https://asml.ui.ac.ir/

Archives in Sport Management and Leadership
Vol. 1, No. 1, Spring & Summer 2023, pp. 103-119

Feasibility of Implementing an Electronic Government System in Executive Sport Organizations of Iraq

Elham Akhavan[1], Ali Hashem Alnoori [2], Farnaz Ghadirian Marnani [3]

1. Faculty of Sport Sciences, University of Isfahan, Isfahan, Iran
elhamakhavan98@gmail.com (Corresponding Author)
2. Faculty of Sport Sciences, University of Isfahan, Isfahan, Iran
Hashem_ali@gmail.com
3. Faculty of Sport Sciences, Farhangian University of Isfahan, Isfahan, Iran
ghadirian_farnaz@gmail.com

Article Info

Article type:
Research Article

Received:
09 March 2023
Accepted:
08 May 2023
Published online:
16 July 2023

Abstract

The purpose of this research was to analyze the implementation of E-government system in sport organizations in Iraq. The statistical population of the qualitative part based on thematic analysis approach included university sport management professors and managers, also experts of Iraqi sport organizations. Sampling of this part of the research was done with the purposeful method (13 interviews). Research tools included systematic library study and structured exploratory interviews. The research method in the quantitative part was descriptive-correlation. The statistical population of this section included managers and executive experts in Iraqi sport organizations, number of which are sufficient for modeling in Smart PLS software. The research tool of this part was the questionnaire extracted from the qualitative stage. According to the results of the qualitative section, 4 aspects of Capacity and Readiness, Challenges and Obstacles, Solutions and Initiatives and finally, Results and Benefits were taken for granted. The components of each of these perspectives were divided into three dimensions; organizational dimension, employees and beneficiaries. In the second step, the results of structural equation of model showed that the research structure had a good fit. Based on modeling results: Challenges and Obstacles, Solutions and Initiatives, Results and Benefits, and Capacity and Readiness had the most significant effect, respectively. Therefore, it can be concluded that the implementation of E-government in sport organizations in Iraq requires utilizing the capacities and readiness so that it can address the challenges to achieve the desired results and benefits.

Keywords: Electronic Management, Electronic Services, Sport Organizations

Cite this article: Akhavan, E., Alnoori, A. H. K., & Ghadirian Marnani, F. (2023). Feasibility of Implementing an Electronic Government System in Executive Sport Organizations of Iraq. Archives in Sport Management and Leadership, 1(1), 103-119. doi: 10.22108/jhs.2023.137076.1012

Introduction

Along with the increasing development of sport in the world, the country's executive and governmental sport organizations face new challenges and requirements, which puts additional pressures on these organizations' managers (Al-Refaie & Ramadna., 2020). On the one hand, organizational culture problems have caused the relative recession of the same organizations, and the need of improvement of their performance system in order to respond to the society requirements to fulfill their missions on the other.

In this regard the global information society forces many sport organizations, like other organizations, to accept initiatives related to E-government to achieve goals and fulfill performances. E-government creates measurements to represent services to beneficiaries as individuals, instead of providing the same services to everyone. This can be done with the help of new technology for personalizing services (Pina., 2016).

Electronic systems are systems that have advanced technology and are able to react to the world around them with perception. In the late 1950s, conducted studies determined how computers perceive their surroundings and how they interpret images and film sequences. Since then, this technology has become more and more powerful and has become an integral part of the society and industry. Electronic systems in their own fields, focus on communication with human users and dynamics of social and physical environments. (Roscoe et al., 2019).

In today's era, electronic systems are preparing themselves to take on more and more roles. Among these roles, the followings can be mentioned as the most important ones: industrial automation, robotic services, medical services, visual inspection and surveillance, military applications, educational services, entertainments, electronic transfers and finally biometric technology for identification (Jepchumba & Simiyu., 2019).

The problem with this is that the world keeps changing as the calculations take place; therefore, the performed calculations will eventually be outdated and no longer useful (Karimi et al., 2022). Electronic capability includes profound changes that occur based on new electronic technologies. Electronic capability is generally defined as a process that aims to improve an entity by making significant changes in its characteristics through a combination of information, computing, communication and connectivity technologies (Van et al., 2018). Electronic capability has its roots in the fourth industrial revolution, which is characterized by the platform of system technology, artificial intelligence and Internet of things, in which technological devices are connected to each other and are intelligent (Sabani et al., 2019).

In this regard, a wide range of industries are facing a fundamental change called electronic capabilities, one of which is sport (Torki & Razmi, 2021). E-capability can be described as the effects of several e-innovations that create new acts, structures, measures, values and beliefs which will change, threaten or replace disqualified existing rules in organizations and industries (Heinzen & Höflinger., 2017). Actually it is a display of knowledge and technology by a company to improve efficiency, value and innovation in all areas of a system that changes the management function system.

E-government is a clear and potent appearance of e-capability. It can be said that it is the ability to adopt and to use Information Technology, all related applications in societies. E-government is the government's use of Information Technology to move information between people, organizations, the market, and other government bodies (Santos et al., 2019). The goals of E-government include reducing manual procedures, providing electronic services and information, providing citizen satisfaction, increasing national authority and productivity, developing public participation and technological literacy, reducing bribery and finally making quick decisions based on useful information. (Paliokaitė & Pačėsa., 2015).

When the issue of electronic government is involved, it means to use some parameters and tools in order to simplify and make the way of life more professional. In today's world which is the age of technology and information, it is easy to come to the conclusion that all Information Technology instruments are in the way of simplifying life aspects (Salimi et al., 2022). It is believed that being electronic of many activities is equal to use programs and methods that are totally based on technology and information tools.

As a result, in general and regardless of all the definitions that we have read on various sites and sources about being electronic, we should say in the simplest definition that electronic government means the use of technology and information techniques and tools for the purpose of better management of affairs, Simplifying activities, improving lifestyle, doing activities more professionally, speeding the processes up, doing the right thing, reducing energy consumption and generally maximum use of services that can be obtained from Information Technology.

Finally, becoming electronic and using Information Technology techniques is a better choice for life (Dyajl et al., 2019). One of the types of government and public organizations in Iraq, which are always affected by many environmental changes, is government and executive sport organizations. These organizations are the main custodians of sport development, and due to the specialized nature of sports on

the one hand and its governmental nature on the other, there is an absolute need of a system to help them for the appropriate performance (Khan & Krishnan., 2019). In addition, due to the fact that the global and national developments of commercialization, and technology-oriented nature of sport industry; these organizations also need various considerations and requirements in updating their management and performance systems (Sharpe, Mountifield & Filo., 2020).

