington, DC: American Psychological Association.
- Bohlander, G., Snell, S., Sherman, A., & Sacristán, P. M. (2001). *Administración de Recursos Humanos* (Vol. 12). Thomson.
- Boothby, D., Dufour, A., & Tang, J. (2010). Technology adoption, training and productivity performance. *Research Policy*, 39(5), 650-661.
- Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance: The meaning for personnel selection research. *Human Performance*, 10(2), 99-109.
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185-216.
- Brown, S. A., Dennis, A. R., & Venkatesh, V. (2010). Predicting collaboration technology use: Integrating technology adoption and collaboration research.

- Journal of Management Information Systems*, 27(2), 9-54.
- Callegaro, M., Manfreda, K. L., & Vehovar, V. (2015). *Web survey methodology*. Slovenia: Sage.
- Cardy, R. L., & Leonard, B. (2011). *Performance management: Concepts, skills, and exercises*. Armonk, NY, USA: ME Sharpe.
- Carlsson, C., Carlsson, J., Hyvonen, K., Puhakainen, J., & Walden, P. (2006). *Adoption of mobile devices/services—searching for answers with the UTAUT*. Conference proceedings of the 39th Hawaii International Conference on System Sciences, Hawaii, USA. Retrieved from <http://ieeexplore.ieee.org/abstract/document/1579556/>
- Carter, L., Shaupp, L., Hobbs, J., & Campbell, R. (2011). The role of security and trust in the adoption of online tax filing. *Transforming Government: People, Process and Policy*, 5(4), 303-318.
- Carter, L., Schaupp, L., & Evans, A. (2008). *Antecedents to e-file adoption: The US perspective*. Conference proceedings of the 41st Hawaii International Conference on System Sciences, Hawaii, USA. Retrieved from <http://ieeexplore.ieee.org/abstract/document/4438920/>
- Celik, H. (2016). Customer online shopping anxiety within the unified theory of acceptance and use technology (UTAUT) framework. *Asia Pacific Journal of Marketing and Logistics*, 28(2), 278-307.
- Chang, I.-C., Li, Y.-C., Hung, W.-F., & Hwang, H.-G. (2005). An empirical study on the impact of quality antecedents on tax payer's acceptance of internet tax-filing systems. *Government Information Quarterly*, 22(3), 389-410.
- Chatfield, A. T., & Alhujran, O. (2009). A cross-country comparative analysis of e-government service delivery among Arab countries. *Information Technology for Development*, 15(3), 151-170.
- Chau, P. Y., Hu, P. J. H., Lee, B. L., & Au, A. K. (2007). Examining customers' trust in online vendors and their dropout decisions: An empirical study. *Electronic Commerce Research and Applications*, 6(2), 171-182.
- Cheng, Y. S., Yu, T. F., Huang, C. F., Yu, C., & Yu, C. C. (2011). The comparison of three major occupations for user acceptance of information technology: Applying the UTAUT model. *I Business*, 3(02), 147-158.
- Chen, J. V., Jubilado, R. J. M., Capistrano, E. P. S., & Yen, D. C. (2015). Factors

affecting online tax filing—an application of the IS success model and trust theory. *Computers in Human Behaviour*, 43(1), 251-262.

- Chen, Y.-S., Hsu, J., & Huang, M.-T. (2013). Lagged effects of training on financial performance: Evidence from longitudinal data. *Global Journal of Business Research*, 7(1), 9-20.
- Chernick, M. R. (2008). *What Is Bootstrapping? Bootstrap Methods: A Guide for Practitioners and Researchers*, (2nd ed.), 1-25.
- Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), 7-16.
- Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189-217.
- Chiu, C.-M., & Wang, E. T. (2008). Understanding web-based learning continuance intention: The role of subjective task value. *Information & Management*, 45(3), 194-201.
- Choudrie, J., & Lee, H. (2004). Broadband development in South Korea: Institutional and cultural factors. *European Journal of Information Systems*, 13(2), 103-114.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). NY: Lawrence Erlbaum Associates.
- Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology*, 25(3), 325-334.
- Cooke, F. L. (2001). Human resource strategy to improve organizational performance: A route for firms in Britain? *International Journal of Management Reviews*, 3(4), 321-339.
- Covin, J. G., Prescott, J. E., & Slevin, D. P. (1990). The effects of technological sophistication on strategic profiles, structure and firm performance. *Journal of Management Studies*, 27(5), 485-510.
- Cragg, P. B., & King, M. (1992). Information system sophistication and financial performance of small engineering firms. *European Journal of Information Systems*, 1(6), 417- 426.

- Crutchfield, E. B. (2014). *Developing human capital in American manufacturing: A case study of barriers to training and development* Hoboken, New Jersey, USA: Taylor and Francis.
- Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods, 1*(1), 16-23.
- Dadayan, L., & Ferro, E. (2005). *When technology meets the mind: A comparative study of the technology acceptance model*. Conference proceedings of the International Conference on Electronic Government, Copenhagen, Denmark. Retrieved from [ftp://nozdr.ru/biblio/kolxo3/Cs/CsLn/E/Electronic%20Government..%204%200conf,%20EGOV%202005\(LNCS3591,%20Springer,%202005\)\(ISBN%203540284664\)\(328s\).pdf#page=148](ftp://nozdr.ru/biblio/kolxo3/Cs/CsLn/E/Electronic%20Government..%204%200conf,%20EGOV%202005(LNCS3591,%20Springer,%202005)(ISBN%203540284664)(328s).pdf#page=148)
- Dangolani, S. K. (2011). The impact of information technology in banking system (a case study in bank Keshavarzi Iran). *Procedia-Social and Behavioural Sciences, 30*(1), 13-16.
- Darsono, L. I. (2005). Examining information technology acceptance by individual professionals. *Gadjah Mada International Journal of Business, 7*(2), 155-178.
- Datta, P. (2011). A preliminary study of ecommerce adoption in developing countries. *Information Systems Journal, 21*(1), 3-32.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology, 22*(14), 111-132.
- Dawson, J. F. (2014). Moderation in management research: What, why, when, and how. *Journal of Business and Psychology, 29*(1), 1-19.
- De Veer, A. J., Peeters, J. M., Brabers, A. E., Schellevis, F. G., Rademakers, J. J. J., & Francke, A. L. (2015). Determinants of the intention to use e-health by community dwelling older people. *Biomedcentral Health Services Research, 15*(1), 1-9.
- Delery, J. E., & Doty, D. H. (1996). Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal, 39*(4), 802-835.

- DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, 3(1), 60-95.
- Dembla, P., Palvia, P., & Krishnan, B. (2007). Understanding the adoption of web-enabled transaction processing by small businesses. *Journal of Electronic Commerce Research*, 8(1), 1-9.
- Derawi, S. (Ed.). (2013). E-government failure in Jordan (in Arabic). Alrai, Retrieved from <http://www.Alrai.com>
- Derawi, S. (2014, December 14). Jordan fails shifting to e-government (in Arabic). Maqar, Retrieved from <http://www.maqar.com/?id=72302>.
- Devaraj, S., & Kohli, R. (2003). Performance impacts of information technology: Is actual usage the missing link? *Management Science*, 49(3), 273-289.
- Dillman, D. A. (1991). The design and administration of mail surveys. *Annual Review of Sociology*, 17(1), 225-249.
- Dishaw, M. T., & Strong, D. M. (1999). Extending the technology acceptance model with task-technology fit constructs. *Information and Management*, 36(1), 9-21.
- Duarte, P. A. O., & Raposo, M. L. B. (2010). *A PLS model to study brand preference: An application to the mobile phone market. Handbook of partial least squares*. Berlin Germany: Springer-Verlag.
- Dwivedi, Y. K., & Lal, B. (2007). Socio-economic determinants of broadband adoption. *Industrial Management and Data Systems*, 107(5), 654-671.
- Economic and Social Council Jordan (ESC) 2014. Tax evasion in Jordan. Retrieved from <http://www.esc.jo/defaultar.aspx>
- Egelhoff, W. G. 1982. Strategy and Structure in Multinational Corporations: An Information Processing Approach. *Administrative Science Quarterly*. 27(3), 435-458
- Elsheikh, Y., Cullen, A., & Hobbs, D. (2008). E-government in Jordan: Challenges and opportunities. *Transforming Government: People, Process and Policy*, 2(2), 83-103.
- Edwards-Dowe, D. (2008, July 8-11). *E-filing and e-Payments—The Way Forward*.

Paper presented at the 2008 Caribbean Organization of Tax Administration General Assembly, Belize. Retrieved from http://archive.caricom.org/jsp/community/cota/general_assembly/20_cota/e_filing_e_payments_cartac.pdf

- Estébanez, R., Urquía Grande, E., & Muñoz Colomina, C. (2010). Information technology implementation: Evidence in Spanish SMEs. *International Journal of Accounting and Information Management*, 18(1), 39-57.
- Elnaga, A., & Imran, A. (2013). The effect of training on employee performance. *European Journal of Business and Management*, 5(4), 137-147.
- Faaeq, M. K., Ismail, N. A., Osman, W. R. S., Al-Swidi, A. K., & Faieq, A. K. (2013). A meta-analysis of the unified theory of acceptance and use of technology studies among several countries. *Electronic Government, an International Journal*, 10(3-4), 343-360.
- Falk, R. F., & Miller, N. B. (1992). *A primer for soft modeling* (1st ed.). Akron, Ohio: The University of Akron Press.
- Falola, H. O., Osibanjo, A. O., & Ojo, S. I. (2014). Effectiveness of training and development on employees' performance and organization competitiveness in the Nigerian banking industry. *Bulletin of the Transilvania University of Brasov. Economic Sciences. Series V*, 7(1), 161-170.
- Folorunso, O., Shawn Ogunseye, O., & Sharma, S. K. (2006). An exploratory study of the critical factors affecting the acceptability of e-learning in Nigerian universities. *Information Management and Computer Security*, 14(5), 496-505.
- Fan, Y.-W., & Miao, Y.-F. (2012). Effect of electronic word-of-mouth on consumer purchase intention: The perspective of gender differences. *International Journal of Electronic Business Management*, 10(3), 175-181.
- Flynn, B. B., Sakakibara, S., Schroeder, R. G., Bates, K. A., & Flynn, E. J. (1990). Empirical research methods in operations management. *Journal of Operations Management*, 9(2), 250-284.
- Foon, Y. S., & Fah, B. C. Y. (2011). Internet banking adoption in Kuala Lumpur: An application of UTAUT model. *International Journal of Business and Management*, 6(4), 161-167.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing*

Research, 18 (1), 39-50.

