

HRIS Mediating Role the Relationship between TOE and Decision Making

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Abstract

Decision making plays an important role in organizations. It is the most important activity that managers do. Studies have extensively tackled the importance of decision-making process. Yet, determining the main factors that affect decision making and the role of Human Resources Information Systems (HRIS) as a mediator has received negligible attention, especially in the Egyptian context. Accordingly, the main subject of this paper is to examine the effect of the implementation of the TOE model based on the three contexts; technology (competitive advantage, complexity, compatibility, security and trust), organization (senior management, readiness, technology, maturity and performance), environment (competition, telecommunications infrastructure, internet service provider, business partner support and business partner pressure) on the process of informed decision-making mediated by HRIS in the higher education institutions sector namely Arab Academy for Science and Technology and Maritime Transport (AASTMT). The study reviews literature, identifies key constructs, develops hypotheses and proposes a research framework. A structured questionnaire was also adopted and adapted to understand the employees' perspectives. Questionnaires were distributed to over 500 employees, 400 of which were returned and considered valid. Descriptive Statistical analysis was conducted using SPSS. The research framework has the potential to contribute to the body of knowledge, and therefore improve the decision-making process to attain better quality of job life.

Keywords

HR-HRIS, TOE Model-Decision Making, AASTMT

1. Introduction

Nowadays, any organization must be digitalized in the modern world due to the accelerated pace of the market and the technological takeover of all aspects of life. The fact that world lives in a time that technology has taken over everything and also business models have had to adjust to fit the new technologies that none can deny. Hence, to avoid going through the long, exhausting process that older firms are going through, it is advisable to adopt digital human resources (HR) because digitalization is the next industrial revolution (El Aziz et al., 2020).

Big data is a well-known feature of human resources. Long days are required to manually account for this data, as the workers in this industry can confirm. Due to a lack of clear data, the company suffers. Thus, the purpose of technology is to digitalize the job that is performed manually (Garcia-Arroyo & Osca, 2021).

Due to the industry's transition to digitalization, HR professionals will be better able to gather particular information to inform their decisions on personnel management. As a result, the business will receive precise data that will aid in attaining the goals that have been set (Fenech et al., 2019).

With the development of information systems and technology, the satisfaction of information requirements has been greatly enhanced by the creation of Human Resources Information Systems (HRIS), which integrates the activities and processes of basic human resources with the field of Information Technology. It also provides full support in the management of all processes. HRIS provides HR professionals with opportunities to enhance their contribution to the strategic direction of the company by performing many routine HR tasks and transferring them to the executive management. Secondly, HRIS provides HR specialists with the necessary time to direct their attention toward more business critical and strategic level tasks, such as leadership development and talent management (Hosain et al., 2020).

Perceived human resources information systems (HRIS) is a process that uses information technology to effectively manage human resources functions and applications. It is a computerized system that usually consists of an interconnected database or database that tracks employees and their specific employment information. One of the most important basic incentives that encourage organizations to apply the realized human resources information system is that it facilitates the decision-making process in companies such as promotion, transfer, nomination, preparation of employee savings funds, retirement, bonuses, travel privilege leave and compensation for earned leave, also helps in collecting appropriate data and converting it into information and knowledge to improve the timeliness and quality of decision-making. From the foregoing it becomes clear that human resources information systems have a positive effect on increasing the efficiency of perceived decision-making in general (Kavanagh & Johnson, 2020).

The ability to extract data from the perceived HR Information System and use

this data not only to create information but also to improve the quality of management decisions is becoming increasingly important. The information should be relevant, useful, timely and accurate (Kavanagh & Johnson, 2020), so many companies have drawn their attention to the adoption of the Human Resources Information System (HRIS), as many researchers have worked to study the adoption of the Human Resources Information System in mankind and the factors that influenced the step of companies adoption of this system. It turned out that the level of technology used by the company has an impact on the adoption of the Human Resources Information System (Basheer et al., 2019), the organizational plan of the company has an impact on the adoption of the Resource Information System (Elbanna et al., 2020), and the corporate environment also has an impact on the adoption of the Human Resources Information System (Jia et al., 2017).

