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Abstract: This study used TAM model to examine the Kuwaiti employees' performance using the electronic document and records management system (EDRMS) within the Ministry of Social Affairs and Labor and introduces the moderating effect of work cooperation on employees' performance. The data were collected from 345 employees working in the Ministry of Social Affairs and Labor in Kuwait and analysed using SmartPLS. The result shows an insignificant relationship between perceived ease of use and actual use. Furthermore, the influence of perceived usefulness on actual use was found to be strong and significant. Moreover, actual use powerfully impacts employee performance and work cooperation significantly moderates the relationship between actual use and employee performance. This research provides strong evidence regarding to the definition of key factors influencing employees' performance using EDRMS. Variables such as facilitating state and perceived compatibility that possess essential roles with the potential to be examined in future research.

Keywords: perceived usefulness; ease of use; system usage; work cooperation; employee performance; electronic document and records management system; EDRMS.

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1 Introduction

The electronic document and records management system (EDRMS) is defined as “an automated system which supports the creation, use, and maintenance of documents and records in both paper and electronic format with the intention of reaping an efficient organization’s workflow and processes” (Yin, 2014). It is employed by governments in order to enhance the performance of employees. On this subject, in 2011, the Ministry of Social Affairs and Labor (MSAL) in Kuwait began to develop its own EDRMS which was referred to as the data automated workflow (DAW) with the goal of automating all documents within the ministry (Kuwait News Agency, 2011). Furthermore, the DAW was designed in a collaboration with the Central Agency for Information Technology (CAIT) in order to manage and process all internal documents electronically and to enable employees to store, manage, and retrieve documents more easily.

In 2018, MSAL finalised the EDRMS (DAW) project (Shabban, 2018). However, the completion of DAW has no contribution in the improvement of employee performance. For instance, as demonstrated by the Global Competitiveness Report (2018), out of 137 countries, Kuwait ranked 119 and 68 with respect to the labour efficiency index and the technology readiness index respectively (World Economic Forum, 2018). In addition, there exists only a limited number of studies related to EDRMS and the successful adoption rate of EDRMS is low in public sectors despite of its benefits (Ab Aziz et al., 2017). Thus, this study examines the performance of Kuwaiti employees as a result of DAW usage in MSAL.

2 Literature review

The technology acceptance model (TAM) developed by Davis (1989) has been subject to acceptance, moreover, it is empirically validated by numerous studies as an accurate predictor of system usage and acceptance (Davis, 1989). Also, it has been widely utilised in order to predict the usage of different types of technology such as internet banking (Nasri and Charfeddine, 2012), e-learning (Alenezi et al., 2015), ERP systems (Ramayah and Lo, 2007), mobile payment (Mbogo, 2010), and electronic document management systems (Mammo, 2012).

In spite of the widespread implementation of the TAM model in predicting the usage of technology, this model has neglected to focus on evaluating the various outcomes of technology usage, namely user performance. On this subject, user performance is highly recommended by Montesdioca and Maçada (2015) in the form of a set of constructs to be employed in the measurement of information systems’ success (Montesdioca and Maçada, 2015). Moreover, the extant impact of technology usage on the performance of an individual has been evaluated merely in a small number of works of research in connection with technology adoption. As such, this relationship needs to be investigated in a more thorough manner (Hou, 2012; Son et al., 2012). Furthermore, prior theories and models have not taken work cooperation into consideration in the form of a human factor influencing the performance of individuals in public organisations (Pitafi et al., 2018). Work cooperation refers to the extent of direct interaction among employees which results in positive overall outcomes for the organisation (Townsend, 2007). Hence, it is deemed to be a crucial factor in improving the performance of team members in public organisations (Zhuge, 2003).

2.1 *Perceived ease of use*

A number of studies have been conducted in regard to the impact of perceived ease of use (PEOU) on actual system usage. In the context of technology adoption, it has been discovered in the study of Lee and Kim (2009) that PEOU has no influence on actual usage. However, a positive relationship between PEOU and technology usage has been found by other scholars (Elkhani et al., 2014; Konradt et al., 2006; McFarland and Hamilton, 2006). Following the majority, the following hypothesis is suggested:

H1 PEOU has a significant positive impact on actual usage.

2.2 *Perceived usefulness*

Perceived usefulness (PU) is considered to be an important factor related to technology adoption (Alrajawy et al., 2018; Negahban and Chung, 2014; MacCallum and Jeffrey, 2013). Moreover, Davis (1989) has defined PU as the extent to which an individual believes that using a specific system can improve his or her performance (Davis, 1989). In the context of technology adoption, Lee and Kim (2009) discovered that PU has a positive impact on system usage. Furthermore, it has been concluded by a number of other academics that PU serves as a predictor of actual usage of technology (Kripanont, 2007; McFarland and Hamilton, 2006; Norzaidi et al., 2007). Therefore, the following hypothesis can be formulated:

H2 PU has a significant positive effect on actual use.