- Fu, J.-R., Farn, C.-K., & Chao, W.-P. (2006). Acceptance of electronic tax filing: A study of taxpayer intentions. *Information & Management*, 43(1), 109-126.
- Furnham, A., Forde, L., & Ferrari, K. (1999). Personality and work motivation. *Personality and Individual Differences*, 26(6), 1035-1043.
- Gallant, L. M., Culnan, M. J., & McLoughlin, P. (2007). *Why people e-file (or don't e-file) their income taxes*. Conference proceedings of the 40th Hawaii International Conference on System Sciences, Hawaii, USA. Retrieved from <http://ieeexplore.ieee.org/abstract/document/4076587/>
- Garland, R. (1991). The mid-point on rating scale: Is it desirable? *Marketing Bulletin*, 2 (3), 66-70.
- Gefen, D., & Straub, D. W. (1997). Gender differences in the perception and use of e-mail: An extension to the technology acceptance model. *MIS Quarterly*, 21(4), 389-400.
- Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, 61(1), 101-107.
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology and Metabolism*, 10(2), 486-489.
- Ghalandari, K., & Norouzi, A. (2012). The effect of country of origin on purchase intention: The role of product knowledge. *Research Journal of Applied Sciences, Engineering and Technology*, 4(9), 1166-1171.
- Goldstein, I. L., & Ford, J. K. (2002). *Training in organizations* (4th ed.). Belmont, CA: Wadsworth.
- Goldberg, L. R., & Velicer, W. F. (2006). Principles of exploratory factor analysis. *Differentiating Normal and Abnormal Personality*, 2(1), 209-337.
- Goodhue, D. (1997). The model underlying the measurement of the impacts of the IIC on the end-users. *Journal of The American Society for Information Science*, 48(5), 449-453.
- Goodhue, D. L., & Thompson, R. L. (1995). Task-technology fit and individual performance. *MIS Quarterly*, 19 (2), 213-236.
- Gordon, J. (1992). *Work teams: How far have they come? Training-New York then Minneapolis*, 29, 59-59.

- Governo, F., & Teixeira, A. A. (2011). *Marketing and technology sophistication as hidden weapons for fostering the demand for 'art house 'cinema films: A cross country analysis* (No. 397). Porto: Universidad do Porto.
- Grant, R., & Danziger, J. (2005). *Exploring the corporate benefits and employee adoption of corporate e-learning*. California: Center for Research on Information Technology and Organizations.
- Griffin, R. W., Welsh, A., & Moorhead, G. (1981). Perceived task characteristics and employee performance: A literature review. *Academy of Management Review*, 6(4), 655-664.
- Gupta, G., Zaidi, S., Udo, G., & Bagchi, K. (2015). The effect of espoused culture on acceptance of online tax filing services in an emerging economy. *Advances in Business Research*, 6(1), 14-31.
- Haines, J. D., & Sharif, N. M. (2006). A framework for managing the sophistication of the components of technology for global competition. *International Business Journal*, 16(2), 106-121.
- Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2010). *Multivariate Data Analysis* (7th ed.). New Jersey: Pearson Prentice Hall.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed, a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Editorial-partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long Range Planning*, 46(1-2), 1-12.
- Hair, J. F., Tatham, R. L., Anderson, R. E., & Black, W. (2006). *Multivariate data analysis* (Vol. 6): Pearson Prentice Hall Upper Saddle River, NJ.
- Hair Jr, J., Money, A., Samouel, P., & Page, M. (2007). *Research Methods for Business* (1st ed.). London: John Wiley and Sons.
- Hakala, D. (2008). *How to Measure Employee Performance, 16 Ways*. HR world newsletter. Retrieved from <http://www.hrworld.com/features/16-ways-measure-perfromance-021908/>

- Hamner, M., & Al-Qahtani, F. (2009). Enhancing the case for electronic government in developing nations: A people-centric study focused in Saudi Arabia. *Government Information Quarterly*, 26(1), 137-143.
- Hanefah, M. (1996). *An evaluation of the Malaysian tax administrative system and taxpayer's perceptions towards assessment systems, tax law fairness and tax law complexity* (Unpublished doctoral dissertation). Universiti Utara Malaysia, Malaysia.
- Harman, H. H. (1967). *Modern factor analysis* (3rd ed.). Chicago: University of Chicago.
- Hartline, M. D., & Jones, K. C. (1996). Employee performance cues in a hotel service environment: Influence on perceived service quality, value, and word-of-mouth intentions. *Journal of Business Research*, 35(3), 207-215.
- Hart, V. (2007). *Information technology sophistication and outcomes of acute care hospitals in Texas* (Doctoral dissertation, University of Texas, Texas, USA). Retrieved from <https://uta-ir.tdl.org/uta-ir/bitstream/handle/10106/509/umi-uta-1443.pdf?sequence=1>
- Hawamdeh, M. (2015, November 21). Government launches eight e-services, (in Arabic) Khaberni, Retrieved from <http://www.khaberni.com/more.php?newsid=159660>
- Heeks, R. (2008). The next phase of applying ICT for international development: *Information and Communication Technologies for International Development*, 41(6) 26-33.
- Helm, S., Eggert, A., & Garnefeld, I. (2010). Modeling the impact of corporate reputation on customer satisfaction and loyalty using partial least squares. In *Handbook of partial least squares*, Berlin: Springer Berlin Heidelberg.
- Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling. *Structural Equation Modeling*, 17(1), 82-109.
- Henseler, J., & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. In *Handbook of partial least squares*, Berlin: Springer Berlin Heidelberg.
- Henisz, W. J., & Macher, J. T. (2004). Firm-and country-level trade-offs and contingencies in the evaluation of foreign investment: The semiconductor industry, 1994–2002. *Organization Science*, 15(5), 537-554.

- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20(1), 277-319.
- Hoque, R., & Sorwar, G. (2017). Understanding factors influencing the adoption of m health by the elderly: An extension of the UTAUT model. *International Journal of Medical Informatics*, 101(1), 75-84.
- Hsieh, J. P.-A., Rai, A., & Keil, M. (2008). Understanding digital inequality: Comparing continued use behavioural models of the socio-economically advantaged and disadvantaged. *MIS Quarterly*, 32(1) 97-126.
- Hsu, M.-H., & Chiu, C.-M. (2004). Predicting electronic service continuance with a decomposed theory of planned behaviour. *Behaviour and Information Technology*, 23(5), 359-373.
- Hu, H. f., Al-Gahtani, S. S., & Hu, P. J. (2010). *Examining gender effects in technology acceptance by Arabian workers: A survey study*. Conference proceedings of the 2010 Pacific Asia Conference on Information Systems (PACIS), Taipei, Taiwan. Retrieved from <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1008&context=pacis2010>
- Hu, P. J. H., Brown, S. A., Thong, J. Y., Chan, F. K., & Tam, K. Y. (2009). Determinants of service quality and continuance intention of online services: The case of e-tax. *Journal of the American Society for Information Science and Technology*, 60(2), 292-306.
- Hung, S.Y., Chang, C.M., & Yu, T.J. (2006). Determinants of user acceptance of the e-government services: The case of online tax filing and payment system. *Government Information Quarterly*, 23(1), 97-122.
- Huang, Y. H., Wang, Y. S., & Chou, S. C. (2007). *User acceptance of e-government services*. Conference proceedings of the 2007 Pacific Asia Conference on Information Systems (PACIS), Auckland, New Zealand. Retrieved from <https://pdfs.semanticscholar.org/0e80/2ddb26c0dc5719ee399f425c7c02addb7b7f.pdf>
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38(3), 635-672.
- Hussein, R., Mohamed, N., Rahman Ahlan, A., & Mahmud, M. (2011). E-government application: An integrated model on government to citizen adoption of online tax. *Transforming Government: People, Process and*

Policy, 5(3), 225-248.

Iacovou, C. L., Benbasat, I., & Dexter, A. S. (1995). Electronic data interchange and small organizations: Adoption and impact of technology. *MIS Quarterly*, 19(4), 465-485.

Ibrahim, I. (2012, January 16-18). *Factors underpinning usage behaviour of an electronic filing system: The case of Malaysian personal taxpayers*. Paper presented at the Australasian Tax Teachers Association Conference 2012, Sydney, Australia. Retrieved from http://sydney.edu.au/law/parsons/ATTA/docs_pdfs/conference_papers/Ibrahim.pdf.

Ifinedo, P. (2016). The moderating effects of demographic and individual characteristics on nurses' acceptance of information systems: A Canadian study. *International Journal of Medical Informatics*, 8(7), 27-35.

ISTD, Income and Sales Tax Department (2016). ISTD and its development. Retrieved on May 25th, 2016 from: <http://www.istd.gov.jo/Arabic/AboutISTD/Profile.aspx>

Intaj, Information Technology Association-. (2007). Jordan's Information Society. Accessed July 23, 2015. Retrieved from, <http://www.intaj.net>.

Ismail, N. A. (2007). The impact of information technology on performance: The mediating role of management accounting systems. *Sains Humanika*, 46(1), 27- 43.

Ismail, N. A., & King, M. (2007). Factors influencing the alignment of accounting information systems in small and medium sized Malaysian manufacturing firms. *Journal of Information Systems and Small Business*, 1(2), 1-19.

Ismail, S. A., Mohd-Saleh, N., & Kundari, S. (2012). Computerized accounting system at the MARA state offices. *International Journal of Research in Management & Technology*, 2(6), 565-573.

Issahaku, A., Ahmed, D., & Bewa-Erinibe, P. L. Enhancing employee performance through training: The case of tamale teaching hospital in Ghana. *European Journal of Business and Management*, 6(29), 147-158.

Jain, V., & Kesar, S. (2011). E-government implementation challenges at local level: A comparative study of government and citizens' perspectives. *Electronic Government, an International Journal*, 8(2), 208-225.