On the other hand, these organizations are dealing with many problems such as low efficiency of management processes, financial administrative corruption, underemployment of employees, being weak in knowledge management and work dispersion. Today, in order to solve these challenges, more efficient methods such as the development of digital capabilities and the implementation of the electronic government system and technological literacy are used. These methods are considered as important variables by researchers and analysts.

The variables introduced above, which are the focus of this research in executive sport organizations, need to be researched from several aspects: first, these concepts have not been examined in a specialized way in Iraq sport organizations, while their usefulness in these organizations is very obvious. Second, the multiple relationship between these variables has not been investigated not only in the sport organizations of Iraq but also in other organizations of the country as well. That means not only knowing variables' status in the organization is highly important but also knowing their relation to each other is very important. Also, according to the environmental conditions of sport in Iraq, in order to adapt to these changing and complex conditions, it is necessary for executive sport organizations to improve their electronic and virtual capabilities and move in the direction of technological and electronic literacy so that they can achieve sustainable development (Ullah., 2021).

In examining the role of E-government in the performance of Chinese and Pakistani organizations during the Covid-19 period, they showed that the promotion and implementation of E-government is related to sustainable development indicators in these organizations. Pamment (2019), reported technological barriers are the main obstacles to establish E-government in Swedish organizations from the perspective of users and employees. Sharpe et al. (2020) investigated the media and virtual capabilities of sport organizations during the Covid-19 pandemic, and showed that the activities of these organizations in the virtual platform depend on the information literacy of the members and the access of the audience. Semjai et al. (2019) in research investigated the role of e-commerce for the sustainable performance of Thai sport organizations.

In the analysis of questionnaire data, they showed that there is a significant relationship between the dimensions of electronic marketing and the performance dimensions of these companies. Deng et al. (2018) in evaluating the performance of E-government in developing countries, showed that the quality of information, functions of electronic services, customer orientation, efficiency and openness of public organizations, equal rights, self-development of citizens, trust and environmental sustainability among them are the most important values of E-government, in under-developed countries.

Huang & Benyoucef (2014), investigated the challenges of virtualization in sport organizations and the role of human capital and reported that the main purpose of virtualization for sport organizations is to promote autonomy and self-care. They also reported that the difference between online and offline communication and participation of human resources was significant. Halachmi & Greiling (2013), examined the implementation of E-government based on the outcome variables and reported that its implementation improves the technological literacy and accountability of government organizations, and also leads to a major improvement of the outcome variables.

Review of the related research showed that technological literacy and E-government have not been described and measured in sport organizations in Iraq so far. This is despite the fact that the discussed variables play a key role in the performance of sport organizations in today's environment and based on the fact that none of these variables have been investigated in sport management studies in the country in previous researches. Therefore, Iraq's sport management researchers must be taken into account. Thus, it is necessary to carry out more internal and specialized researches in this field to complete and apply previous findings and have new achievements.

Since executive sport organizations are one of the largest public service organizations in Iraq, their services play a central role in the development of sport in this country, so it demands an efficient management system with modern technology capabilities. For this reason, on the one hand, the implementation of E-government requires performance evaluation, and investigating its relationship with other key factors on the other; because the existence of the weakness of these variables indicates a potential crisis by itself. Therefore, by analyzing the status of these variables in mentioned organizations, in addition to considering pathology of specialized dimensions, it will be possible to provide appropriate solutions and remedies.

So, the central issue of the current research is how implementing an Electronic Government system in executive sport organizations in Iraq is possible and what factors are more effective in its implementation, also what obstacles should be investigated.

Research Methods

The current research is of mixed qualitative and quantitative nature. The qualitative part of the research was conducted with a thematic analysis approach. The statistical population of this part includes expert professors and researchers of sport management including professors of universities and expert managers of sport organizations (both Iranian and Iraqi ones), including the Ministry of Sport and Youth, the Olympic Committee and Federations (mainly Football & Volleyball Federations) who were interviewed. Sampling in the qualitative part was done in a purposeful manner (based on criteria such as expertise, job category, job history, etc.) Thirteen people including seven sport management professors and researchers and six organizational expert managers were selected. The estimation of the adequacy of sampling was based on the theoretical saturation of the data taken from interviews. In order to complete and adjust the theoretical orientation of the concepts extracted from the interviews, library, scientific and media sources were systematically used. The statistical sample of this section included 38 sources (15 articles, 2 books, 10 theses, 3 documents and 8 sites). In the quantitative part of the research, a researcher-made questionnaire was distributed among managers and experts of sport organizations. A sufficient number of statistical samples for modeling in Smart PLS software was estimated and selected as 10 to 20 times the number of hidden variables (dimensions related to main variables) in the model (12 sub-themes) (Davari & Rezazadeh., 2016). Therefore, 120 people were selected for 10 times (selected basis) dimensions (12 dimensions). In order to ensure that the number of suitable answers was received, 130 questionnaires were distributed, and among the 118 questionnaires received, 114 questionnaires were completely answered and entered the analysis process.

In this research, the validity of the transcript of the library study and the interview tool was evaluated using the opinion of experts. Validity in the qualitative section was checked through coding and the agreement of the correctors; in this way, by providing feedback to the interviewees and placing them on the research path in such a way that it does not affect the way they answer, internal validity was measured. In addition, after each interview, the model obtained up to that stage, was presented and if the interviewee had any points related to the model, they were also considered. This work was done after conducting the interview so that the interview is free from any bias and orientation. Since the reliability component refers to the reproducibility of research findings, therefore, the researcher interprets the subject under study. Simultaneously with data collection, their analysis was done in three stages of coding, and after extraction, finally classification of codes was done. A constant comparison shows the differences and similarities between these codes. Classes were separated or merged to form process theory. Available sources and texts were also used in the theory completion process. The work of collecting data continued until the researcher was sure that continuing the work would not add any new information to his knowledge. After conducting 13 interviews in a six-month period, data analysis showed that no new data was added to the previous data; since a high percentage of data extracted from the last interview, had been repeated. Therefore, upon reaching the limit of theoretical saturation, the interviews ended. In the qualitative section, based on Lincoln & Guba (1985) trustworthiness of research tools; factors of credibility, transferability, dependability, and confirmability for checking validity of interviews were used.