2.3 *Actual use*

Actual use (US) refers to the frequency of technology usage or the number of times technology is utilised (Kim et al., 2007). The lack of technology usage can lead to low performance and low productivity (DeLone and McLean, 1992, 2003; Makokha and Ochieng, 2014). However, the impact of technology usage on performance has been investigated in only a small number of studies (Hou, 2012; Norzaidi et al., 2007) and this existing gap has been filled by limited works of research. According to selected studies, actual use is not a predictor of performance (Cho et al., 2015). Nevertheless, a large number of studies have discovered that actual usage positively influences the performance of an individual (D'Ambra and Wilson, 2004; D'Ambra et al., 2013; Hou, 2012; Makokha and Ochieng, 2014). As such, the following hypothesis can be given:

H3 Actual use has a significant positive effect on performance.

2.4 *Work cooperation*

Work cooperation (CO) has been proposed in a number of empirical studies to have a positive effect on performance (van der Vegt and Van de Vliert, 2005; Wageman and Baker, 1997; Zhuge, 2003). In the context of technology usage, it has been discovered by Wang et al. (2011); and Staples and Webster (2008) that work cooperation improves the performance of employees with the utilisation of enterprise social media (ESM). The existence of work cooperation is required as it serves as a key mechanism aiding employees in finding solutions for work-related problems from their coworkers (Hsu,

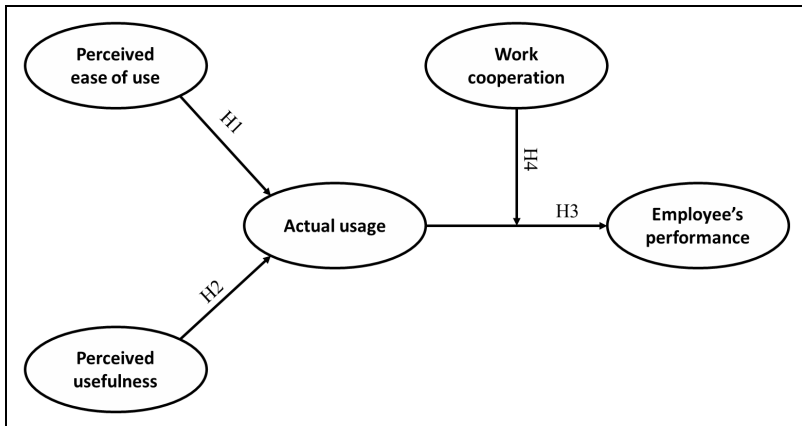
2017). When work cooperation exists among employees, they become encouraged to share work-related information with each other which, in turn, leads to enhancements in their performance (Khaleel et al., 2017). Furthermore, it has been asserted by Bar-On (1995) that employees possessing high levels of work cooperation are expected to provide necessary information to one another. This results in the creation of improvement in their work performance. With respect to the usage of DAW in Kuwait, employees depend on each other to complete their work-related tasks and toward reaching this goal, they are required to cooperate with their coworkers within the same ministry as well as other ministries. This indicates that high or low levels of work cooperation can have an impact on the employees' performance in Kuwaiti ministries. Therefore, this study introduces work cooperation as a moderating variable in the relationship between DAW usage and employee performance, hence resulting in the following hypothesis:

H4 With high levels of work cooperation, the positive relationship between DAW usage and employee performance becomes strengthened.

2.5 Employee performance

Employee performance (PR) refers to the impact of system usage on users in terms of improving productivity and saving time in performing work-related tasks (Ifinedo, 2007). In previous studies connected with technology, the intention to use or actual use has been employed as the dependent variable in the examination of factors impacting the adoption of specific technology systems (Cheng et al., 2015; Cheung and Vogel, 2013; Iqbal and Qureshi, 2012) as well as disregard of the outcomes of system usage on the subject of evaluating the performance of users. In the context of e-government adoption, studies have revealed that evaluating the outcomes of system usage in terms of performance plays an essential role in measuring system success corresponding to e-government adoption (Alenezi et al., 2015; Stefanovic et al., 2016; Yousef, 2017; Zheng et al., 2012).