The stages of adoption of the HR Information System are classified into three stages. The first stage is the operational impact of information technology to automate routine activities, reduce administrative burdens, reduce costs, and improve the internal productivity of the HR function itself. The second stage is the relational impact, which is to provide managers and employees with remote access to human resources databases and services, reduce response times, and improve service levels. Finally, the transformative phase of information technology which is the redefinition of the scope and function of the HR organization to focuses more on strategic issues (Obeidat, 2012; Vargas et al., 2018).

In 2018, Masum et al. (2018) found that the economic and technological development that helped the world is the development of direct and indirect development in human resources in all organizations, and at all administrative levels and production, financial, marketing and sales units. Researchers and senior departments in all organizations had to determine the extent of the impact of this technological progress and development on the structure of human resources.

Also, the decision-making process is the focus of the administrative process and its essence, and the success of the institution or department depends on the ability and efficiency of the administrative leadership to make appropriate administrative decisions, and from this point of view, thinking about administrative work has become focused on the decision-making process. The decision-making process in the organization cannot dispense with Human Resources Management in providing the strategic planning team with information that help in formulating appropriate strategic alternatives and the possibility of their contribution to achieving a competitive advantage for the organization and making strategic decisions for the organization (Masum et al., 2018).

Institutions are becoming more aggressive in adopting HRIS systems, due to its capabilities that include hi-tech centralized systems that simplifies HR functions. Although, HRIS has a great potential in the Egyptian market as it provides the organizations with a competitive advantage and offers employee speedier, easier, more reliable, and available services to employees, yet HRIS still does not

dominate the Egyptian market, and its potential is not fully unlocked.

Consequently, the aim of the study is to investigate the effect of the implementation of TOE model on the process of informed decision-making by using Human Resources Information System (HRIS) as an intervening.

In order to achieve the research aim, the research objectives are as:

- To explore the dimensions of technology, organization, environment and their impact on the perceived decision-making process through the perceived human resources information system.
- To measure the impact of the adoption of a perceived HRIS on the perceived decision-making process.
- To use the adoption of a perceptive human resources information system as a mediator of the relationship between technology, organization, environment and the perceptive decision-making process.

This paper is structured into five sections: the first Section introduces the research background about TOE model on the process of informed decision-making by using Human Resources Information System (HRIS). Subsequently, the research aim and objectives are presented. Section 2, provides a review of literature, Section 3, demonstrates the research framework and hypotheses, Section 4 illustrates the data collection and analysis. Finally, Section 5 draws conclusions, theoretical and practical implications, and provides suggestions for future work.

2. Literature Review

2.1. Digitalization

The term “digital economy” refers to a vast network of social and economic activities that are enabled by digital technologies and have the power to significantly impact any organization. The potential to transform existing goods or services into digital counterparts, which give advantages over real goods (Henriette et al., 2015; Dewa et al., 2018; Parviainen et al., 2017) noted by Gierlich et al. (2019) has been the emerging trend. The corporate scene has changed significantly over the past ten years as a result of digitalization, becoming more dynamic and competitive. It has the potential to significantly improve sustainability, which in turn improves operations and services (Bibri, 2020).

2.2. Human Resources Information System [HRIS]

Information technology may enhance an organization’s performance and play a part in bringing about significant changes in both public and private companies (Devaraj & Kohli, 2003; Niemimaa & Zimmer, 2022). The Human Resources Information System is currently one of the systems that businesses utilize most frequently (HRIS). In order to complement the role of HR as an administrative expert, HRIS is used to manage human resources in the organization as a form of application data and human resource information in a more organized way (Lengnick & Moritz 2003, Suharti & Sulisty, 2018).

In fact, the Human Resources Information System is the backbone of the contemporary human resources management function (Hendrickson, 2003; Silva & Lima, 2018). Also, one of the important innovations in the function of Human Resources Management (HRM) is the use of Information Technology, which led to the development of computer-based Human Resources Information Systems (HRIS).