The research tool in the quantitative part was a questionnaire extracted from the qualitative phase. The questionnaire included variables and determining factors that were set on a 5-point Likert scale (from very low = 1 to very high = 5). To check the questionnaire content and form validity, it was given to five expert researchers of sport management (with executive records) and 5 sport managers (with doctoral education). After confirming content validity, the tool was first distributed among thirty people from the statistical population in a guide study, then its reliability or internal consistency was calculated and confirmed using SPSS20 software (α=0.83) through Cronbach's alpha method. Then the questionnaires were distributed and collected in the main stage. Cronbach's alpha coefficient of final stage was also calculated and confirmed in the findings section based on the model fitting results. Cronbach's alpha coefficient showed that most of the constructs and variables related to them have very good internal stability. Finally, the reliability and validity of the structure was confirmed in the steps reported in the findings section using Smart PLS (version 3) software. The results are shown in table 1.

Table 1- Characteristics of the Variables in the Research Questionnaire

Variable	Cronbach's Alpha	Number of Questions
Capacity and readiness to implement electronic government	0.85	18
Challenges and obstacles to the implementation of electronic government	0.87	16
Solutions and initiatives for the implementation of electronic government	0.86	16
Results and benefits of implementing electronic government	0.83	24
Total	0.84	74

Findings

To analyze the data, an inductive approach was used in the thematic analysis of Brown and Clark's 2006 model. Based on this six-step method, the thematic analysis of the data was performed according to the following steps: Phase 1: getting to know the raw data; The second phase: extracting the primary codes; The third phase: searching for main themes; The fourth phase: revision of themes; The fifth phase: defining and naming the themes and the sixth phase: interpreting the themes based on the main research question. In the first and second phases, 74 codes have been identified to determine initial themes. After coding the data, in the third stage, the search was started to extract the main themes and possible sub-themes. Brown and Clark (2006), believe that at this stage the themes include important concepts that are centered on the main question of the research; therefore, the codes were analyzed and the ones that had more semantic affinity with each other were selected. In this stage, the frequency of codes cannot be the main criterion of extracting themes; rather, the importance of the extracted codes in relation to the research question is the basic criterion for extracting main themes or sub- themes (Brown and Clark., 2006). In numerous and detailed revisions, in the fourth stage, the extraction of sub-themes related to each main theme was put on the agenda. By re-examining the codes and conforming to the main themes, sub-themes (12 sub-themes), were extracted from the data analysis. At this stage, for each of the extracted main themes, 3 sub-themes (or dimensions) were extracted according to their semantic and conceptual affinity. In the fifth stage, the themes were defined and named. The results of these stages can be seen in Table 2.

Table 2- Codes, Sub-Themes and Main Themes

Main Themes	Sub-Themes	Codes (Components)
Capacity and Readiness	Capacity and Readiness to Implementation of Electronic Government in Organizational Level	Suitable hardware system facilities,
		Suitable software facilities in organizations,
		Good condition of IT coverage in all departments,
		Acceptable quality of the use of foreign experts in IT,
		Comprehensive intranet network in organizations,
		Sufficient supervision of managers in organization,
		Updating and providing the latest hardware and software facilities,
	Capacity and Readiness to Implementation of Electronic Government in Employees' level	Appropriate level of technology literacy of employees,
		Involved various groups of employees in the use of electronic government,
		Appropriate level of acceptance and trust in technology among employees,
		Employees' support of changes caused by the implementation of electronic government,
		Suitable level of desire for IT expertise and skills among employees,
		Appropriate level of technology use by employees in the organization,
	Capacity and Readiness to Implementation of Electronic Government in Beneficiaries' level	Continuous trainings for people to work with IT,
		Favorable level of quality of administrative correspondence by clients,
		Well maintenance of electronic facilities,
		Encouraging clients and beneficiaries to communicate with the organization electronically,
		Importance of information security and content protection,
Challenges and Obstacles	Challenges and Obstacles to Implementation of Electronic Government in Organizational Level	Elimination of some previous job fields,
		Inadequate network capacity and bandwidth in Iraq's sport organizations,
		The heavy cost of creating, maintaining and developing information networks,
		The lack of support from senior management of organizations causes the weak implementation,
		The lack of financial resources in public sector organizations for supporting electronic government systems financially,

Main Themes	Sub-Themes	Codes (Components)
		Information security threats from hackers and viruses,
		Manager's feelings of not having the need of e-government,
	Challenges and Obstacles to Implementation of Electronic Government in Employees' Level	The low level of technology and information literacy of employees,
		Unwilling employees to communicate face-to-face with clients and people from other organizations,
		The lack of information technology expertise in the human resources of the organization,
		Employees' unwillingness to learn electronic skills,
		The technological complexity of working with the electronic government system,
	Challenges and Obstacles to Implementation of Electronic Government in Beneficiaries' Level	Inability to demarcate between confidential information and information that should be available to citizens and businesses,
		The desire to stay away from the complexity of technology,
		The lack of access to the Internet,
		Low technology and information literacy of the audience and clients,
Solutions and Initiatives	Solutions and Initiatives for the Implementation of Electronic Government in Organizational Level	Leading to a better implementation of e-government, by using new technology in organization,
		The integration of automation and information system of the organization,
		Drawing a vision which is easy to understand and includes the expected results of e-government,
		Defining and adapting the structure of e-government and its key components and elements,
		Determining the necessary policies to support the desired realization of electronic government,
		Defining a method that determines the level of organizational readiness,
		Defining the process and stages of establishing e-government,
	Solutions and Initiatives for the Implementation of Electronic Government in Employees' Level	Continuous training of technology usage,
		Employees' participation,
		Cultivation of work with technology among employees and providing a platform for the implementation of electronic government,
		Reduction of human intervention and thus the reduction of errors,
		Setting quantifiable and measurable goals for employees,
	Solutions and Initiatives for the Implementation of Electronic Government in Beneficiaries' Level	Providing a guide content and training for working with the electronic platform to the audience,
		Support of services and the use of electronic service desk for clients,
		Determining the audience and users,
		Cultivating the use of e-government services for the beneficiaries,
Results and Benefits	Results and Benefits of the Implementation of Electronic Government in Organizational Level	Reducing costs in sport organizations in Iraq,
		Accelerating the work process in sport organizations,
		Strengthen scientific decision-making skills and consequently practical decision-making in organizations,
		Integration and elimination of additional and parallel systems,
		Saving energy consumption and elimination of unwanted consumption factors,
		Increasing the flexibility of the government structure,
		Removal of categories from management system (reducing the size of the organization),
		Increasing transparency and accountability and as a result reducing administrative violations and corruptions,
		Improving the management and structuring of organizations,
	Results and Benefits of the Implementation of Electronic	Creating new and more job opportunities,
		Causing a quantitative and qualitative increase in performance and productivity of employees,
		Making it possible to review and control errors of employees,