As such, this section includes an overview of the proposed research model. In this regard, the TAM model serves as a beneficial tool in the prediction of an individual's usage of an information system; furthermore, it has been applied to the EDRMS adoption in notable studies (AlShibly, 2014; Balogun et al., 2019; Herawan and Sensuse, 2018; Lewellen, 2015; Mammo, 2012). In addition, PU and PEOU in the TAM model are important factors in determining the success implementation of EDRMS (AlShibly, 2014). This study applies the TAM as a base model and further extends it by addressing the link between DAW usage and individual performance among employees within MSAL. As a result, the TAM model (i.e., PU, PEOU, US and PR) has been extended in this work of research in order to determine employee performance in MSAL. Moreover, this study contributes to the examination of the moderating effect of work cooperation on the relationship between DAW usage and employee performance. The corresponding proposed framework is illustrated in Figure 1.

Figure 1 Conceptual framework of the study

3 Methodology

In this study, the primary data was collected from employees working in MSAL located in Kuwait. On this subject, the corresponding data was gathered from selected departments (i.e., administrative, financial and computer) with the utilisation of the DAW system. With this goal in mind, the researchers contacted all three departments through emails, personal visits and telephone and acquired their permission to carry out the process of data collection. As the population of the employees (users) working in the above-mentioned ministry was unknown, non-probability sampling was applied and 500 questionnaires were distributed among the employees on the basis of their willingness to participate in the study. Furthermore, they were informed that the results of the survey would be available to them upon request. Hence, from 500 distributed questionnaires, 345 valid responses were returned, resulting in a response rate of 69%.

4 Research instruments

The development of instruments was carefully carried out in order to reflect the nature of the study. Moreover, the developed questionnaires for this research consisted of 16 items. The variables (perceived ease of use, perceived usefulness, employee performance, and work cooperation) were measured using the five-point Likert scale, with five standing for 'strongly agree' and one set as 'strongly disagree'. In addition, the measurement of system usage took place using the five-point Likert Scale in which the first item (U1) was measured with a five-point Likert scale, including one (once a day), two (several times a day), three (once a week), four (several times a week), and five (once a month). Furthermore, the second item (U2) was also measured with a five-point Likert scale, consisting of one (less than one hour), two (one to two hours), three (three to four hours), four (four to five hours), and five (more than five hours).

Moreover, due to the fact that the respondents were Arabic-speakers, it was vital for the questionnaire to be precisely translated from English to Arabic. Therefore, a back translation was performed which is a procedure extensively applied to test the precision

of the translation in a cross-cultural survey (Brislin, 1970). Also, the validated instruments demonstrated in Appendix A were adapted from corresponding prior studies toward the measurement of the variables of this study, with one exception being that the instructor's characteristic items were obtained from the work of Lee et al. (2009). Additionally, the measurement of the constructs in connection with the conceptual framework is illustrated in Appendix E.

5 Respondents' profile

In the section corresponding to demographic information, respondents in MSAL were categorised with respect to their age, gender, marital status, education, department, and occupation, as shown in Table 1.

Table 1 Sample characteristics (n = 345)

<i>Items</i>		<i>Frequency</i>	<i>Percentage</i>
Age	31–40	74	21.4
	41–50	113	32.8
	20–30	101	29.3
	51–55	57	16.5
Gender	Male	179	51.9
	Female	166	48.1
Marital status	Single	141	40.9
	Married	204	59.1
Education	High school	46	13.3
	College	50	14.5
	Bachelor	111	32.2
	Masters	82	23.8
	PhD	56	16.2
Department	Administrative Dep.	200	58.0
	Computer Dep.	64	18.6
	Financial Dep.	81	23.5
Occupation	Employee	241	69.9
	Assistant manager	59	17.1
	Manager	45	13.0

6 Findings and discussion

6.1 Measurement model

The research model for this study has been tested using SmartPLS 3.3. Furthermore, the measurement model (validity and reliability of the measurements) as well as the structural model (testing the hypothesised relationships) have been examined in this

research. On this subject, a low value of Cronbach's alpha (0.678) resulted for work cooperation (CO). This value is below the cutoff point of Cronbach's alpha (0.7), as recommended by Hair et al. (2017). Hence, a modification was considered in the second run and, as a result, CO4 was omitted in order to achieve a satisfactory level of Cronbach's alpha. Overall, all of the variables have achieved the cutoff point, as illustrated in Table 2.

Table 2 Convergent validity

	<i>Items</i>	<i>Factor loading</i>	<i>Cronbach's alpha</i>	<i>CR</i>	<i>Average variance extracted (AVE)</i>
Work cooperation*	CO1	.891	.874	.923	.799
	CO2	.923			
	CO3	.868			
Perceived ease of use	PEOU1	.860	.892	.921	.796
	PEOU2	.830			
	PEOU3	.980			
Employee's performance	PR1	.842	.856	.902	.698
	PR2	.845			
	PR3	.827			
	PR4	.827			
Perceived usefulness	PU1	.780	.743	.852	.658
	PU2	.777			
	PU3	.873			
Actual usage	US1	.918	.798	.908	.832
	US2	.905			

Note: *CO4 has been deleted due to low Cronbach's alpha

Secondly, the discriminant validity was examined in order to assess how truly distinct a construct is from other constructs. In the field of distinguishing validity, the correlations between variables in the estimation of the model did not exceed 0.95, as suggested by Kline (2016); also, the validity was tested based on measurements of the correlations between the constructs and the square root of the average variance derived for a construct (Fornell and Larcker, 1981; Kline, 2016). Thus, Table 3 illustrates the results of the Fornell and Larcker criterion in which no value above the recommended cutoff point of 0.95 is presented (Fornell and Larcker, 1981).