HRIS is the “umbrella” term that is used interchangeably when people refer to one or more forms such as: e-HRM, HR intranet, web-based HR, computer-based human resource management systems, virtual HR, and HR portals (Chakraborty & Mansor, 2013; Ziebell et al., 2019). Firstly, Desanctis (1986) defined the term HRIS as a “specialized information system within the traditional functional areas of the organization, designed to support the planning, administration, decision-making and control activities of HRM”. In 1999, Kovach and Cathcart (1999) described that HRIS as a systematic procedure for the effective use of employee-related data in the organization. It also helps the HRIS in the regular storage of information that helps employees make decisions efficiently and submit reports. There are many advantages for companies in using the HRIS because it provides a comprehensive database and thus provides a structural connection across units and increases the speed of information transactions. HRIS also increases competitiveness by improving human resources processes as well as management processes by converting raw data into information for timely and quality decision-making and helps in re-engineering all administrative functions of human resources, leading to employee satisfaction and thus paving the way for Strategic Human Resources Management. With this background, an attempt was made to assess the impact of the use of HR information systems on the decision-making process in the selected software companies (Haines & Petit, 1997; Hosain, 2020).

According to Belcourt et al. (2011) HRIS is used to obtain, store, process, analyze, retrieve and distribute relevant information related to the organization’s human resources. They also reported that most of the Applied Information Technology was related to maintenance personnel information, monitoring payroll processes, maintaining information about absences, doing administrative affairs and recruitment and training programs. The computerized system is intended only for collecting, storing, maintaining and retrieving the organization’s required data about its employees. In addition to the above uses, they were developed to assist in planning, administrative functions, decision-making and control of human resources management activities (Kumari, 2017).

Although HRIS contains technology and software, Chakraborty and Mansor (2013) noted that it also involves people, forms, policies and procedures, and data (Mauro & Borges-Andrade, 2020). According to Panayotopoulou et al. (2007) the focus of HRIS has recently switched to more strategic applications of an organization including recruitment, performance and pay management, and self-service technology (De Alwis et al., 2022).

In 2017, it was noticed by Nawaz (2017) top management and individual

managers help to make effective decisions. Also, HRIS helps managers make decisions by providing timely information. Every decision made by managers has a huge impact on organizations. Thus, HRIS forms the backbone of all vital information. Many important researches have been conducted on the usefulness of the HRIS and its role in effective decision-making. Some of the following notable research proves the influence of the HRIS on decision-making.

The guaranteed benefits of the HR Information System are typical for IT solutions, including lower cost of recruitment, staff recruitment, increased efficiency and improved customer or customer satisfaction. The benefit of the HR Information System is that employees can use the web self-service function of HR information or services to easily update and verify information, refer to internal online vacancy lists, access government employee brochures, and receive notifications about upcoming training courses. Managers can analyze job candidate profiles online, create salary forms, view benefits programs, monitor employee absenteeism trends, and retrieve government labor regulations and forms of compliance (Obeidat et al., 2017).

The use of HRIS develops the effectiveness of the processes of human resources functions by automating administrative tasks, reducing paperwork, simplifying work procedures, and distributing better information to management. Other acclaimed advantages include faster and less expensive hiring. Many researchers have suggested that the most important benefit of an HRIS is organizations that can spend more time on decision-making and strategic planning and less time on information input and day-to-day human resources management in educational sector (Silva & Lima, 2018) and it was suggested that similar organizations should adopt the use of HRIS to enter into an effective human resources process (Arya & Srivastava, 2021).

HRIS has become a crucial factor in making business competitive and efficient, with the development of Information Systems and technology, and the satisfaction of information requirements has been greatly enhanced by the creation of Human Resources Information Systems (HRIS), which integrates the activities and processes of basic human resources with the field of Information Technology. It also provides full support in the management of all processes, activities, data and information required for the management of human resources in a modern company. HRIS provides HR professionals with opportunities to enhance their contribution to the strategic direction of the company, by performing many routine HR tasks and transferring them to the executive management. Secondly, HRIS provides HR specialists with the necessary time to direct their attention towards more business critical and strategic level tasks, such as leadership development and talent management (Arefin & Hosain, 2019).