Main Themes	Sub-Themes	Codes (Components)
	Government in Employees' Level	Remote management of many processes and tasks,(on the behalf of employees),
		Promoting employees' standardization,
		Strengthen the level of awareness and knowledge among employees,
	Results and Benefits of the Implementation of Electronic Government in Beneficiaries' Level	Reducing the time of receiving services,
		Improving the interaction and communication of beneficiaries with sport organizations,
		Playing a role in more people's participation in government affairs,
		Positive effect on the price and efficiency of services for clients,
		Providing the opportunity for the participation of all citizens in the same way,
		Increasing the quality of government services,
		Immediate services to citizens,
		Increasing diversity in government services,
		Facilitation in obtaining information and services by citizens and companies,

Based on the coding of this step; The main factors or views affecting the implementation of E-government in sport organizations in Iraq include the following main and sub-themes: The view of the capacity and readiness of the implementation of E-government; including: the capacities related to the organization, the capacities related to the employees and the capacities related to the beneficiaries. The view of the challenges and obstacles in the implementation of E- government including; Challenges related to the organization, challenges related to employees and challenges related to beneficiaries. Perspective of E-government solutions and initiatives including; Solutions related to the organization, solutions related to employees and solutions related to beneficiaries. Perspective of results and benefits of E-government implementation including; Benefits for the organization, benefits for employees and benefits for beneficiaries. Finally, based on thematic analysis, the conceptual model of the research was drawn as Figure 1, which includes relationships between main themes and sub-themes(dimensions).

Figure 1. Qualitative Research Model (Themes by Determining Relationships)

The findings of the quantitative section include two descriptive and inferential sections. In descriptive statistics, descriptive statistics techniques such as frequency and percentage indices were used, and in the inferential statistics section, the research hypotheses were investigated using statistical tests. Table 3 shows that the factor of results and benefits for the organization has the highest average (4.41) and the challenges and obstacles of the beneficiaries has the lowest average (2.82).

Table 3- Descriptive statistics related to research variables

Variables	Mean	Standard Deviation	Dimensions	Mean	Standard Deviation
The capacity and readiness to implement electronic government	3.07	0.88	Capacity and Readiness of Organization	3.10	0.87
			Capacity and Readiness of Employees	3.07	0.89
			Capacity and Readiness of Beneficiaries	3.03	0.94
Challenges and obstacles to the implementation of electronic government	2.98	0.80	Challenges and Obstacles of the Organization	3.00	0.90
			Challenges and Obstacles of Employees	3.12	0.92
			Challenges and Obstacles of Beneficiaries	2.82	0.93
Solutions and initiatives for the implementation of e-government	3.70	0.59	Solutions Related to the organization	3.05	0.73
			Solutions Related to Employees	3.74	0.81
			Solutions Related to Beneficiaries	4.31	0.79
The results and benefits of e-government implementation	3.89	0.43	Results and Benefits for the Organization	4.41	0.55
			Results and Benefits for Employees	4.15	0.61
			Results and Benefits for Beneficiaries	311	0.38

In the inferential part of the research, for the normality of the data, skewness-kurtosis test and Factor Analysis with the partial least squares method were used to analyze the data and check the fit of the model. For this purpose, the third version of Smart PLS software was used. In general, the analysis using the PLS method consists of two parts: the measurement model and the general model. The variables of the model are divided into two categories of hidden and obvious variables, which are also used at different levels. In order to measure the fit of the measurement model, index reliability, convergent validity and divergent validity were used. The reliability index for measuring internal reliability includes three criteria: Factor loading coefficients, Cronbach's alpha and Composite reliability. Convergent validity shows the degree of correlation of a structure with its indicators, and divergent validity is the degree of correlation of a structure with its indicators compared to the relationship of that structure with other structures. Convergent validity is another criterion that is used to fit measurement models in the structural equation modeling method. Fornell & Lacker (1981), have proposed the use of average variance extracted (AVE) as a measure of convergent validity. The criterion displayed for the desirability of AVE is equal to and higher than 0.5. Table 4 shows the output results of the model for AVE.

Table 4- Coefficients of Convergent Validity Index of Each Variable (AVE)

Variables	Ave	Dimensions	AVE
The capacity and readiness of the implementation of electronic government	0.55	The Capacity and Readiness of the Organization	0.56
		Capacity and readiness of employees	0.55
		Capacity and readiness of beneficiaries	0.54
Challenges and obstacles to the implementation of electronic government	0.58	Challenges and obstacles of the organization	0.52
		Challenges and obstacles of employees	0.56
		Challenges and obstacles of beneficiaries	0.64
Solutions and initiatives for the implementation of electronic government	0.58	Solutions related to the organization	0.53
		Solutions related to employees	0.58
		Solutions related to beneficiaries	0.58
Results and benefits of e-government implementation	0.53	Results and benefits for the organization	0.56
		Results and benefits for employees	0.54

Variables	Ave	Dimensions	AVE
		Results and benefits for beneficiaries	0.50

Table 4 shows the output results of the model for the AVE index. As can be seen, the results indicate the appropriateness of the convergent validity measure (AVE). Fronell's and Lacker's criteria have been used to check the validity of the measurement model. Based on this criterion, acceptable divergent validity of a model shows that a structure in the model interacts more with its indicators than other structures (Fornell & Lacker., 1981). Divergent validity is at an acceptable level when the AVE for each construct is greater than the common variance between that construct and other constructs in the model. In PLS, this case is checked by a matrix in which the rows of this matrix contain the values of the correlation coefficients between the constructs and the square root of the AVE values of each construct. The results of the matrix can be seen in Table 5.

Based on the results obtained from the correlations and the square root of AVE, which is placed on the diameter of Table 5, it is found that the validity of the model variance at the level of the structure in terms of Fronell and Lacker criteria is confirmed. Cronbach's combined reliability criterion was used to measure reliability, which has advantages over the traditional Cronbach's alpha method and is called composite reliability (CR). The superiority of composite reliability over Cronbach's alpha is that the reliability of structures is not calculated in absolute terms, but based on the correlation of their structures with each other. Also, for its calculation, indicators with a higher factor load are more important. Consequently, both of these metrics are used to measure reliability more accurately. For composite reliability, equal to and above 0.7 is suitable (Nunley., 1978). This criterion is also shown in Table 6.