Table 3 Fornell and Larcker criterion

	<i>CO</i>	<i>PEOU</i>	<i>PR</i>	<i>PU</i>	<i>US</i>
CO	.894				
PEOU	-.065	.892			
PR	.622	-.128	.835		
PU	.521	-.046	.540	.811	
US	.578	-.057	.617	.612	.912

In addition, the heterotrait-monotrait ratio (HTMT) is an estimate of what the true correlation between two constructs would be, if they were perfectly measured (i.e., if they were perfectly reliable). HTMT is the mean of all correlations of indicators across constructs measuring different constructs (i.e., the heterotrait-monotrait correlations) relative to the (geometric) mean of the average correlations of indicators measuring the same construct (i.e., the heterotrait-monotrait correlations) and can be used for discriminant validity assessment (Hair et al., 2017). The accepted level of HTMT is 0.90, as recommended by Gold et al. (2001) (see Table 4).

Table 4 HTMT ratio

	CO	PEOU	PR	PU	US
CO					
PEOU	.080				
PR	.719	.122			
PU	.655	.053	.681		
US	.692	.047	.745	.777	

6.2 Structural model

The structural model represents the theoretical or conceptual element of the path model. Also referred to as the inner model in PLS-SEM, the structural model includes the latent variables and their path relationships (Hair et al., 2017). The next step after the evaluation of the measurement model is to assess the structural model. In sync with PLS-SEM, there are five steps involved to assess the structural model (Hair et al., 2017) which consist of the assessment of collinearity (step one); assessment of the path coefficients (step two); coefficient of determination or the R^2 value (step three); blindfolding and predictive relevance Q^2 (step four); and effect size f^2 (step five).

Table 5 illustrates the results of PLS bootstrapping which include the beta value, t-values, p-values, hypothesis results (whether supported or not), BCILL, BCIUL, f^2 , and VIF scores. Furthermore, Appendix B summarises the results of the structural model as well as PLS bootstrapping.

Table 5 Summary of structural model (PLS bootstrapping)

H	Path	Std. beta	Std. error	T-value	P values	Decision	BCILL	BCIUL	f^2	Effect size	VIF
H1	PEOU → US	-.029	.050	.574	P > .05 (.283)	Rejected	-.106	.061	.001	No effect	1.002
H2	PU → US	.611	.035	17.292	P < .001 (.000)	Supported	.547	.663	.597	Large	1.002
H3	US → PR	.408	.048	8.548	P < .001 (.000)	Supported	.332	.489	.194	Medium	1.502
H4	US*CO → PR	.089	.043	2.049	P < .05 (.021)	Supported	.003	.139	.022	Small	1.095

6.2.1 *Assessment of the structural model for collinearity issues*

The first step in regard to applying the structural model is to assess it for collinearity issues. On this subject, it is vital to safeguard against collinearity issues among the constructs before performing a latent variable analysis in the structural model. The collinearity is measured by measuring the VIF value. Moreover, the threshold value for the assessment is 3.3, following the recommendation of Diamantopoulos and Siguaw (2006). In this study, as viewed in Table 5, all inner VIF values for the constructs are within 1.001 to 1.502, which are less than 3.3 (Diamantopoulos and Siguaw, 2006), thus indicating that collinearity is not a concern in this research.

6.2.2 *Assessing the significance of the structural model relationships*

In order to test the hypotheses, the bootstrapping procedure has been employed in order to produce results for each path relationship in the model, as illustrated in Table 5.

In PLS, bootstrapping is a non-parametric test which comprises of repeated random sampling with replacement from the original sample to produce a bootstrap sample and to attain standard errors for hypothesis testing (Hair et al., 2017). Regarding the number of resampling, it is suggested in the study of Chin (2010) to perform bootstrapping with the utilisation of 1,000 samples (Chin, 2010). In this study, five hypotheses have been developed for the constructs. Furthermore, in order to test the significance level, t-statistics for all paths have been generated using the bootstrapping function in SmartPLS 3.3. Hence, the bootstrapping procedure has been set to possess a 0.05 significance level, one-tailed test, and 1,000 subsamples. In this regard, the critical value for a significance level of five percent ($\alpha = 0.05$) is 1.645 for the one-tailed test (Thurasamy et al., 2018).