Jasperson, J. S., Carter, P. E., & Zmud, R. W. (2005). A comprehensive

conceptualization of post-adoptive behaviours associated with information technology enabled work systems. *MIS Quarterly*, 29(3), 525-557.

Jenkins, G., Kelly, R., and Khadka, R. (2000). Modernisation of tax administration in low-income countries: The case of Nepal. Consulting assistance on economic reform II Discussion Paper 68, Cambridge, MA, USA.

Jones, P., Beynon-Davies, P., Apulu, I., Latham, A., & Moreton, R. (2011). Factors affecting the effective utilization and adoption of sophisticated ICT solutions: Case studies of SMEs in Lagos, Nigeria. *Journal of Systems and Information Technology*, 13(2), 125-143.

Jong, D., & Wang, T.-S. (2009). *Student acceptance of web-based learning system*. Conference proceedings of the 2009 International Symposium on Web Information Systems and Applications, Nanchang, China. Retrieved from <https://pdfs.semanticscholar.org/223b/4c14ce53972ad37bf396d83fb4e66b30cbf4.pdf>

Jordanian Department of Statistics, (2017) Jordanian Statistics Annual Report. Retrieved on August 10th, 2017 from: <http://web.dos.gov.jo/support/?lang=ar>

Jordanian Ministry of Finance (2015). Financial Analysis of the Annual Report. Retrieved on June 12th, 2016 from: http://www.mof.gov.jo/Portals/0/Mof_content/البيانات%20المالية%20للموازنة%20العامة%202015%20مدققة

Jordanian Ministry of Finance (2017). Financial Analysis of the Annual Report. Retrieved on June 19th, 2017 from: http://www.mof.gov.jo/Portals/0/Mof_content/البيانات%20المالية%20للموازنة%20العامة%202015%20مدققة

Kanaan, R., & Kanaan, G. (2013). The failure of e-government in Jordan to fulfill potential. *International Journal of Advanced Computer Science and Applications*, 12(4), 157-161.

Keaveney, S. M. (1995). Customer switching behaviour in service industries: An exploratory study. *The Journal of Marketing*, 59(2), 71-82.

Kenny, D. A., & Judd, C. M. (1984). Estimating the nonlinear and interactive effects of latent variables. *Psychological Bulletin*, 96(1), 201-210.

Khan, A. A., Abbasi, S. O. B. H., Waseem, R. M., Ayaz, M., & Ijaz, M. (2016). Impact of training and development of employees on employee performance through job satisfaction: A study of telecom sector of Pakistan. *Business Management and Strategy*, 7(1), 29-46.

- Khan, G. F., Moon, J., Swar, B., Zo, H., & Rho, J. J. (2012). E-government service use intentions in Afghanistan: Technology adoption and the digital divide in a war-torn country. *Information Development*, 28(4), 281-299.
- Khan, M. I. (2012). The impact of training and motivation on performance of employees. *Business Review*, 7(2), 84-95.
- Khan, R. A. G., Khan, F. A., & Khan, M. A. (2011). Impact of training and development on organizational performance. *Global Journal of Management and Business Research*, 11(7), 1-6.
- Kijsanayotin, B., Pannarunothai, S., & Speedie, S. M. (2009). Factors influencing health information technology adoption in Thailand's community health centers: Applying the UTAUT model. *International Journal of Medical Informatics*, 78(6), 404-416.
- Kim, Y., & Ployhart, R. E. (2014). The effects of staffing and training on firm productivity and profit growth before, during, and after the great recession. *Journal of Applied Psychology*, 99(3), 361-389.
- Kim, H. J., Mannino, M., & Nieschwietz, R. J. (2009). Information technology acceptance in the internal audit profession: Impact of technology features and complexity. *International Journal of Accounting Information Systems*, 10(4), 214-228.
- Kirchler, E., Niemirowski, A., & Wearing, A. (2006). Shared subjective views, intent to cooperate and tax compliance: Similarities between Australian taxpayers and tax officers. *Journal of Economic Psychology*, 27(4), 502-517.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). New York, Guilford publications.
- Klopping, I. M., & McKinney, E. (2004). Extending the technology acceptance model and the task-technology fit model to consumer e-commerce. *Information Technology, Learning, and Performance Journal*, 22(1), 35-48.
- Kreitner, R., & Kinicki, A. (2007). *Organizational Behaviour* (7th ed.). Boston: Irwin/McGraw-Hill
- Kura, K. M. (2014). *Organizational formal controls, group norms and workplace deviance: The moderating role of self-regulatory efficacy* (Unpublished doctoral dissertation). Universiti Utara Malaysia, Malaysia.
- Lambert, D. M., & Harrington, T. C. (1990). Measuring nonresponse bias in customer service mail surveys. *Journal of Business Logistics*, 11(2), 5-25.

- Lee, J., Cerreto, F. A., & Lee, J. (2010). Theory of planned behaviour and teachers' decisions regarding use of educational technology. *Educational Technology & Society, 13*(1), 152-164.
- Leedy, P. D., & Ormrod, J. E. (2005). *Practical research: planning and design*. New Jersey: Pearson Merrill Prentice Hall.
- Levy, M., & Powell, P. (2000). Information systems strategy for small and medium sized enterprises: An organizational perspective. *The Journal of Strategic Information Systems, 9*(1), 63-84.
- Levy, M., Powell, P., & Yetton, P. (2001). SMEs: Aligning IS and the strategic context. *Journal of Information Technology, 16*(3), 133-144.
- Lewis, R. C. (1983). When guests complain. *Cornell Hotel and Restaurant Administration Quarterly, 24*(2), 23-32.
- Liang, S. w., & Lu, H. p. (2013). Adoption of e-government services: An empirical study of the online tax filing system in Taiwan. *Online Information Review, 37*(3), 424-442.
- Lin, C.-P., & Anol, B. (2008). Learning online social support: An investigation of network information technology based on UTAUT. *Cyber Psychology and Behaviour, 11*(3), 268-272.
- Lin, J., Chan, H., & Jin, Y. (2004). *Instant messaging acceptance and use among college students*. Conference proceedings of the 2004 Pacific Asia Conference on Information Systems (PACIS), Shanghai, China. Retrieved from <https://pdfs.semanticscholar.org/d9f0/1eded78884fe14fc096ca3b45eeca78d5095.pdf>
- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology, 86*(1), 114-121.
- Lindner, J. R. (1998). Understanding employee motivation. *Journal of Extension, 36*(3), 1-8.
- Lindner, J. R., & Wingenbach, G. J. (2002). Communicating the handling of nonresponse error. *Journal of Extension, 40*(6), 1-5.
- Ling Keong, M., Ramayah, T., Kurnia, S., & May Chiun, L. (2012). Explaining intention to use an enterprise resource planning (ERP) system: An extension of the UTAUT model. *Business Strategy Series, 13*(4), 173-180.

- Loo, W., Yeow, P. H., & Chong, S. (2009). User acceptance of Malaysian government multipurpose smartcard applications. *Government Information Quarterly*, 26(2), 358-367.
- Louho, R., Kallioja, M., & Oittinen, P. (2006). Factors affecting the use of hybrid media applications. *Graphic Arts in Finland*, 35(3), 11-21.
- Lu, C.T., Huang, S.Y., & Lo, P.Y. (2010). An empirical study of on-line tax filing acceptance model: Integrating TAM and TPB. *African Journal of Business Management*, 4(5), 800-810.
- Lu, J., Yu, C.-S., & Liu, C. (2009). Mobile data service demographics in urban China. *Journal of Computer Information Systems*, 50(2), 117-126.
- Lu, N. L., & Nguyen, V. T. (2016). Online tax filing e-government service adoption case of Vietnam. *Modern Economy*, 7(12), 1498-1504.
- Luarn, P., & Huang, K.-L. (2009). Factors influencing government employee performance via information systems use: An empirical study. *Electronic Journal of E-Government*, 7(3), 227-240.
- Lymer, A., Hansford, A., & Pilkington, K. (2012). Developments in tax e-filing: Practical views from the coalface. *Journal of Applied Accounting Research*, 13(3), 212-225.
- Macey, W. H., Schneider, B., Barbera, K. M., & Young, S. A. (2011). *Employee engagement: Tools for analysis, practice, and competitive advantage* (Vol. 31): John Wiley & Sons.
- Mahzan, N., & Lymer, A. (2014). Examining the adoption of computer-assisted audit tools and techniques: Cases of generalized audit software use by internal auditors. *Managerial Auditing Journal*, 29(4), 327-349.
- Maiga, S. (2015). The impact of tax collection in achieving revenue targets: The directorate general of taxes of Mali case study. *Theoretical Economics Letters*, 5(03), 403.
- Majdalawi, Y. K., Almarabeh, T., Mohammad, H., & Quteshate, W. (2015). E-government strategy and plans in Jordan. *Journal of Software Engineering and Applications*, 8(4), 211-223.
- Malhotra, N. K. (2008). *Marketing research: An applied orientation* (5th ed.). India: Pearson Education.
- Malhotra, Y., & Galletta, D. F. (1999). *Extending the technology acceptance model*

to account for social influence: Theoretical bases and empirical validation. Conference proceedings of the 32nd Annual Hawaii International Conference, Hawaii, USA. Retrieved from <http://www.brint.org/km/KnowledgeManagementMeasurementResearch/technologyacceptance.pdf>

- Malkawi, B. H., & Haloush, H. A. (2008). The case of income tax evasion in Jordan: Symptoms and solutions. *Journal of Financial Crime, 15*(3), 282-294.
- Manly, T. S., Thomas, D. W., & Ritsema, C. M. (2005). Attracting nonfilers through amnesty programs: Internal versus external motivation. *Journal of the American Taxation Association, 27*(1), 75-95.
- Maldonado, U. P. T., Khan, G. F., Moon, J., & Rho, J. J. (2011). E-learning motivation and educational portal acceptance in developing countries. *Online Information Review, 35*(1), 66-85.
- Marchewka, J. T., Liu, C., & Kostiwa, K. (2007). An application of the UTAUT model for understanding student perceptions using course management software. *Communications of The International Information Management Association, 7*(2), 93-104.
- Marchewka, J. T., & Kostiwa, K. (2014). An application of the UTAUT model for understanding student perceptions using course management software. *Communications of the IIMA, 7*(2), 92-104.
- Margalioth, Y. (2003). Tax competition, foreign direct investments and growth: Using the tax system to promote developing countries. *Virginia Tax Review 23*(1), 161-209.
- Marinova, J., Plantenga, J., & Remery, C. (2015). Gender diversity and firm performance: Evidence from Dutch and Danish boardrooms. *The International Journal of Human Resource Management, 10*(3), 1-14.
- Marri, H. B., Gunasekaran, A., & Sohag, R. (2007). Implementation of advanced manufacturing technology in Pakistani small and medium enterprises: An empirical analysis. *Journal of Enterprise Information Management, 20*(6), 726-739.
- Marshall, R., Smith, M., & Armstrong, R. W. (1997). Self-assessment and the tax audit lottery: The Australian experience. *Managerial Auditing Journal, 12*(1), 9-15.
- Martinez-Vazquez, J., Harwood, G. B., & Larkins, E. R. (1992). Withholding position and Income Tax compliance: Some experimental evidence. *Public Finance Review, 20*(2), 152-174.