Table 5-Divergent Validity (Fronell and Lacker Criteria)

	***SI**	**SIB**	**SIO**	**SIE**	**CR**	**CRB**	**CRO**	**CRE**	**RB**	**RBB**	**RBO**	**RBE**	**CH**	**CHB**	**CHO**	**CHE**
SI	0.76															
SIB	0.63	0.76														
SIO	0.60	0.59	0.73													
SIE	0.55	0.36	0.64	0.76												
CR	0.52	0.56	0.63	0.66	0.74											
CRB	0.39	0.41	0.57	0.59	0.52	0.74										
CRO	0.52	0.59	0.55	0.57	0.45	0.63	0.75									
CRE	0.45	0.36	0.43	0.49	0.31	0.59	0.59	0.74								
RB	0.31	0.49	0.52	0.59	0.52	0.36	0.55	0.58	0.73							
RBB	0.52	0.63	0.57	0.36	0.39	0.52	0.56	0.55	0.63	0.71						
RBO	0.59	0.57	0.39	0.56	0.52	0.45	0.52	0.47	0.59	0.52	0.75					
RBE	0.62	0.49	0.59	0.67	0.58	0.54	0.56	0.59	0.44	0.59	0.52	0.73				
CH	0.56	0.63	0.36	0.59	0.59	0.52	0.45	0.45	0.49	0.52	0.59	0.66	0.76			
CHB	0.55	0.39	0.56	0.52	0.45	0.52	0.47	0.63	0.57	0.36	0.39	0.62	0.55	0.80		
CHO	0.54	0.44	0.67	0.58	0.54	0.56	0.59	0.57	0.39	0.56	0.52	0.64	0.54	0.61	0.72	
CHE	0.46	0.57	0.56	0.36	0.36	0.39	0.59	0.56	0.63	0.45	0.58	0.59	0.56	0.59	0.55	**0.75**

***SI** (Solutions and Initiatives); **SIB** (Solutions and Initiatives for Beneficiaries); **SIO** (Solutions and Initiatives for Organization); **SIE** (Solutions and Initiatives for Employees); **CR** (Capacity and Readiness); **CRB** (Capacity and Readiness for Beneficiaries); **CRO** (Capacity and Readiness for Organization); **CRE** (Capacity and Readiness for Employees); **RB** (Results and Benefits); **RBB** (Results and Benefits for Beneficiaries**);RBO** (Results and Benefits for Organization); **RBE** (Results and Benefits for Employees); **CH** (Challenges and Obstacles); **CHB** (Challenges and Obstacles for Beneficiaries); **CHO** (Challenges and Obstacles for Organization); **CHE** (Challenges and Obstacles for Employees).

Table 6- Reliability Coefficients of Variables

Variables	Cronbach's Alpha	Composite Reliability	Dimensions	Cronbach's Alpha	Composite Reliability
Capacity and Readiness of E-Government Implementation	0.89	0.90	capacity and readiness of the organization	0.76	0.83
			Capacity and readiness of employees	0.83	0.88
			Capacity and readiness of beneficiaries	0.79	0.85
Challenges and Obstacles of E-	0.92	0.93	challenges and obstacles of Organization	0.84	0.88

Variables	Cronbach's Alpha	Composite Reliability	Dimensions	Cronbach's Alpha	Composite Reliability
Government Implementation			Challenges and obstacles of employees	0.80	0.86
			Challenges and obstacles of beneficiaries	0.81	0.87
Solutions and Initiatives of E- Government Implementation	0.93	0.93	Solutions related to the organization	0.85	0.89
			Solutions related to employees	0.81	0.87
			Solutions related to beneficiaries	0.84	0.89
Results and Benefits of E-Government Implementation	0.92	0.93	Results and benefits for the organization	0.90	0.92
			Results and benefits for employees	0.83	0.87
			Results and benefits for beneficiaries	0.87	0.90

As can be seen in Table 6, all variables have Cronbach's alpha value above 0.70 and composite reliability above 0.8, which indicates that the model has a good reliability. After measuring the validity and reliability of the confirmatory factor analysis model, the determining factors in the implementation of E-government in Iraqi sport organizations based on the technological literacy of the employees were analyzed to measure the effectiveness of each factor in the Smart PLS software, the results of which are shown in Figure 2 and table 7.