Based on the findings demonstrated in Table 5, the values of the path coefficients have standardised values approximately between -1 and $+1$ (values from -0.029 to 0.611). Moreover, according to Hair et al. (2017), estimated path coefficients near $+1$ illustrate strong positive relationships and the closer the value becomes to zero, the weaker such relationships are (Hair et al., 2017). In the next step, with respect to the t-test, the corresponding relationships are discovered to possess t-values more than or equal to 1.645, thus significant at 0.05 for H2 ($\beta = .611$, $t = 17.292$, $P < .001$) and H3 ($\beta = -.408$, $t = 8.548$, $P < .001$), while for H1 ($\beta = -.029$, $t = 574$, $P > .05$), they were observed to be insignificant. As such, a summary of the findings are shown in Table 5.

6.2.3 *The coefficient of determination (R^2)*

The next stage is to evaluate the model's predictive accuracy through the score obtained in regard to the coefficient of determination (R^2). The value of R^2 computes the model's predictive power and ranges from zero to one with a higher value indicating a higher level of predictive accuracy (Hair et al., 2017). Using the SmartPLS algorithm, the value of R^2 is calculated as shown in Table 6. As there exists a variety of rules on the acceptable R^2 , this study follows the guidelines presented by Cohen (1989), setting values of 0.02, 0.13, and 0.26 to represent a weak, moderate, and substantial level of predictive accuracy respectively (Cohen, 1989). Overall, according to Table 6, perceived ease of use (PEOU) and perceived usefulness (PU) account for 37.6% of the variance in actual usage (US), which indicates a substantial level of predictive accuracy. Moreover, actual usage

(US) and work cooperation (CO) contribute to 48.6% of employee performance (PR), which again signifies a substantial level of predictive accuracy.

Table 6 The coefficient of determination (R^2)

	<i>R square</i>	<i>R square adjusted</i>
PR	.486	.483
US	.376	.372

On the whole, the R^2 values found in this study are extremely similar to those reported in a majority of extant works of research in the corresponding literature. For instance, in a study conducted by Kwahk et al. (2020), the R^2 value reported is 39.7% from which it can be concluded that the model can predict up to 48.6% of the factors influencing performance (PR). This percentage is deemed to be satisfactory in the context of a social science study.

6.2.4 Assessment of the effect size (f^2)

In this stage, the effect sizes (f^2) are evaluated. The value of f^2 represents the relative impact of a predictor construct on endogenous constructs. According to Sullivan and Feinn (2012), aside from reporting the p-value, both the substantive significance (effect size) and statistical significance (p-value) are crucial to be reported (Sullivan and Feinn, 2012). Furthermore, in order to measure the effect size, a guideline by Cohen (1988) has been followed. Based on the study of Cohen (1988), the values of 0.02, 0.15, and 0.35 stand for small, medium, and large effects respectively (Cohen, 1988). As illustrated in Table 5, actual usage (US) has a medium effect on the production of the value of R^2 for performance (PR), whereas perceived ease of use (PEOU) has no impact on resulting the value of R^2 for actual usage (US). Additionally, perceived usefulness (PU) has a large effect in producing the value of R^2 for actual usage (US).

6.2.5 Assessment of the predictive relevance (Q^2)

In the final stage, the predictive relevance of the model is assessed through the blindfolding procedure, as suggested by Hair et al. (2017), and the findings are demonstrated in Table 7 (Hair et al., 2017). On this subject, the value of Q^2 is larger than zero, implying that the model possesses sufficient predictive relevance. The analysis regarding the value of Q^2 or predictive relevance was conducted using the blindfolding procedure and is based on the blindfolding assessment. As such, the corresponding values for predictive relevance Q^2 for performance (PR) and actual use (US) are 0.337 and 0.307 respectively. This indicates that the applied model has predictive relevance since the related Q^2 values are considerably above zero.

Table 7 The predictive relevance (Q^2)

#	<i>Variable</i>	<i>Q²</i>
1	PR	.337
2	US	.307

6.2.6 Assessment of moderation analysis

Following the evaluation of the aforementioned direct effect, the hypothesis with respect to moderation has been tested. For this purpose, a moderator has been characterised as a third construct that can change or affect the relationship between the independent and dependent variables (Dawson, 2014; Hair et al., 2017). This study has utilised continuous types of data as the moderation. Also, the corresponding analysis has been conducted by applying SmartPLS 3.3.

In this research, the following hypothesis has been formulated:

H5 With high levels of work cooperation, the positive relationship between DAW usage and employee performance becomes strengthened.