2.3. Technology Organization Environment Model [TOE]

Over the past three decades, research studies on IT adoption have significantly advanced. There have been numerous theoretical models developed, including the Theory of Planned Behavior (TPB), the Diffusion of Innovations (DOI),

the Electronic Data Interchange model (EDI), and others. Technology-Organization-Environment (TOE) and the Technology Acceptance Model (TAM) are two of the most important research projects that aid in IT adoption (T-O-E).

There are not many studies conducted at the individual level, according to the broad literature on Information Technology (IT) appropriation (Salwani et al., 2009). Technology Acceptance Model (TAM) (Liao et al., 2018), Theory of Planned Behavior (TPB) (Bosnjak et al., 2020), and Unified Theory of Acceptance and Leverage of Technology (UTAUT) (Williams et al., 2015) are just a few of the theories and models that use IT adoption at the individual level. Studies demonstrate that organizational level research is less common (Bryan & Zuva, 2021).

Tornatzky et al. developed the TOE Framework to evaluate technology adoption (Tornatzky et al, 1990; Habiboğlu et al., 2020). The T-O-E framework carries out the process of how the organization influences the implementation of innovations (Handayani & Mahendrawathi, 2019). Also, it is an association hypothesis that explains how three distinct factors influence how associations are received. They will have an effect on technological innovation and constructed a hierarchical receiving system based on the organizational contingency theory.

According to experts (Tornatzky & Fleischer, Chakrabarti, 1990; Arpacı et al., 2012), technology adoption is characterized by the variety of internal and external technologies, as well as their perceived utility, technical and organizational compatibility, complexity and learning curve, pilot test/experimentation, visibility, and imagination. Also, the framework suggests that an organization should be in harmony with its surrounds and environmental requirements and that of both internal and external elements, such as the environment, organization size, and organization strategy, affect the organization's strength. The organizational context clearly specifies the organizational characteristics, whereas the environmental context depicts the business environment, which is made up of the industry, rivals, rules, and connections to the government (Teo, Lin, & Lai, 2009; Zhang & Xiao, 2017: pp. 7-8). Besides, it refers to the company's characteristics and resources, including company size, centralization, officialization level, management structure, human resources, slack resources, and employee links (Haleem, 2021).

Technology, organization, and environment were identified as three crucial factors that affect organizational adoption. Three important influencing elements, including technology development (Bryan & Zuva, 2021) organizational conditions, business and organizational re-configuration and industrial environment (Angeles, 2014; Awa et al., 2017) must be considered when making any decision.

According to Bryan and Zuva (2021), the T-O-E framework's three contexts can be categorized as follows: The technological context is internal and external technologies associated with the organization and possible technologies that can be adopted (Baker, 2011; Chatterjee et al., 2021). Also, it is concerned with the operationalization, possible advantages, and present regulatory adoption of

technologies (Depietro et al., 1990) as well as how these factors can affect adoption.

According to different studies, the technology context consists of factors that affect how individuals, organizations, and industries accept innovations. The technology consists of four dimensions complexity, compatibility, relative advantage, security considerations (Pan & Jang, 2008; Bryan & Zuva, 2021).

Complexity is defined as the degree to which innovation is seen as somewhat difficult to understand and apply (Rogers, 2003; Stenberg & Nilsson, 2020). Since more complicated technologies require workers to acquire new skills and information, complexity is seen to have a negative correlation with the dissemination of innovation (Tidd & Bessant, 2009). It is used in terms of quality and quantity. As a quality, complexity has to do with our ability to understand a system or an object where we understand simple systems, but not complex ones. On another level, complexity is used as a quantity when we are talking about something that is more complex than another (Standish, 2014).