- McLeod, A., Pippin, S., & Mason, R. (2009). Individual taxpayer intention to use tax preparation software: Examining experience, trust, and perceived risk. *Journal of Information Science and Technology*, 6(1), 25-44.
- Mehrara, M., & Farahani, Y. G. (2016). The study of the effects of tax evasion and tax revenues on economic stabilities in OECD countries. *World Scientific News*, 33(1), 43-55.
- Middleton, K. L., & Chambers, V. (2010). Approaching digital equity: Is wifi the new leveler? *Information Technology & People*, 23(1), 4-22.
- Mishra, A. N., & Agarwal, R. (2010). Technological frames, organizational capabilities, and IT use: An empirical investigation of electronic procurement. *Information Systems Research*, 21(2), 249-270.
- MoPIC. Ministry of Information and communications Technology. (2015). *Jordan 2025: A National Vision and Strategy*. Retrieved from <http://www.mop.gov.jo/EchoBusV3.0/SystemAssets/pdf/MOPpdf/Jordan%202025%20en.pdf>
- Mofleh, S., Wanous, M., & Strachan, P. (2008). The gap between citizens and e-government projects: The case for Jordan. *Electronic Government, an International Journal*, 5(3), 275-287.
- Mohamad, R., & Ismail, N. A. (2012, January 7-8). *E-Business alignment and performance impact: A survey of small and medium-sized enterprises (SMES)*. Paper presented at the 2012 International Conference on Innovation and Information Management, Chengdu, China. Retrieved from https://www.researchgate.net/profile/Noor_Azizi_Ismail/publication/259297709_EBusiness_Alignment_and_Performance_Impact_A_Survey_of_Small_and_Medium-sized_Enterprises_SMEs/links/0046352ae562d7cc70000000.pdf
- Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information systems research*, 2(3), 192-222.
- Morris, M. G., & Venkatesh, V. (2000). Age differences in technology adoption decisions: Implications for a changing work force. *Personnel Psychology*, 53(2), 375-403.
- Mosweu, O., Bwalya, K., & Mutshewa, A. (2016). Examining factors affecting the adoption and usage of document workflow management system (DWMS) using the UTAUT model: case of Botswana. *Records Management Journal*, 26(1), 38-67.

- Nanayakkara, C. (2007). A model of user acceptance of learning management systems: A study within tertiary institutions in New Zealand. *The International Journal of Learning*, 13(12), 223-232.
- Naor-Elaiza, O., & Geri, N. (2008). *Easy as e-mail? probing the slow adoption of an online assignment submission system*. Conference proceedings of the 1st Chais Conference on Instructional Technologies Research, Raanana, Israel. Retrieved http://telem-pub.openu.ac.il/users/chais/2008/morning/1_2.pdf
- Naqvi, S. M. H., & Khan, M. A. (2013). Employees training and organizational performance: Mediation by employees' performance. *Interdisciplinary Journal of Contemporary Research in Business*, 5(4), 490-503.
- Naseem, I., Sikander, A., Hameed, N., & Khan, R. (2012). Factors affecting employees' performance: Evidence from Pakistan. *Science Series Data Report*, 4(6), 141- 174.
- Nisha, N., Iqbal, M., Rifat, A., & Idrish, S. (2016). Adoption of e-government services: Exploring the case of electronic tax filing. *International Journal of E-Services and Mobile Applications*, 8(3), 53-70.
- Njanja, W., Maina, R., Kibet, L., & Njagi, K. (2013). Effect of reward on employee performance: A case of Kenya power and lighting company ltd., nakuru, Kenya. *International Journal of Business and Management*, 8(21), 41-49.
- Noe, R. A., Hollenbeck, J. A., Gerhart, B. & Wright, P. M. (2009). *Fundamentals of human resource management* (3rd ed.). New York, McGraw-Hill.
- Ojha, A., Sahu, G., & Gupta, M. (2009). Antecedents of paperless income tax filing by young professionals in India: An exploratory study. *Transforming Government: People, Process and Policy*, 3(1), 65-90.
- Okello, A. (2014). Managing income tax compliance through self-assessment. *International Monetary Fund Working Paper*.41(14),1-37.
- Otley, D. (1999). Performance management: A framework for management control systems research. *Management Accounting Research*, 10(4), 363-382.
- Ottoum, I., & Suleiman, R. (2011). *E-Government—the Jordanian experience*. Conference proceedings of the 5th International Conference on Information Technology, Amman, Jordan. Retrieved from http://www.zuj.edu.jo/conferences/icit11/paperlist/Papers/Media%20and%20societal%20innovation/628_issa_ottoum.pdf
- Ozgen, F. B., & Turan, A. H. (2007, September 27-28). *Usage and adoption of online tax filing and payment system in tax management: An empirical*

assessment with Technology Acceptance (TAM) Model in Turkey. Paper presented at the 9th International Scientific Conference, Management Horizons: Visions and Challenges, Kaunas, Lithuania. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1012660

Pallant, J. (2011). *SPSS survival manual: A step by step guide to data analysis using SPSS* (4th ed.). Allen and Unwin, Crow's Nest.

Palil, M. R., & Mustapha, A. F. (2011). Factors affecting tax compliance behaviour in self-assessment system. *African Journal of Business Management*, 5(33), 12864-12872.

Popović-Pantić, S. (2014). An analysis of female entrepreneurship and innovation in Serbia in the context of EU competitiveness. *Economic Annals*, 59(200), 61-90.

Partlow, C. G. (1996). Human-resources practices of TQM hotels. *Cornell Hospitality Quarterly*, 37(5), 67-77.

Pavlou, P. A., & Fygenson, M. (2006). Understanding and predicting electronic commerce adoption: An extension of the theory of planned behaviour. *MIS Quarterly*, 30(1), 115-143.

Payne, E., & Curtis, M. B. (2008). *Can the Unified Theory of Acceptance and Use of Technology Help Us Understand the Adoption of Computer-Aided Audit Techniques by Auditors?* Working paper, University of Louisville.

Petersen, J. F., & Washington, K. A. (1993). Why electronic tax filing is hot. *Journal of Accountancy*, 176(4), 68-70.

Pflughoeft, K. A., Ramamurthy, K., Soofi, E. S., Yasai-Ardekani, M., & Zahedi, F. M. (2003). Multiple conceptualizations of small business web use and benefit. *Decision Sciences*, 34(3), 467-512.

Phichitchaisopa, N., & Naenna, T. (2013). Factors affecting the adoption of healthcare information technology. *Excli Journal*, 12(1), 413-436.

Pincus, J. D. (1986). Communication satisfaction, job satisfaction, and job performance. *Human Communication Research*, 12(3), 395-419.

Piccoli, G., Ahmad, R., & Ives, B. (2001). Web-based virtual learning environments: A research framework and a preliminary assessment of effectiveness in basic IT skills training. *MIS Quarterly*, 25(4), 401-426.

Plude, D. J., & Hoyer, W. J. (1985). Attention and performance: Identifying and

localizing age deficits. In N. Charness (ed.), *Aging and Human Performance* (47-99). London: Wiley.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioural research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63(1), 539-569.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531-544.

Putnam, A., Caulfield, A. M., Chung, E. S., Chiou, D., Constantinides, K., Demme, J., & Haselman, M. (2014, June). A reconfigurable fabric for accelerating large-scale datacenter services. In *Computer Architecture (ISCA), 2014 ACM/IEEE 41st International Symposium*.

Qtish, A. M., & Qataweh, A. M. (2015). Critical examination of the impact of e-government on the income tax collections: A case study in the income and sales tax department of Jordan. *International Journal of Academic Research in Business and Social Sciences*, 5(4), 27-36.

Qutaishat, F. T. (2012). Users perceptions towards website quality and its effect on intention to use e-government services in Jordan. *International Business Research*, 6(1), 97-105.

Rahman, A. L. A., Jamaludin, A., & Mahmud, Z. (2011). Intention to use digital library based on modified UTAUT model: Perspectives of Malaysian postgraduate students. *World Academy of Science, Engineering and Technology*, 75(1), 116-122.

Rai, A., Brown, P., & Tang, X. (2009). Organizational assimilation of electronic procurement innovations. *Journal of Management Information Systems*, 26(1), 257-296.

Ramazani, M., Zanjani, M., & Vali, F. (2012). Accounting software expectation gap based on features of accounting information systems (AISs). *Journal of Emerging Trends in Computing and Information Sciences*, 3(11). Available at SSRN: <https://ssrn.com/abstract=2199805>.

Rana, N. P., & Dwivedi, Y. K. (2015). Citizen's adoption of an e-government system: Validating extended social cognitive theory (SCT). *Government*

Information Quarterly, 32(2), 172-181.