In this regard, the moderation assessment follows the orthogonalising approach (Henseler and Chin, 2010). This approach builds on the indicator approach and requires creating all product indicators of the interaction terms (Thurasamy et al., 2018).

Hence, the first step is to create the interaction effect between the two indicators of actual use (US) and work cooperation (CO). In this regard, the value of R^2 for the main model (without the interaction) is 0.486. However, with the interaction effect model, the value of R^2 has become 0.494. This change in R^2 is around 0.008 (additional variance). Succeeding this step, the effect size has been calculated with the utilisation of the following formula:

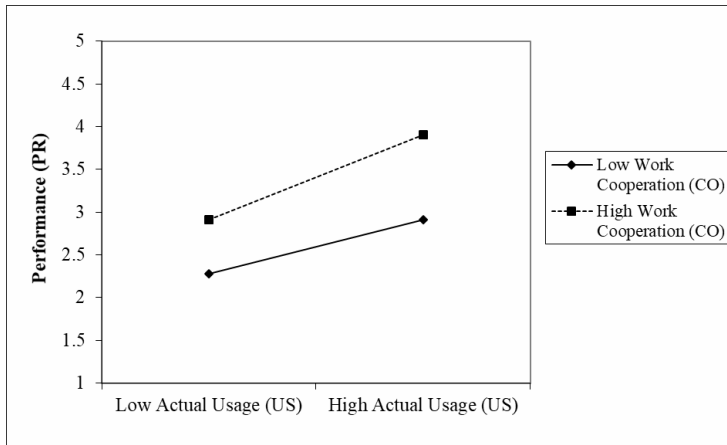
$$f^2 = (R^2 \text{ included moderator} - R^2 \text{ excluded moderator}) / (1 - R^2 \text{ included moderator})$$
$$f^2 = (.494 - .486) / (1 - .486)$$
$$f^2 = .015$$

Based on the guideline presented by Kenny (2018), the values of 0.005, 0.01 and 0.025 represent the standards for small, medium, and large effect sizes respectively. As a result, based on the value of 0.015, it can be concluded that the effect size is medium (Kenny, 2018). In spite of that, the beta confidence for the interaction of US*CO is 0.089 (refer to Table 5) with a p-value of 0.039. Therefore, in order to obtain the significance of the relationship, the bootstrapping procedures have been conducted. As illustrated in Table 8, the interaction term of US*CO is significant ($t = 1.765$) for the one-tailed test with a significance level of 0.05. As a result, it can be concluded that hypothesis H5 is acceptable.

Table 8 Moderation model assessment

<i>Path</i>	<i>Path coefficient</i>	<i>Standard error</i>	<i>t-value</i>	<i>f2</i>	<i>p-value</i>
US*CO → PR	.089	.043	2.043	.015	.021

In the next step, as proposed by Dawson (2014), toward further elaborating the moderating phenomenon of work cooperation (CO), the pattern of the interaction effect has been plotted in order to view how the moderator changes the relationship between actual use (US) and performance (PR) (Dawson, 2014). As such, Figure 2 highlights the two lines that illustrate a positive connection between actual use (US) and performance (PR). Moreover, it demonstrates the presence of the moderating impact of work cooperation (CO) on the link between actual use (US) and performance (PR).

Figure 2 Moderation effect of CO between US and PR

7 Discussions

The PEOU has been hypothesised to possess a positive influence on DAW usage. However, this hypothesis has not been supported by the results. Therefore, it is suggested that when the DAW system can be easily utilised, this cannot contribute to the improvement of DAW usage. Such an outcome is supported by Lee and Kim (2009) who discovered that PEOU does not influence actual usage. Moreover, DAW usage was hypothesised to have a positive impact on PR. Hence, the findings support the positive impact of DAW usage on employee performance, suggesting that the utilisation of the DAW system is liable to improve the performance of employees. These results align with the discoveries of Ghazali and Purwanto (2016) who concluded a positive influence of actual use on PR.

Furthermore, work cooperation was hypothesised to have a moderating effect on the positive relationship between DAW usage and employee performance such that a high level of work cooperation can improve employee performance. According to the findings, this hypothesis is supported. The results suggest that a high level of work cooperation can strengthen the performance of employees using the DAW system. Hence, it can be argued that high levels of work cooperation play an important role in the improvement of employee performance using the DAW system in MSAL.

8 Practical implication

This research contributes practically in several ways. The aim of EDRMS is to facilitate e-government initiatives through improved communication, access to information, and data sharing. A number of factors drive MSAL to institute EDRMS initiatives. On this subject, cost reduction serves as one of the key elements. EDRMS initiatives are driven by budgets and funding. Through sharing information and processes, government agencies may reduce IT costs and streamline procedures that allow people to access information over the internet.