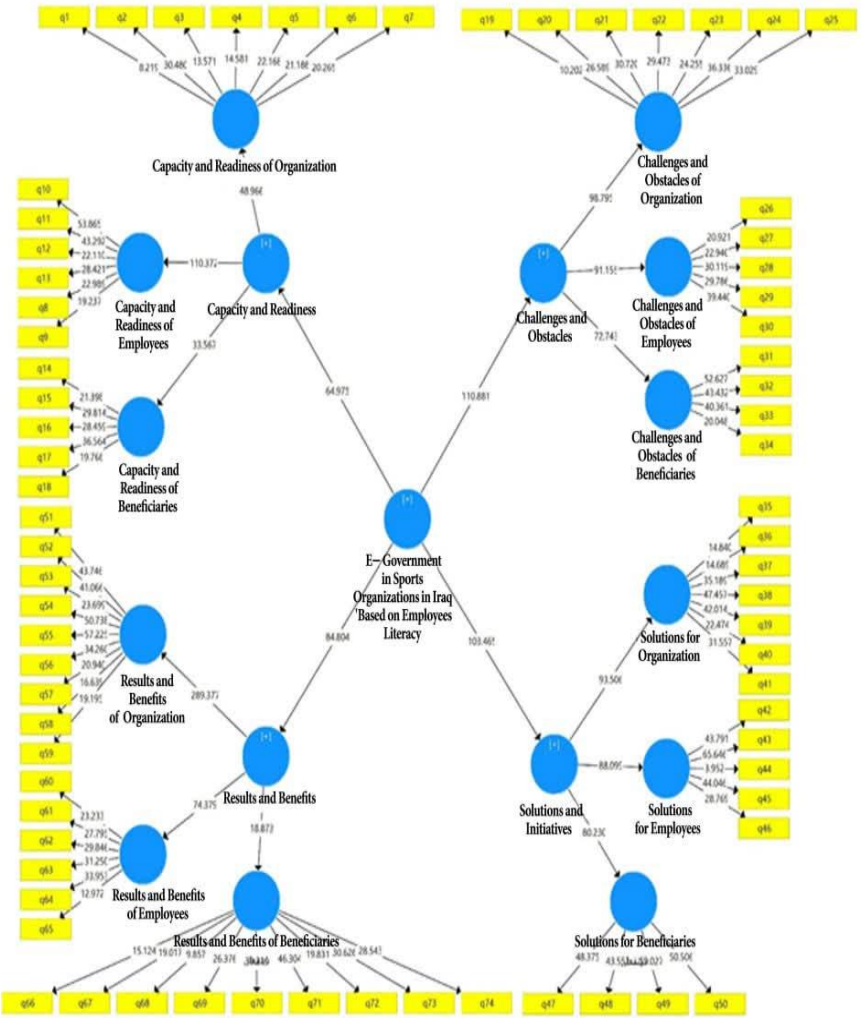

Figure 2. The Significance Coefficient (T-values) of the Final Research Model

Table 7- Output of The Model for the Results of the Main Assumptions (Final Model Test) of the Research

The Relationship Between Each of the Factors with the Main Factor and Sub-Factors	The Amount of Effect	T-Value	Significant Level	Hypothesis Results
Capacity and Readiness -> Capacity and Readiness of the Organization	0.85	48.96	0.001	confirmed
Capacity and Readiness -> Capacity and Readiness of Employees	0.92	110.37	0.001	confirmed
Capacity and Readiness -> Capacity and Readiness of Beneficiaries	0.77	33.57	0.001	confirmed
Challenges and Obstacles -> Challenges and Obstacles of the Organization	0.92	98.79	0.001	confirmed
Challenges and Obstacles -> Challenges and Obstacles of Employees	0.91	91.15	0.001	confirmed
Challenges and Obstacles -> Challenges and Obstacles of Beneficiaries	0.88	72.74	0.001	confirmed
Solutions and Initiatives -> Solutions Related to Organization	0.92	93.50	0.001	confirmed
Solutions and Initiatives -> Solutions Related to Employees	0.91	88.09	0.001	confirmed
Solutions and Initiatives -> Solutions Related to Beneficiaries	0.89	88.23	0.001	confirmed
Results and Benefits -> Results and Benefits for the Organization	0.96	289.38	0.001	confirmed
Results and Benefits -> Results and Benefits for the Employees	0.88	74.38	0.001	confirmed
Results and Benefits -> Results and Benefits for the Beneficiaries	0.66	18.87	0.001	confirmed
E-Government Implementation -> Capacity and Readiness	0.89	64.97	0.001	confirmed
Implementation of Electronic Government -> Challenges and Obstacles	0.93	110.88	0.001	confirmed
Implementation of Electronic Government -> Solutions and Initiatives	0.92	10.463	0.001	confirmed
Implementation of E-Government -> Results and Benefits	0.91	84.80	0.001	confirmed

The results of table 7 of the Factor Analysis of the dimensions showed that: in the capacity and readiness section, the capacity and readiness of employees (0.92), the capacity and readiness of the organization (0.85) and the capacity and readiness of beneficiaries (0.77) have the most effect on explaining the component of Capacity and Readiness, respectively. In the section of challenges and obstacles, the challenges and obstacles of the organization (0.92), the challenges and obstacles of the employees (0.91) and the challenges and obstacles of the beneficiaries (0.88) have the most effect on explaining the component of Challenges and Obstacles, respectively. In the solutions and initiatives section, respectively, solutions related to the organization (0.92), solutions related to employees (0.91) and solutions related to beneficiaries (0.89) had the most effect on explaining the component of Solutions and Initiatives. In the results and benefits section, the results and benefits for the organization (0.96), the results and benefits for the employees (0.88) and the results and benefits for the beneficiaries (0.66) had the most effective factor on explaining the component of Results and Benefits. Also, the results of the factor analysis of the main variables showed that: capacity and readiness with a coefficient of 0.89 have a significant effect on the implementation of E-government. Challenges and obstacles with a coefficient of 0.93 have a significant effect on the implementation of E-government. Solutions and initiatives with a coefficient of 0.92 have a significant effect on the implementation of E-government. Finally, results and benefits with a coefficient of 0.91 have a significant effect on the implementation of E-government.

Discussion

One of the problems of managers in developing countries such as Iraq is that they use models for management with new technology and tools, regardless of whether these programs are compatible with their organizational capacity or not. For example, the sport federation which still does not pay attention to the basics of the Internet and the infrastructure of information networks cannot use its advanced tools. The primary evidence has proved the role of technology and digital platform in the success of sport organizations in developing countries like Iraq. The position of sport management in this regard is of a double importance; Emphasizing that digital transformation has always been one of the concerns of modern and effective sport managers in Iraq. Despite extensive measures in this field, the transformational decisions of the country's sport organizations have not been able to effectively affect Pellet's activities due to the lack of comprehensiveness and aristocracy. Iraq’s sport management system was not capable of understanding the digital literacy in their organization and showing the best reaction so that they can manage their challenges and pass them. Although Iraq’s sport managers are sure of the effectiveness and efficiency of technological

developments in the field of sports, they do not have the understanding and roadmap of the future of technology-based transformation, and they mainly perform these tasks in an isolated manner with having no coherence.