- Raymond, L., Croteau, A.-M., & Bergeron, F. (2011). The strategic role of IT as an antecedent to the IT sophistication and IT performance of manufacturing SMEs. *International Journal on Advances in Systems and Measurements*, 4(3-4), 203-211.
- Raymond, L., G. Pare, and F. Bergeron. 1995. Matching Information Technology and Organizational Structure: An Empirical Study with Implications for Performance. *European Journal of Information Systems*, 4(1), 3-16.
- Raymond, L., & Paré, G. (1992). Measurement of information technology sophistication in small manufacturing businesses. *Information Resources Management Journal*, 5(2), 4-16.
- Raymond, L., & St-Pierre, J. (2005). Antecedents and performance outcomes of advanced manufacturing systems sophistication in SMEs. *International Journal of Operations & Production Management*, 25(6), 514-533.
- Rehman, M., Esichaikul, V., & Kamal, M. (2012). Factors influencing e-government adoption in Pakistan. *Transforming Government: People, Process and Policy*, 6(3), 258-282.
- Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing*, 26(4), 332-344.
- Ringle, C. M., Sarstedt, M., & Straub, D. (2012). A critical look at the use of PLS-SEM. *MIS Quarterly*, 36(1), 3-14.
- Ringle, C. M., Wende, S., and Will, A. (2005). SmartPLS 2.0 (Beta), <http://www.smartpls.de>. Hamburg, Germany.
- Robinson Jr, L. (2006). Moving beyond adoption: Exploring the determinants of student intention to use technology. *Marketing Education Review*, 16(2), 79-88.
- Saleem, Q., Shahid, M., & Naseem, A. (2011). Degree of influence of training and development on employee's behaviour. *International Journal of Computing and Business Research*, 2(3), 2229-6166.
- Salleh, N., Jusoh, R., & Ruhana Isa, C. (2010). Relationship between information systems sophistication and performance measurement. *Industrial Management & Data Systems*, 110(7), 993-1017.

- Saliza, A. A. (2014). *The determinants of behavioural acceptance for tax e-filing among tax preparers in Malaysia* (Unpublished doctoral dissertation). Universiti Utara Malaysia, Malaysia.
- Sarker, T. K. (2003). Improving tax compliance in developing countries via self-assessment systems—what could Bangladesh learn from Japan. *Asia-Pacific Tax Bulletin*, 9(6), 3-34.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). Understanding research philosophies and approaches. *Research Methods for Business Students*, 4(1), 106-135.
- Sattler, H., Völckner, F., Riediger, C., & Ringle, C. M. (2010). The impact of brand extension success drivers on brand extension price premiums. *International Journal of Research in Marketing*, 27(4), 319-328.
- Schaupp, L. C., Carter, L., & McBride, M. E. (2010). E-file adoption: A study of US taxpayers' intentions. *Computers in Human Behaviour*, 26(4), 636-644.
- Schneider, B., & Bowen, D. E. (1985). Employee and customer perceptions of service in banks: Replication and extension. *Journal of Applied Psychology*, 70(3), 423-433.
- Sekaran, U. (2003). *Research Methods for Business: A skill building approaches* (4th ed.). New York: John Wiley & Sons.
- Sekaran, U., & Bougie, R. (2010). *Theoretical framework in theoretical framework and hypothesis development. Research Methods for Business: A Skill Building Approach* (5th ed.). United Kingdom: John Wiley & Sons.
- Selim, H. M. (2007). Critical success factors for e-learning acceptance: Confirmatory factor models. *Computers and Education*, 49(2), 396-413.
- Shafi, A. S., & Weerakkody, V. (2009, June 7-9). *Understanding citizens' behavioural intention in the adoption of e-government services in the state of Qatar*. Paper presented at 17th European Conference on Information Systems, Verona, Italy. Retrieved from https://www.researchgate.net/profile/Vishanth_Weerakkody/publication/221408088_Understanding_citizens'_behavioural_intention_in_the_adoption_of_egovernment_services_in_the_state_of_Qatar/links/0fcfd50f840c30f9b3000000.pdf
- Shaper, L., & Pervan, G. (2007). ICT and OTS a model of information and communication technology acceptance and utilizations by occupational therapist. *International Journal of Medical Informatics*, 76(1), 212-221.

- Sharma, D. S. K., Oman, S. O., & Yadav, D. R. (2011). An empirical study on tax payer's attitude towards e-return filing in India. *International Journal of Research in Computer Application and Management*, 6(1), 20-29.
- Sharma, R., & Yetton, P. (2007). The contingent effects of training, technical complexity, and task interdependence on successful information systems implementation. *MIS Quarterly*, 31(2), 219-238.
- Shen, D., Laffey, J., Lin, Y., & Huang, X. (2006). Social influence for perceived usefulness and ease-of-use of course delivery systems. *Journal of Interactive Online Learning*, 5(3), 270-282.
- Soest, C. V. (2007). Measuring the capability to raise revenue: Process and output dimensions and their application to the Zambia revenue authority. *Public Administration and Development*, 27(4), 353-365.
- Simon, K. W. (1990). Congress and taxes: A separation of powers analysis. *University of Miami Law Review*, 45(1), 1005-1049.
- Sinclair, M. (2007). A guide to understanding theoretical and conceptual frameworks. *Evidence-Based Midwifery*, 5(2), 39-40.
- Spoge, L., & Trewin, J. (2003). The basics of e-file. *Strategic Finance*, 13-15.
- Stone, M. (1974). Cross-validatory choice and assessment of statistical predictions. *Journal of the Royal Statistical Society. Series B (Methodological)*, 36(2) 111-147.
- Suki, N. M., & Ramayah, T. (2010). User acceptance of the e-government services in Malaysia: Structural equation modeling approach. *Interdisciplinary Journal of Information, Knowledge, and Management*, 5(1), 395-413.
- Sulaiman, W. (2004). *Organizational Commitment on Information Technology at the State Secretary Office of Perlis* (Unpublished doctoral dissertation). Universiti Utara Malaysia, Malaysia.
- Sultana, A., Irum, S., Ahmed, K., & Mehmood, N. (2012). Impact of training on employee performance: A study of telecommunication sector in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 4(6), 646-661.
- Suraweera, T. (2004). *IT management sophistication in small business: Its definition, measurement and relationship with IT impact* (Doctoral dissertation, University of Canterbury, Christchurch, New Zealand). Retrieved from

file:///C:/Users/user/Downloads/suraweera_thesis%20(2).pdf

- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Needham Height, MA: Allyn & Bacon.
- Tan, P. J. B. (2013). Students adoptions and attitudes towards electronic placement tests: A UTAUT analysis. *American Journal of Computer Technology and Application*, 1(1), 14-23.
- Tan, T. H., & Foo, Y.F. (2012). Predicting taxpayer's intentions of adopting electronic tax-filing (e-filing) in Malaysia. *Journal of Accounting–Business and Management*, 19(2), 59-71.
- Tarafdar, M., Tu, Q., & Ragu-Nathan, T. (2010). Impact of technostress on end-user satisfaction and performance. *Journal of Management Information Systems*, 27(3), 303-334.
- Targowski, A., & Tarn, J. M. (2007). *Enterprise systems education in the 21st century*. US: Idea Group Inc (IGI).
- Tarhini, A., Ali, M., & Serrano, A. (2016). Extending the UTAUT model to understand the customers' acceptance and use of internet banking in Lebanon: A structural equation modeling approach. *Information Technology and People*, 29(4), 830-849.
- Taylor, S., & Todd, P. (1995). Decomposition and crossover effects in the theory of planned behaviour: A study of consumer adoption intentions. *International Journal of Research in Marketing*, 12(2), 137-155.
- Tenenhaus, M., Vinzi, V. E., Chatelin, Y.-M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics and Data Analysis*, 48(1), 159-205.
- Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal computing: Toward a conceptual model of utilization. *MIS Quarterly*, 15(10), 125-143.
- Tsaur, S.-H., & Lin, Y.-C. (2004). Promoting service quality in tourist hotels: The role of HRM practices and service behaviour. *Tourism Management*, 25(4), 471-481.
- Tung, L. L., & Rieck, O. (2005). Adoption of electronic government services among business organizations in Singapore. *The Journal of Strategic Information Systems*, 14(4), 417-440.
- USAID funded Fiscal Reform II Project (2012). Expand the Tax E-Filing Program. Policy brief Budget & Taxes, No. 5, 1.

- Valerie, F. (2012). Re-discovering the PLS approach in management science. *Management Accounting Research*, 15(1),101-123.
- Venkatesh, V. (1999). Creation of favorable user perceptions: Exploring the role of intrinsic motivation. *MIS Quarterly*, 23 (2) 239-260.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186-204.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*,27(3), 425-478.
- Venkatesh, V., Sykes, T. A., & Zhang, X. (2011). *Just what the doctor ordered': A revised UTAUT for EMR system adoption and use by doctors*. Conference proceedings of the 44th Hawaii International Conference on System Sciences, Hawaii, USA. Retrieved from <http://ieeexplore.ieee.org/abstract/document/5718549/>
- Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157-178.
- Wang, W.-T., & Wang, C.-C. (2009). An empirical study of instructor adoption of web-based learning systems. *Computers and Education*, 53(3), 761-774.
- Wang, Y.-S. (2003). The adoption of electronic tax filing systems: An empirical study. *Government Information Quarterly*, 20(4), 333-352.
- Wang, Y.-S., & Shih, Y.-W. (2009). Why do people use information kiosks? a validation of the unified theory of acceptance and use of technology. *Government Information Quarterly*, 26(1), 158-165.
- Wei, K.-K., Teo, H.-H., Chan, H. C., & Tan, B. C. (2011). Conceptualizing and testing a social cognitive model of the digital divide. *Information Systems Research*, 22(1), 170-187.
- Weill, P. (1992). The relationship between investment in information technology and firm performance: A study of the valve manufacturing sector. *Information Systems Research*, 3(4), 307-333.
- Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly*, 33(1), 177-195.