This research provides clear insight to policy makers for a successful EDRMS implementation. In this regard, EDRMS initiatives have certain technical challenges in place, including the lack of common standards and functional technology between departments and agencies. Moreover, the ICT infrastructure is recognised as one of the main challenges of EDRMS. As such, intranetworking is required to allow for efficient information sharing and to open new contact and access networks for novel services (Ndou, 2004). Furthermore, decision makers and managers need to provide a more efficient infrastructure for their employees toward a smooth implementation and adaptation of EDRMS.

Last but not least, major challenges of the EDRMS initiative stem from the lack of ICT skills. This is a particular issue in countries still in the process of adopting EDRMS where there has existed a consistent lack of qualified employees and inadequate training in human resources for years. For this reason, the availability of sufficient knowledge plays an essential role in the successful implementation of EDRMS. Moreover, it requires human capacities, namely in technological, commercial and managerial areas. It is also compulsory to acquire technical skills for the purpose of implementation, maintenance, design, and installation of ICT infrastructure, as well as skills for using and managing online processes, functions, and customers. In addition, in order to address developmental issues in the human capital, knowledge management initiatives are required to focus on staff training toward creating and developing basic skills for EDRMS.

9 Limitation and future suggestions

This research provides not only strong evidence toward defining key factors that affect EDRMS but also information in view of its limits that need to be evaluated. Firstly, not all factors influencing the intentions of end-users to utilise EDRMS services have been fully covered. There still exist major variables, namely the corresponding facilitating state and perceived compatibility which are important factors required to be covered in future research. Secondly, the research model and hypotheses were tested using data drawn only from a single ministry and the results are, therefore, limited to only one ministry in Kuwait. As such, in order to generalise the findings, this study can be expanded to other government settings. Lastly, the cross-sectional nature of this research may inhibit the testing of causality between the constructs included in the research model. Thus, longitudinal studies applying causal research designs are deemed to be beneficial. In order to ensure robust results, these views need to be considered in future studies.

10 Conclusions

Based on the findings of this study, the implementation of EDRMS can certainly strengthen the governance basis and, thus, run in a more effective, efficient, and accountable manner. Furthermore, the EDRMS has the potential to aid the government in determining main priorities for the completion of the corresponding infrastructure as well as the development of applications and systems that are essential to be implemented immediately in all ministries in Kuwait. Findings of this research revealed that perceived ease of use was insignificantly related to DAW use, while the influence of perceived usefulness on DAW use was found to be strong and significant. Moreover, DAW use

powerfully impacts employee performance and work cooperation significantly moderates the relationship between DAW use and employee performance, as the high level of work cooperation can strengthen the positive relationship between DAW use and employee performance. Ultimately, the development and implementation of the EDRMS are expected to be accelerated and, therefore, significantly improve Kuwait's e-Government services provided by employees.

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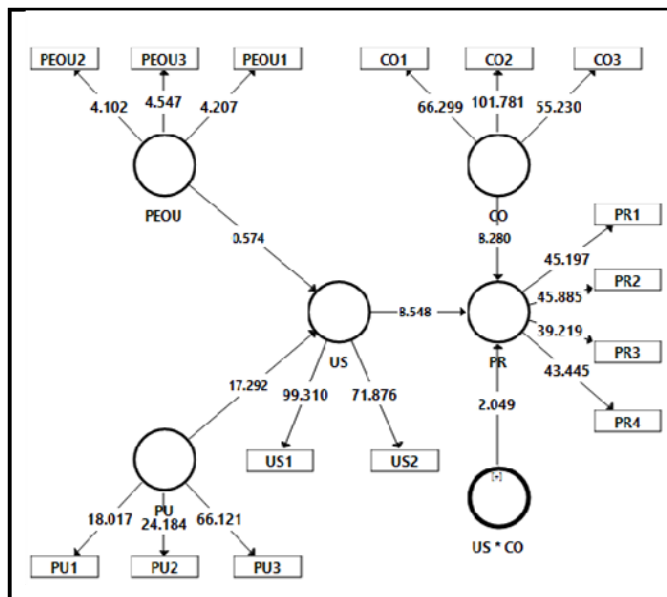
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- ## Appendix A