The purpose of this research was to analyze the factors affecting the implementation of E-government based on the technological literacy of employees in Iraqi sport organizations. For this purpose, structured interviews and library discussions were used for the qualitative part and the extraction of components, which were finally framed in 4 perspectives: 18 components of capacity and readiness, 16 components of challenges and obstacles, 16 components of solutions and initiatives, and 24 components of results and benefits. The components of each of these perspectives were separated into three dimensions; organizational, employees and beneficiaries. Factor analysis was used to check the impact factor of each component. The results of the final research model showed that in terms of capacity and readiness, the capacity and readiness of the employees (0.92), the capacity and readiness of the organization (0.85) and the capacity and readiness of the beneficiaries (0.77) have the most effect on explaining the component. In terms of challenges and obstacles, respectively, challenges and obstacles of the organization (0.92), challenges and obstacles of employees (0.91) and challenges and obstacles of beneficiaries (0.88) had the most effect on explaining the component of challenges and obstacles. In terms of solutions and initiatives, respectively, solutions related to the organization (0.92), solutions related to employees (0.91) and solutions related to beneficiaries (0.89) had the most effect on explaining the component of solutions and initiatives. Results and benefits for the organization (0.96), results and benefits for employees (0.88) and results and benefits for beneficiaries (0.66) had the most effect on explaining the component of results and benefits respectively. Also, the results of the factor analysis of the main variables showed that: challenges and obstacles with a coefficient of 0.93, solutions and initiatives with a coefficient of 0.92, results and benefits with a coefficient of 0.91, and capacity and readiness with a coefficient of 0.89 have a significant effect on the implementation of the electronic government. The impact of obstacles is actually due to the lack of proper understanding by managers and their tendency towards the concept of technology management and change management, the stages of capacity making and development, as well as the characteristics of each stage. For this reason, it can be said that organizational obstacles in Iraq's sport organizations have led to more weaknesses in the implementation of electronic government rather than strength. Taking into consideration developing countries and their organizations, the implementation of systems and the implementation of E-government programs face with two major obstacles; the weak technology base and low technology literacy. Therefore, technological weakness hinders the continuous development and dynamics of capacity in systems, regions or communities for the implementation of E-government. The widespread obstacles to the implementation of E-government in developing countries are actually due to the controversy over its actual functioning. TO effective management of sport organizations in Iraq, in most cases, first of all it is necessary to overcome the obstacles and barriers. Mohammadi's research (2017) investigated the role of environmental barriers in the implementation of E-government in Iraq as the most important factor, which is consistent with the beneficiaries' dimension in this sector. Jaffar et al. (2016) have mentioned that the most important challenges of e-commerce implementation in Iraq are weak organizational infrastructure, which is in line with the findings of current research. Al-Refaie & Ramadna (2020) reported organizational and managerial obstacles are the most important obstacles to establish electronic development in sport tourism organizations, which is in line with the results of this research. Jaffar et al. (2016) have reported the technological barriers in the organization as the first priority to establish electronic government in Iraq organizations, which is consistent with the results of this research. The common perception among sport organizations in developing countries due to political, economic and social challenges is that resorting to information and communication technology concepts can be the main solution overcoming organizational problems and guarantee their performance, but what actually happens is that organizations turn to new technologies just in appearances. Experience also shows that the appliance of digital transformation in Iraq's sport and leisure organizations has not been done correctly, and usually the use of information and communication technology limit to the Internet and social media. As a result, not only the management of sport in Iraq is not done properly, but despite the large investments and huge costs, it also creates lots of questions and ambiguities in this field, especially for employees. Therefore, to have technological transformation, the organization must promote all its sub-processes in a balanced way (Shahoodh et al., 2020) and this requires the use of diverse strategies and initiatives along with key sectors in organizations: employees and beneficiaries. The benefits of electronic

readiness and capacity can be described as the combined effects of several e-innovations that create new actors, structures, practices, values, and beliefs that change existing rules in organizations, ecosystems, or industries (Hinings., 2018). The consequence of e-readiness is the adoption of knowledge and technology by a company for the common purpose of implementing it to improve efficiency, value or innovation. Electronic readiness causes the integration of knowledge and technology in all areas of a system, which fundamentally changes the way management works and provides value to customers (Paisal et al., 2022).

In fact, the results of electronic capabilities are the process of using electronic technologies to create or modify existing system processes, customer culture and experiences to meet business and market needs that continually change. Karimi et al. (2022) reported the effect of knowledge networks and electronic services in Iraq's tourism companies have a significant effect on their performance, which is in line with the benefits reported in this research. In other studies, Khabaz poor & Zarandi (2015) reported the impact of E-government on the performance of sport and youth departments. Ullah et al. (2021) confirmed the role of electronic government on the performance of Chinese and Pakistani organizations during the Corona era and sustainable development in these organizations. In general, it can be said that the implementation of E-government is a systematic and multi-level process that has its own characteristics at each level and stage and is influenced by related factors. Therefore, it is necessary to consider the relationship between factors within each level and with other levels by managers and analysts. As stated, the general flow of relationships between variables is from capacity and preparation to challenges and solutions and finally results and benefits.

Conclusion

Based on the results, it can be said that the implementation of E-government in Iraq sport organizations first requires improving the technological literacy of employees, and then utilizing the capacities and creating preparation in order to be able to adjust the challenges by using appropriate solutions and achieve the desired results and benefits. But the management of organizations in this direction should also distinguish between the role of the organization, employees and beneficiaries. Therefore, it is necessary that E-government should be seen as a gradual evolution and its guardians should not implement it only from organizational point of view. In fact, it is impossible to imagine that Iraq's sport organizations can function successfully and professionally in administrative fields, but act like a start-up organization in the field of technology. The lack of implementation of E-government and neglecting technology literacy causes managers and planners of sport organizations in Iraq to be unable to direct the organizational system towards innovation and greater efficiency.

Acknowledgments

We are also grateful to everyone who helped us in conducting this research; especial thanks to all the managers and personnel of the sport organizations who sincerely and patiently cooperated with us in collecting data.

Conflicts of Interest

There is no conflict of interest.

Funding

This research received no specific grant from any funding agency in the public, or any private sector.

References

Al-Refaie, A; Ramadna, A. M. (2020). Barriers to E-Government Adoption in Jordanian Organizations from Users' and Employees' Perspectives. *Open Government: Concepts, Methodologies, Tools, and Applications:*2190-2210. IGI Global. DOI: 10.4018/978-1-5225-9860-2.ch100.

Aniscenko, Z; Robalino-López, A; Rodrígue, T. E; Pérez, B. E (2017). Regional Cooperation in Dealing with Environmental Protection. E-government and Sustainable Development in Andean Countries. In Proceedings of the *11th International Scientific and Practical Conference*, 1(13):19.DOI:10.17770/etr2017vol1.2578.

Chen, Y. C (2012). A comparative study of e-government XBRL implementations: The potential of improving information transparency and efficiency. *Government Information Quarterly,* 29(4): 553-563.doi.org/10.1016/j.giq.2012.05.009 .

Chen, Y. C; Hu, L. T; Tseng, K. C; Juang, W. J; & Chang, C. K (2019). Cross-boundary e-government systems: Determinants of performance. *Government Information Quarterly*, *36*(3): 449-459. https://doi.org/10.1016/j.giq.2019.02.001.

Deng, H; Karunasena, K; Xu, W (2018). Evaluating the performance of e-government in developing countries. *Internet Research*, 28(4):00-00. DOI:10.1108/IntR-10-2016-0296.

Halachmi, A; Greiling, D (2013). Transparency, e-government, and accountability: Some issues and considerations. *Public Performance & Management Review*, 36(4): 562-584. doi:jstor.org/stable/23484740.