- Wold, H. (1985). Partial least squares. *Encyclopedia of statistical sciences*.
- Wu, Y. L., Tao, Y. H., & Yang, P. C. (2007, December 2-5). *Using UTAUT to explore the behaviour of 3G mobile communication users*. Paper presented at International Conference on Industrial Engineering and Engineering Management, Singapore. Retrieved from <http://ir.nuk.edu.tw:8080/ir/bitstream/310360000Q/10795/2/IEEM20074IR.pdf>
- Xiao, Z. Z., Dyson, J. R., & Powell, P. L. (1996). The impact of information technology on corporate financial reporting: A contingency perspective. *The British Accounting Review*, 28(3), 203-227.
- Xu, M., Rohatgi, R., & Duan, Y. (2007). E-business adoption in SMEs: Some preliminary findings from electronic components industry. *International Journal of E-Business Research*, 3(1), 74-84.
- Yaghoubi, N., Kord, B., & Shakeri, R. (2010). E-government services and user acceptance: The unified models' perspective. *European Journal of Economics, Finance and Administrative Sciences*, 24(1), 36-49.
- Yuen, Y. Y., Yeow, P. H., Lim, N., & Saylani, N. (2010). Internet banking adoption: Comparing developed and developing countries. *Journal of Computer Information Systems*, 51(1), 52-61.
- Yu, T. K., & Yu, T. Y. (2010). Modelling the factors that affect individuals' utilization of online learning systems: An empirical study combining the task technology fit model with the theory of planned behaviour. *British Journal of Educational Technology*, 41(6), 1003-1017.
- Zawaideh, F. H. (2016). Acceptance of e-government services among Jordanian citizen. *International Journal of Recent Advances in Multidisciplinary Research*, 4(2), 2348-2351
- Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1985). Services Marketing. *Journal of Marketing*, 49(2), 33-46.
- Zigurs, I., Buckland, B. K., Connolly, J. R., & Wilson, E. V. (1999). A test of task-technology fit theory for group support systems. *Special Interest Groups for Management and Information System*, 30(3), 34-50.
- Zikmund, W., Babin, B., & Carr, J. M. Griffin (2010). *Business Research Method* (8th ed.). Cincinnati, USA: South-Western Cengage Learning.

Zikmund, W. (2003). *Business Research Methods* (7th ed.). Cincinnati, USA:
Thomson/South-Western College.



Appendix A

Research Questionnaire (English Version)



Universiti Utara Malaysia

School of Accountancy

Dear Target Audience,

I am a PhD candidate in the field of Accounting. The main aim of my study is to examine electronic tax filing adoption among tax office in Jordan.

I would appreciate your co-operation in making my research a success. Please spare some of your valuable time to complete this questionnaire. All personal information will be Kept confidential. If you have any questions about the questionnaire or would you like to see the final results, feel free to contact me.

Thank you for participating in this study. Your cooperation in the matter is highly Appreciated.

Yours sincerely, (MOHAMMAD HAIDER) ALIBRAHEEM

Student Number: 95385

PhD Candidate

School of Accountancy

Universiti Utara Malaysia

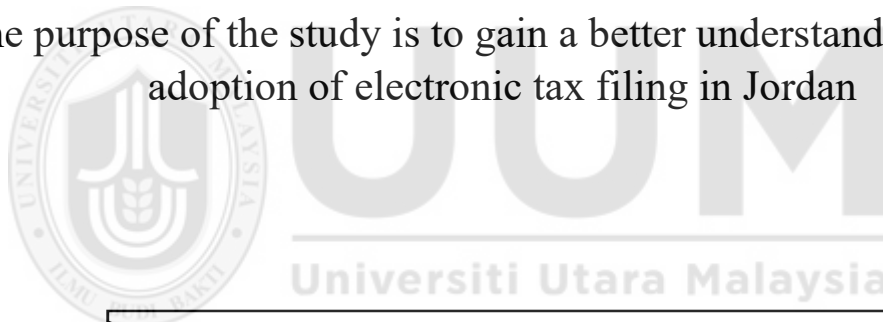
E-mail: malzoubi878@yahoo.com



**DETERMINANTS OF ELECTRONIC TAX FILING AND EMPLOYEE
PERFORMANCE AMONG TAX OFFICERS IN JORDAN**

Questionnaire

The purpose of the study is to gain a better understanding of the adoption of electronic tax filing in Jordan



This questionnaire should take about 15 minutes to complete. Your answers are very important to this study and will be kept strictly confidential. Please return the completed questionnaire at your

earliest

Convenience.

Thank you for your cooperation

Part 1: Demographic information

1. Gender () Male () Female

2. Age (year)

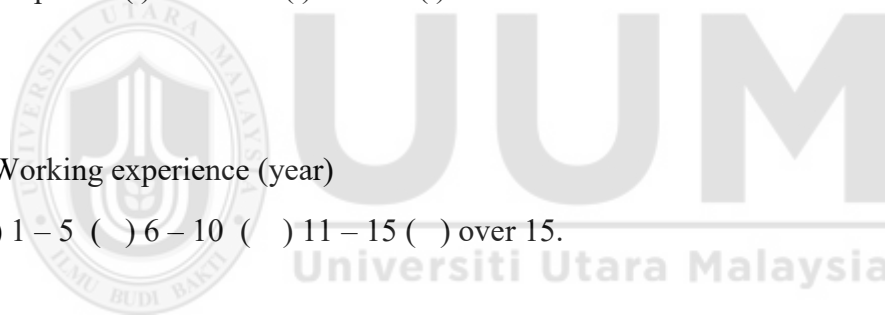
() 25 or less () 26 – 35 () 36 - 45 () 46 - 55 () 56 - 65

3. Level of education

() Diploma () Bachelor () Master () PhD

4. Working experience (year)

() 1 – 5 () 6 – 10 () 11 – 15 () over 15.



Part 2: Employee Performance

Instruction: In answering, please use the following scale and select the number that best represent your opinion

1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

| No | Items | 1 | 2 | 3 | 4 | 5 |
|----|--|---|---|---|---|---|
| 1 | Electronic tax filing system environment has a large positive impact on effectiveness of my job. | 1 | 2 | 3 | 4 | 5 |
| 2 | Electronic tax filing system is an important and valuable aid to me in the performance of my job. | 1 | 2 | 3 | 4 | 5 |
| 3 | Electronic tax filing system helps to improve the quality of my work. | 1 | 2 | 3 | 4 | 5 |
| 4 | Electronic tax filing system helps me to accomplish more work than it would otherwise be possible. | 1 | 2 | 3 | 4 | 5 |
| 5 | Electronic tax filing system helps me to perform my job better. | 1 | 2 | 3 | 4 | 5 |

Part 3: Electronic Tax Filing

Instruction: In answering, please use the following scale and select the number that best represent your opinion

1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

| No | Items | 1 | 2 | 3 | 4 | 5 |
|----|--|---|---|---|---|---|
| 1 | I will communicate with colleagues in order to better understand how electronic tax filing system operates. | 1 | 2 | 3 | 4 | 5 |
| 2 | I will communicate with IT specialists in order to better understand how electronic tax filing system operates. | 1 | 2 | 3 | 4 | 5 |
| 3 | I will research, on my own initiative, in order to increase my knowledge and my mastery of electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 4 | I will explore several information sources, on my own initiative, concerning electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 5 | I will spend enough effort (time and energy) to learn about electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 6 | I will invest much effort (in time and energy) in order to better use electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |

Part 4: Performance Expectancy

Instruction: In answering, please use the following scale and select the number that best represent your opinion

1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

| No | Items | 1 | 2 | 3 | 4 | 5 |
|----|---|---|---|---|---|---|
| 1 | I find electronic tax filing system useful in my job. | 1 | 2 | 3 | 4 | 5 |
| 2 | Using electronic tax filing system enables me to accomplish tasks more quickly. | 1 | 2 | 3 | 4 | 5 |
| 3 | Using electronic tax filing system increases my productivity. | 1 | 2 | 3 | 4 | 5 |
| 4 | Using electronic tax filing system increase my chances of getting a raise. | 1 | 2 | 3 | 4 | 5 |

Part 5: Effort Expectancy

Instruction: In answering, please use the following scale and select the number that best represent your opinion

1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

| No | Items | 1 | 2 | 3 | 4 | 5 |
|----|---|---|---|---|---|---|
| 1 | My interaction with electronic tax filing system is clear and understandable. | 1 | 2 | 3 | 4 | 5 |
| 2 | It is easy for me to become skillful at using electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 3 | I find electronic tax filing system easy to use. | 1 | 2 | 3 | 4 | 5 |
| 4 | Learning to operate electronic tax filing system is easy for me. | 1 | 2 | 3 | 4 | 5 |

Part 6: Social Influence

Instruction: In answering, please use the following scale and select the number that best represent your opinion

1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

| No | Items | 1 | 2 | 3 | 4 | 5 |
|----|---|---|---|---|---|---|
| 1 | My co-worker who influence my behaviour think that I should use electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 2 | My co-worker who are important to me think that I should use electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 3 | Senior management at the tax office has been very helpful to me in the use of electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 4 | In general, the tax authority has supported me to use electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |

Part 7: Facilitating conditions

Instruction: In answering, please use the following scale and select the number that best represent your opinion

1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

| No | Items | 1 | 2 | 3 | 4 | 5 |
|----|--|---|---|---|---|---|
| 1 | I have the resources necessary to use electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 2 | I have the knowledge necessary to use electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 3 | Electronic tax filing system is not compatible with other systems I use. | 1 | 2 | 3 | 4 | 5 |
| 4 | A specific person (or group) is available for assistance with electronic tax filing system difficulties. | 1 | 2 | 3 | 4 | 5 |

Part 8: Training

Instruction: In answering, please use the following scale and select the number that best represent your opinion

1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

| No | Items | 1 | 2 | 3 | 4 | 5 |
|----|--|---|---|---|---|---|
| 1 | There is enough training for me on how to find, understand, access or use electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 2 | I am getting the training I need to be able to use electronic tax filing system, languages, procedures and data effectively. | 1 | 2 | 3 | 4 | 5 |
| 3 | Training helps me to be more confident in using the electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 4 | Training helps me to handle electronic tax filing system effectively. | 1 | 2 | 3 | 4 | 5 |
| 5 | Training helps me to make fewer mistakes when handling electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 6 | Training helps me to improve my skills in using electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 7 | Training helps me to be able to guide taxpayers in using electronic tax filing system. | 1 | 2 | 3 | 4 | 5 |
| 8 | Training helps me to solve electronic tax filing system problems for taxpayers. | 1 | 2 | 3 | 4 | 5 |

Part 9: IT Technological Sophistication

Instruction: In answering, please use the following scale and select the number that best represent your opinion