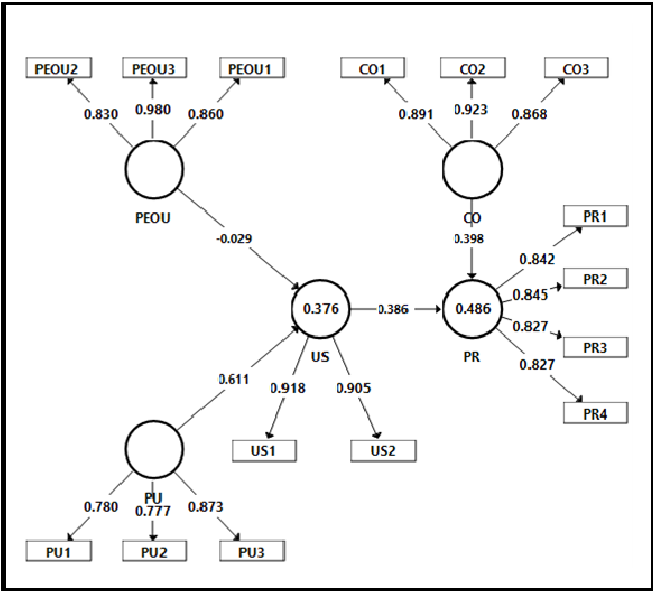
<i>Path</i>	<i>Std. beta</i>	<i>Std. error</i>	<i>T-value</i>	<i>P values</i>	<i>BCILL</i>	<i>BCIUL</i>	<i>f²</i>	<i>Effect size</i>	<i>VIF</i>
CO → PR	.406	.049	8.280	P < .001 (.000)	0.323	0.484	.206	Medium	1.502

PLS bootstrapping results



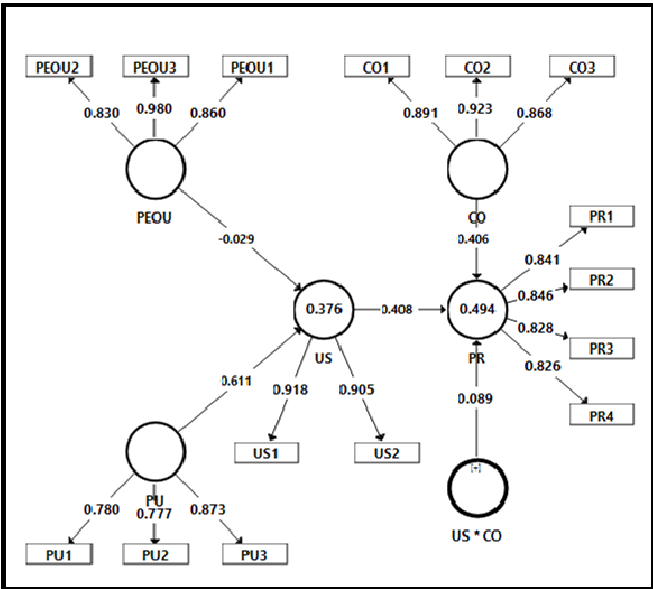
Appendix C

PLS algorithm before including the moderator



Appendix D

PLS algorithm after including the moderator



Appendix E

Research instruments

<i>Construct</i>		<i>Items(s)</i>	<i>Rating scale</i>	<i>Source</i>
Perceived ease of use	PEOU1	Learning to use the DAW system is easy for me	5-point Likert scale: (1) strongly disagree to (5) strongly agree	Huang (2008)
	PEOU2	My interaction with the DAW system is clear and understandable		
	PEOU3	I find the DAW system to be flexible to interact with		
Perceived usefulness	PU1	Using DAW supports the critical part of my tasks	5-point Likert scale: (1) strongly disagree to (5) strongly agree	Moon and Kim (2001)
	PU2	Using DAW enables me to accomplish tasks more quickly		
	PU3	Using DAW enables me to have more accurate information		
System usage	U1	How often do you use the DAW system	(U1) will be measured with a 5-point Likert scale, ranking from 1 (once a day), 2 (several time a day), 3 (once a week), 4 (several time a week), and 5 (once a month). (U2) will be measured also with a 5-point Likert scale, ranking from 1 (less than 1 hour), 2 (1–2 hours), 3 (3–4 hours), 4 (4–5 hours), and 5 (more than 5 hours).	Isaac et al. (2017)
	U2	How long do you use DAW system each time		
Employee performance	P1	The DAW system improves my productivity	5-point Likert scale: (1) strongly disagree to (5) strongly agree	Ifinedo (2007)
	P2	The DAW system is beneficial for my work tasks		
	P3	The DAW system enhances the quality of my decision making in performing my work tasks		
	P4	The DAW system saves my time in performing my tasks and duties		

Research instruments (continued)

<i>Construct</i>		<i>Items(s)</i>	<i>Rating scale</i>	<i>Source</i>
Work cooperation	CO1	Employees found it easy to work with each other.	5-point Likert scale: (1) strongly disagree to (5) strongly agree	Pitafi et al. (2018)
	CO2	Individual member were comfortable communicating with each other about what needed to be done.		
	CO3	Employees cooperated to get the work done		
	CO4	Individual members were very willing to share information with each other about their work		