Heinzen, M; Höflinger, N (2017). People in lean product development: the impact of human resource practices on development performance. *International Journal of Product Development,* 22(1): 38-64.DOI:10.1504/IJPD.2017.085276.

Huang, Z; Benyoucef, M (2014). Usability and credibility of e-government websites. Government Information Quarterly, 31: 584–595.DOI:10.1016/j.giq.2014.07.002.

Jafari, M; Nouri, S; Talebi, D (2011). Factor analysis of effective indicators in the comprehensive system of evaluating the performance of higher education in the country, *Human Resource Management Research*, 5 (5): 36-49.http://dorl.net/dor/20.1001.1.22286977.1390.1.1.7.0 (In Persian).

Jaffar, A. A; Ghareb, M. I; Sharif, K. H (2016). The challenges of implementing E-commerce in Kurdistan of Iraq. *Journal of University of Human Development*, 2(3): 528-533.DOI:10.21928/juhd.v2n3y2016.

Karimi. H; Zarabi, H; Rahimi, R; Sheikh Movahed, M (2022). Pathology of e-Government Development in the Iranian Legal System: Legal Gap or the Nature of Guarantee of Executions, *Journal Iranian Political Sociology* ,5 (3): 149-171. Doi:10.30510/PSI.2022.325728.2985. (In Persian).

Khabaz poor. N; Zarandi, S (2015). The Effect of Electronic Government on the Administrative Corruption of Employees with an Emphasis on Administrative Violations (Case Study: A State University), *International Review of Management and Business Research* ,4(3):713-730 (In Persian)

Khan, A; Krishnan, S (2019). Conceptualizing the impact of corruption in national institutions and national stakeholder service systems on e-government maturity. *International Journal of Information Management*, 46: 23-36. DOI: 10.1016/j.ijinfomgt.2018.11.014.

Krishnan, S; Thompson, S.H; Teo, V (2013). Examining the relationships among e-government maturity, corruption, economic prosperity and environmental degradation: A cross-country analysis, *Information & Management*, 50 (8): 638-649. DOI:10.1016/j.im.2013.07.003.

Mohammadi, A; Halili, K; Modiri, N (2017). The conceptual model of the impact of mobile technologies and wireless networks in the development of the mobile state. *Interdisciplinary Studies on Strategic Knowledge*, 1(1): 167-203 (In Persian).

Nielsen,Ch; Modsen, M (2009). Discourses of Transparency in The Intellectual Capital Reporting Debate Moving from Generic Reporting Models to Management Defined Information, *Critical Perspectives On Accounting*, Elsevier, vol. 20(7): 847-854.DOI: 10.1016/j.cpa.2008.09.007

Paisal, A; Nurmandi, A; Irawan, B; Loilatu, M.J (2022). Research Trends in E-Government Interoperability: Mapping Themes and Concepts Based on The Scopus Database, *Jedem* 14(2): 83-108.https://doi.org/10.29379/jedem.v14i2.707.

Paliokaitė, A; Pačėsa, N (2015). The relationship between organisational foresight and organisational ambidexterity. *Technological Forecasting and Social Change*, 101: 165-181.DOI:10.1016/j.techfore.2014.03.004.

Pamment, J (2019). Accountability as strategic transparency: Making sense of organizational responses to the International Aid Transparency Initiative. *Development Policy Review*, 37(5): 657-671.DOI: 10.1111/dpr.12375.

Pinilla, V; Torres, L; Royo, S (2010). Is e-government leading to more accountable and transparent local governments? An overall view. *Financial Accountability & Management*, 26(1): 3-20.DOI:10.1111/j.1468-0408.2009.00488.x.

Rocki. M (2005). Statistical and mathematical aspects of ranking: Lessons from Poland. *Higher Education in Europe*, 17(3): 173-181. DOI:10.1080/03797720500260165.

Roscoe, S; Subramanian, N; Jabbour, C. J; Chong, T (2019). Green human resource management and the enablers of green organisational culture: Enhancing a firm's environmental performance for sustainable development. *Business Strategy and the Environment*, 28(5): 737-749. DOI: 10.1002/bse.2277.

Sabani, A; Deng, H; Thai, V (2019). Evaluating the Performance of E-Government in Indonesia: A Thematic Analysis. In Proceedings of the *12th International Conference on Theory and Practice of Electronic Governance* :435-440. https://doi.org/10.1145/3326365.3326422.

Salimi, M; Mirzaie, S; Rahimi Sarshabadrani, GH (2022). The Role of Sport Tourism Development in Job Creation: Providing a Model, *Journal of New Studies in Sport Management*,3(2):442-451. https://doi.org/10.22103/jnssm.2022.19085.1066 (In Persian).

Santos, R; Pereira, I; Azevedo, I (2019). Dynamic Generation of Documentation, Code, and Tests for a Digital Marketing Platform's API. In Code Generation, Analysis Tools, and Testing for Quality, 12(1): 1-35.http://dx.doi.org/10.4018/978-1-5225-7455-2.ch001.

Shahoodh, G; Al-Salman, O; Jafari, M (2020). Towards a Context-Aware Digital Government in Iraq: A Public Sector Employees' Perspective. In 2020 *13th International Conference on Developments in Esystems Engineering* (DESE) :283-286.DOI:10.1109/DeSE51703.2020.9450235.

Sharpe, S; Mountifield, C; Filo, K (2020). The social media response from athletes and sport organizations to COVID-19: An altruistic tone. *International Journal of Sport Communication*, 13(3): 474-483.DOI:10.1123/ijsc.2020-0220.

Torki, L; Rezaei, A; Razmi, S. F (2020). The Effects of Electronic Payment Systems on the Performance of the Financial Sector in Selected Islamic Countries. *International Journal of Economics and Politics*, 1(1): 113-121. https://doi.org/10.29252/jep.1.1.113. (In Persian).

Ullah, A; Pinglu, C; Ullah, S; Abbas, H. S. M; Khan, S (2021). The role of e-governance in combating COVID-19 and promoting sustainable development: a comparative study of China and Pakistan. *Chinese Political Science Review*, 6(1): 86-118. DOI:10.1007/s41111-020-00167-w.

Van Esch, E; Wei, L. Q; Chiang, F. F (2016). High-performance human resource practices and firm performance: The mediating role of employees' competencies and the moderating role of climate for creativity. *The International Journal of Human Resource Management*, 29(10): 1683-1708. DOI:10.1080/09585192.2016.1206031.