1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

| No | Items | 1 | 2 | 3 | 4 | 5 |
|----|---|---|---|---|---|---|
| 1 | I employ Electronic tax filing system extensively to share data and information with taxpayers | 1 | 2 | 3 | 4 | 5 |
| 2 | I employ Electronic tax filing system extensively to share data and information within Jordanian Tax Offices. | 1 | 2 | 3 | 4 | 5 |
| 3 | I employ Electronic tax filing system to conduct transactions with taxpayers. | 1 | 2 | 3 | 4 | 5 |
| 4 | I employ Electronic tax filing system for logistics purposes (e.g., taxpayers monitoring). | 1 | 2 | 3 | 4 | 5 |

Part 10: IT Informational Sophistication

Instruction: In answering, please use the following scale and select the number that best represent your opinion

1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

| No | Items | 1 | 2 | 3 | 4 | 5 |
|----|---|---|---|---|---|---|
| 1 | Electronic tax filing system is important for the fulfillment of operational costs reduction. | 1 | 2 | 3 | 4 | 5 |
| 2 | Electronic tax filing system is important for the fulfillment of productivity improvements. | 1 | 2 | 3 | 4 | 5 |
| 3 | Electronic tax filing system is important for the fulfillment of improved access to information. | 1 | 2 | 3 | 4 | 5 |
| 4 | Electronic tax filing system is important for the fulfillment of improved quality of decision making. | 1 | 2 | 3 | 4 | 5 |
| 5 | Electronic tax filing system is important for the fulfillment of improved competitiveness. | 1 | 2 | 3 | 4 | 5 |
| 6 | Electronic tax filing system is important for the fulfillment of improved service to taxpayers. | 1 | 2 | 3 | 4 | 5 |

Appendix B

Research Questionnaire (Arabic Version)



جامعة الشمال الماليزية

قسم المحاسبة

الاستبانة

عزيزي المستجيب : أرجوا التكرم بالمساعدة تعبئة هذه الاستبانة والمتعلقة بالبحث الخاص بي لإكمال رسالة الدكتوراة تحت عنوان "محدّات نظام تعبئة الضريبة الالكترونية و[] موظفي الضريبة في مكاتب الضريبة ال[]نية".

الهدف الرئيسي من هذا البحث هو اختبار تبني نظام تعبئة ضريبة الألكترونية من قبل موظفي [] ائرة الضريبة في ال[]ن.

أقدم شكري وتقديري لكم مرة أخرى على وقتكم وحسن تعاونكم من أجل إنجاز هذا البحث, علماً بأن جميع المعلومات الخاصة بكم ستبقى سرية.

في حال وجود [] اي استفسار عن مواضيع الإستبانة أو معرفة نتائجها , يرجى التواصل معي على الإيميل المذكور تاليا:

Malzoubi8787@yahoo.com

كثير من الإذاعات إليهم ما يقرب من تعبئة الإستبانة.
لهذا إحدائكم ولو أنتم فانت أهله وتربية محفزة وكثير
ذلك اندراسه , وسيجب الاحتفاظ بها بصورة جيدة.
نرجوا تعيها وإحديها نظرب وقت محض.
تفكر لكم حسن شعوركم

الجزء الاول المعلومات الشخصية:

1. الجنس () ذكر () انثى
2. العمر () أقل من 25 () 26-35 () 36-45 () 46-55 () 56 وأكثر.
3. المستوى التعليمي () بلوم () بكالوريوس () دراسات عليا.
4. الخبرة العلمية () سنة – 5 سنوات () 6-10 سنوات () 11-15 سنة () أكثر من ذلك.



UUM
Universiti Utara Malaysia

الجزء الثاني : إاء الموظفين

الرجاء التعبير عن رأيك لكل من الفقرات التالية عن طريق وضع إشارة عند الاجابة المناسبة بالاعتماد على

المقياس التالي: (1: غير موافق بشدة , 2: غير موافق , 3: محايد , 4: أوافق , 5: أوافق بشدة)

| الرقم | الموضوع | غير موافق بشدة 1 | غير موافق 2 | محايد 3 | أوافق 4 | أوافق بشدة 5 |
|-------|---|---------------------|----------------|------------|------------|-----------------|
| 1. | البيئة العلمية لنظام تعبئة الضريبة الإلكترونية ينعكس بشكل ايجابي على زيادة الفاعلية في ملي. | | | | | |
| 2. | يعتبر نظام تعبئة الضريبة الإلكترونية نصر مهم وقيم للمسادة في أداء ملي. | | | | | |
| 3. | يعتبر نظام تعبئة الضريبة الإلكترونية نصر مهم للمسادة في التطوير النومي في ملي. | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| | | | | | 4. يعتبر نظام تعبئة الضريبة الإلكترونية <input type="checkbox"/> نصر مهم في المسألة في إنجاز <input type="checkbox"/> ملي أكثر من أي وسيلة أخرى. |
| | | | | | 5. يعتبر نظام تعبئة الضريبة الإلكترونية <input type="checkbox"/> نصر مهم في المسألة لي تحسين الإداء في ملي. |

الجزء الثالث :

الرجاء التعبير عن رأيك لكل من الفقرات التالية عن طريق وضع إشارة عند الاجابة المناسبة بالاعتماد على
المقياس التالي: (1:غير موافق بشدة , 2:غير موافق, 3:محايد , 4:أوافق , 5:أوافق بشدة)

| الرقم | الموضوع | غير موافق بشدة 1 | غير موافق 2 | محايد 3 | أوافق 4 | أوافق بشدة 5 |
|-------|--|------------------------|----------------|------------|------------|-----------------|
| 1. | سأقوم بالتواصل مع زملائي من أجل فهم كيفية عمل نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 2. | سأقوم بالتواصل مع مختصي نظم معلوماتية من أجل فهم طبيعة عمل نظام تعبئة الضريبة الإلكتروني | | | | | |
| 3. | سأقوم بمبادرة شخصية مني بالبحث لزيادة معرفتي واجادتي ل نظام تعبئة الضريبة الإلكتروني | | | | | |
| 4. | سأقوم بمبادرة شخصية مني بالبحث عن مصادر معلومات مختلفة فيما يتعلق ب نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 5. | سأقوم بتخصيص وقت وجهد كافيين للتعلم عن نظام تعبئة الضريبة الإلكتروني. | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| | | | | | 6. سأقوم بتخصيص الكثير من الوقت والجهد من أجل استخدام نظام تعبئة الضريبة الإلكتروني بشكل أفضل. |
|--|--|--|--|--|--|

الجزء الرابع :

الرجاء التعبير عن رأيك لكل من الفقرات التالية عن طريق وضع إشارة عند الإجابة المناسبة بالاعتماد على المقياس التالي: (1: غير موافق بشدة , 2: غير موافق , 3: محايد , 4: أوافق , 5: أوافق بشدة)

| الرقم | الموضوع | غير موافق بشدة 1 | غير موافق 2 | محايد 3 | أوافق 4 | أوافق بشدة 5 |
|-------|---|---------------------|----------------|------------|------------|-----------------|
| 1. | يعتبر نظام تعبئة الضريبة الإلكتروني مفيد في <input type="checkbox"/> ملي. | | | | | |
| 2. | استخدام نظام تعبئة الضريبة الإلكتروني يمكنني من إنجاز المهام بصورة أسرع. | | | | | |
| 3. | يعمل استخدام نظام تعبئة الضريبة الإلكتروني <input type="checkbox"/> لى زيادة إنتاجيتي. | | | | | |
| 4. | يعمل نظام تعبئة الضريبة الإلكتروني <input type="checkbox"/> لى زيادة فرصتي في الحصول <input type="checkbox"/> لى زيادات وحوافز. | | | | | |

الجزء الخامس

الرجاء التعبير عن رأيك لكل من الفقرات التالية عن طريق وضع إشارة عند الاجابة المناسبة بالاعتماد على المقياس التالي: (1: غير موافق بشدة , 2: غير موافق, 3: محايد , 4: أوافق , 5: أوافق بشدة)

| الرقم | الموضوع | غير موافق بشدة 1 | غير موافق 2 | محايد 3 | أوافق 4 | أوافق بشدة 5 |
|-------|--|---------------------|----------------|------------|------------|-----------------|
| 1. | تفاني مع نظام تعبئة الضريبة الإلكتروني واضح ومفهوم. | | | | | |
| 2. | من السهل لي ان أصبح ماهراً في استخدام نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 3. | يعتبر نظام تعبئة الضريبة الإلكتروني سهل الاستخدام. | | | | | |
| 4. | يعتبر تعلم استخدام نظام تعبئة الضريبة الإلكتروني سهل بالنسبة لي. | | | | | |

الجزء السادس: الرجاء التعبير عن رأيك لكل من الفقرات التالية عن طريق وضع إشارة عند الاجابة المناسبة بالاعتماد على المقياس التالي: (1: غير موافق بشدة , 2: غير موافق, 3: محايد , 4: أوافق , 5: أوافق بشدة)

| الرقم | الموضوع | غير موافق بشدة 1 | غير موافق 2 | محايد 3 | أوافق 4 | أوافق بشدة 5 |
|-------|--|---------------------|----------------|------------|------------|-----------------|
| 1. | مسئولي وزملائي في العمل يعتقدون بأنه من الواجب لي استخدام نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 2. | مسئولي وزملائي في العمل يعتقدون بأنه من الواجب لي استخدام نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 3. | الادارة العليا في مكتب الضريبة متعاونه فيما يختص باستخدام | | | | | |

| | | | | | |
|--|--|--|--|--|---|
| | | | | | نظام تعبئة الضريبة الإلكتروني. |
| | | | | | 4. بشكل □ ام قامت السلطة الضريبية بد□ مي في استخدام نظام تعبئة الضريبة الإلكتروني |

الجزء السابع:
الرجاء التعبير عن رأيك لكل من الفقرات التالية عن طريق وضع إشارة عند الاجابة المناسبة بالاعتماد على المقياس التالي: (1:غير موافق بشدة , 2:غير موافق, 3:محايد , 4:أوافق , 5:أوافق بشدة)

| الرقم | الموضوع | غير موافق بشدة 1 | غير موافق 2 | محايد 3 | أوافق 4 | أوافق بشدة 5 |
|-------|--|---------------------|----------------|------------|------------|-----------------|
| 1. | لدي المصادر اللازمة لاستخدام نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 2. | لدي المعرفة اللازمة لاستخدام نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 3. | لا يتعارض نظام تعبئة الضريبة الإلكتروني مع الانظمة الأخرى التي أستخدمها. | | | | | |
| 4. | يتوفر شخص او مجموعة أشخاص مختلفين للمساعدة في التغلب على صعوبات نظام تعبئة الضريبة الإلكتروني. | | | | | |

الجزء الثامن:
الرجاء التعبير عن رأيك لكل من الفقرات التالية عن طريق وضع إشارة عند الإجابة المناسبة بالاعتماد على
المقياس التالي: (1:غير موافق بشدة , 2:غير موافق, 3:محايد , 4:أوافق , 5:أوافق بشدة)

| الرقم | الموضوع | غير موافق بشدة 1 | غير موافق 2 | محايد 3 | أوافق 4 | أوافق بشدة 5 |
|-------|--|---------------------|----------------|------------|------------|-----------------|
| 1. | يتوفر التدريب الكافي <input type="checkbox"/> لى كيفية فهم واستخدام نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 2. | احصل <input type="checkbox"/> لى التدريب اللازم لاستخدام لغة واجراءات ومعلومات نظام تعبئة الضريبة الإلكتروني بفا <input type="checkbox"/> لية | | | | | |
| 3. | يعمل التدريب <input type="checkbox"/> لى مسل <input type="checkbox"/> دتي <input type="checkbox"/> لى استخدام نظام تعبئة الضريبة الإلكتروني بشقة أكبر. | | | | | |
| 4. | يعتبر التدريب <input type="checkbox"/> نصر مسل <input type="checkbox"/> د لي في كيفية التعامل مع نظام تعبئة الضريبة الإلكتروني بفا <input type="checkbox"/> لية. | | | | | |
| 5. | يعمل التدريب <input type="checkbox"/> لى مسل <input type="checkbox"/> دتي في ارتكاب اخطاء أقل اثناء التعامل مع نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 6. | يسل <input type="checkbox"/> د التدريب في تحسين مهاراتي في استخدام نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 7. | يعمل التدريب <input type="checkbox"/> لى جعلي قادراً <input type="checkbox"/> لى ارشاد دافعي الضرائب من خلال نظام تعبئة الضريبة الإلكتروني. | | | | | |
| 8. | يعمل التدريب <input type="checkbox"/> لى مسل <input type="checkbox"/> دتي في حل مشاكل نظام تعبئة الضريبة الإلكتروني لدافعي الضرائب. | | | | | |

الجزء التاسع:
الرجاء التعبير عن رأيك لكل من الفقرات التالية عن طريق وضع إشارة عند الإجابة المناسبة بالاعتماد على
المقياس التالي: (1:غير موافق بشدة , 2:غير موافق, 3:محايد , 4:أوافق , 5:أوافق بشدة)

| الرقم | الموضوع | غير موافق بشدة 1 | غير موافق 2 | محايد 3 | أوافق 4 | أوافق بشدة 5 |
|-------|---|---------------------|----------------|------------|------------|-----------------|
| 1. | أقوم باستخدام نظام التعبئة الإلكتروني بشكل كبير من أجل مشاركة المعلومات مع دافعي الضرائب. | | | | | |
| 2. | أقوم باستخدام نظام التعبئة الإلكتروني بشكل كبير من أجل مشاركة المعلومات داخل دائرة الضريبة في الأردن. | | | | | |
| 3. | أمل أن أستخدم نظام التعبئة الإلكتروني في التعاملات مع دافعي الضرائب. | | | | | |
| 4. | أمل أن أستخدم نظام التعبئة الإلكتروني لأهداف لوجستية (مثل مراقبة دافعي الضرائب). | | | | | |

الجزء العاشر:
الرجاء التعبير عن رأيك لكل من الفقرات التالية عن طريق وضع إشارة عند الاجابة المناسبة بالاعتماد على
المقياس التالي: (1:غير موافق بشدة , 2:غير موافق, 3:محايد , 4:أوافق , 5:أوافق بشدة)

| الرقم | الموضوع | غير موافق بشدة 1 | غير موافق 2 | محايد 3 | أوافق 4 | أوافق بشدة 5 |
|-------|---|---------------------|----------------|------------|------------|-----------------|
| .1 | يشكل نظام تعبئة الضريبة الإلكتروني أهمية لانجاز تخفيض التكاليف العملية. | | | | | |
| .2 | يشكل نظام تعبئة الضريبة الإلكتروني أهمية لاكمال تطوير الانتاج المستهدف. | | | | | |
| .3 | يشكل نظام تعبئة الضريبة الإلكتروني أهمية لاتمام عملية الدخول الى البيانات. | | | | | |
| .4 | يشكل نظام تعبئة الضريبة الإلكتروني أهمية لتطوير جودة اتخاذ القرار. | | | | | |
| .5 | يشكل نظام تعبئة الضريبة الإلكتروني أهمية لتحسين العملية التنافسية. | | | | | |
| .6 | يشكل نظام تعبئة الضريبة الإلكتروني أهمية لتحسين الخدمات المقدمة لدافعي الضرائب. | | | | | |

T-Test

Data Set 11 C:\Users\liyenda_jana11\Dropbox\Bomazob\Work\Kul\Mahend-Rou\Labok\Datat1.csv

Group Statistics

| | | N | Mean | Std. Deviation | Std. Error Mean |
|------------------------------|----------------|-----|--------|----------------|-----------------|
| Performance | Early response | 184 | 3.8310 | .80142 | .02883 |
| | Late response | 20 | 4.3950 | .47485 | .09269 |
| Electronic Mail Usage | Early response | 184 | 3.7078 | .69362 | .02711 |
| | Late response | 20 | 4.0100 | .35497 | .07911 |
| Pattern and Expectancy | Early response | 184 | 3.6148 | .57750 | .02516 |
| | Late response | 20 | 4.1570 | .47824 | .10049 |
| Effort Expectancy | Early response | 184 | 3.9258 | .80012 | .02538 |
| | Late response | 20 | 4.2120 | .50583 | .10417 |
| Social Presence | Early response | 184 | 3.9210 | .50192 | .02702 |
| | Late response | 20 | 4.0970 | .64839 | .12821 |
| Facilitating Conditions | Early response | 184 | 3.8054 | .42177 | .03109 |
| | Late response | 20 | 3.6650 | .54352 | .10412 |
| Habit | Early response | 184 | 3.6608 | .44981 | .02310 |
| | Late response | 20 | 4.1700 | .38884 | .10601 |
| Technological Sophistication | Early response | 184 | 3.9178 | .54119 | .02727 |
| | Late response | 20 | 4.0480 | .57365 | .10997 |
| Information Richness | Early response | 184 | 3.8057 | .50011 | .02982 |
| | Late response | 20 | 4.1600 | .47084 | .10601 |

Independent Samples T-test

| | Levene's Test for Equality of Variances | t-Test for Equality of Means | | | | | | | | | |
|------------------------------|---|------------------------------|---------------------------|-------------|-----------------|------|--------------------|--|-------|-------|--|
| | | Sig. | Mean | | Sig. (2-tailed) | Line | 95% Conf. Interval | 95% Confidence Interval for Difference | | Sig. | |
| | | | Difference between Groups | Lower Bound | | | | Upper Bound | | | |
| Performance | 0,32 | 0,000 | 3,56 | 0,57 | 0,000 | 0,46 | 0,000 | 0,46 | 0,000 | 0,000 | |
| Electronic Mail Usage | 0,02 | 0,000 | 3,29 | 0,55 | 0,000 | 0,38 | 0,000 | 0,38 | 0,000 | 0,000 | |
| Pattern and Expectancy | 0,00 | 0,000 | 3,14 | 0,50 | 0,000 | 0,53 | 0,000 | 0,53 | 0,000 | 0,000 | |
| Effort Expectancy | 0,00 | 0,000 | 3,92 | 0,80 | 0,000 | 0,29 | 0,000 | 0,29 | 0,000 | 0,000 | |
| Social Presence | 0,00 | 0,000 | 3,92 | 0,50 | 0,000 | 0,19 | 0,000 | 0,19 | 0,000 | 0,000 | |
| Facilitating Conditions | 0,00 | 0,000 | 3,81 | 0,42 | 0,000 | 0,14 | 0,000 | 0,14 | 0,000 | 0,000 | |
| Habit | 0,00 | 0,000 | 3,66 | 0,45 | 0,000 | 0,15 | 0,000 | 0,15 | 0,000 | 0,000 | |
| Technological Sophistication | 0,00 | 0,000 | 3,92 | 0,54 | 0,000 | 0,37 | 0,000 | 0,37 | 0,000 | 0,000 | |
| Information Richness | 0,00 | 0,000 | 3,81 | 0,50 | 0,000 | 0,34 | 0,000 | 0,34 | 0,000 | 0,000 | |

Appendix D

ISTD Letter



Appendix E

Number of ISTD Employees by Offices

| | Location of Office | Number of Employees |
|-----|-------------------------------|---------------------|
| 1. | Amman - Service center* | 35 |
| 2. | Amman - Commercial centre 1* | 27 |
| 3. | Amman - Commercial centre 2* | 31 |
| 4. | Amman - VIP customer* | 29 |
| 5. | Amman - Manufacturing centre* | 20 |
| 6. | Amman – Information* | 37 |
| 7. | Central Amman | 10 |
| 8. | South Amman | 32 |
| 9. | West Amman | 18 |
| 10. | East Amman | 16 |
| 11. | Irbid** | 30 |
| 12. | Alzarqa | 35 |
| 13. | Albalqa | 10 |
| 14. | Almafraq | 8 |
| 15. | Ajloun | 5 |
| 16. | Maadabaha | 9 |
| 17. | Maan | 7 |
| 18. | Alkarak | 8 |
| 19. | Altafelah | 4 |
| | Total | 371 |

*All these offices are in the Amman Head Office (Tower building).

** All staff in the Irbid office were chosen for pilot test. Thus, excluded in the final population.