Another dimension is the compatibility factor, which Rogers (2003) defines as the degree to which an innovation is perceived at being consistent with existing values, cultural norms, experiences, and needs of potential users highlights the significance of the technology integrating with the organization's current workflow as well as the softer aspects like values and norms (Rogers, 2010; Katebi et al., 2022). Although the definition of compatibility can be expanded include a variety of concepts. There must be a problem that the new technology can resolve in order to gauge its suitability for a company. Also, it is the extent to which innovation is considered consistent with current values, past experiences, and adoption needs. Therefore, when SMEs consider that e-commerce is compatible with their business, they tend to continue using it, which in turn benefits their business performance (Kandil et al., 2018).

Another technological factor is relative advantage which a particular innovation is seen as being superior than what it is being compared against; can include perceptions of projected outcomes is used to define relative advantage (Rogers, 2003) cited by Stenberg and Nilsson (2020). It is the level of e-commerce consistency that can provide business benefits, and this level of e-commerce consistency is related to innovation, so the extent to which innovation can provide many business benefits through increased efficiency (Chong & Olesen, 2017).

Security issues include a security attack on a company that is destroying information. Security can be expressed as the level of business confidence in e-commerce services in protecting the secrets of corporate information. It is defined as the extent to which an internet platform is assumed to be unsafe for online transactions. Security risks are increasing with the increasing complexity of computer networks. Security issues can be viruses, hacking or data interception and are the main concerns in doing business online (Setiyani & Rostiani, 2021).

The adoption of EDI in small businesses is examined in a study using TOE (Kuan & Chau, 2001). Another study showed six characteristics based on the

TOE Framework are examined in this study to identify non-adopters (Hong & Zhu, 2006). The TOE framework is backed by a mountain of empirical evidence, and this study examines how aspects of the TOE information diffusion model affect TOE integration. It is based on the analysis of the problem, enabling the determination of the best course of action (Zhu et al., 2006).

Intentionally, the organization has to be a constraint between parts, or regularity and order, since order is seen mainly as a repetitive order, that is, repetition. On the other hand, under the influence of information theory, organization is meant by a non-repeating order, which is measured by information content and organizational dimensions are support of top management, organization readiness, maturity and performance (Serrano et al., 2021).

As top management is a key factor in accomplishing organizational objectives, its involvement in achieving synergy between organizational activities and operations appears to be significant. In addition to fostering harmony and compatibility among its employees' organizational principles and values, top management is accountable for this (Manna, 2012; Al Shaar et al., 2015).

According to earlier studies like those by Rodríguez et al. (2008), Pudjianto et al. (2011), Hsu et al. (2019), Jayeola et al. (2022) top management has always had a crucial role in supporting staff, assisting them with problem solving, fostering harmonious interactions and cooperation among various job functions, encouraging bottom-up idea generation and providing incentives, and directing unit managers to support innovation by sending out clear and consistent signals that lay a solid foundation (Alsheibani, Messom, & Cheung, 2020).

As for the readiness of the organization, business readiness refers to the availability of the company in the implementation of technology. Availability includes infrastructure, finance, it and human resources. So organizational readiness is the technical readiness of a company be able to innovate (Dewi et al., 2018; Katebi et al., 2022).

On behalf of the significance of Maturity and Performance Issues, a study allowed IT departments to convert to digital services due to the challenges faced by other options for providing IT services, was determined to be a clear contribution of the research. Additionally, it was shown that the Internet service providers and telecommunications infrastructure had a substantial impact on TOE (Kandil et al., 2018).

The environmental dimensions are competitive pressure, support of partners, business Partner Pressure, Telecommunications infrastructure and Internet Service Provider (Harfoushi et al., 2016).

The competitive pressure is necessary in order to understand the environment in which the company operates. It has a significant impact on the strategies adopted by the company in order to achieve and maintain a competitive advantage, thereby improving performance. Peer group pressure known as competitive pressure tends to encourage members to adopt new technologies and pursue competitive advantage through innovation (Lu et al., 2015). Retailers may be under competitive pressure from market competition, technological influence,

or competitive disadvantage in both local and global markets (Zhu et al., 2006; Picoto et al., 2014). Additionally, it has been proven that competitive pressure precedes the application of technical innovation (Picoto et al., 2014; Chau et al., 2020).

The support of external partners helps to generate innovation performance of the enterprise through the exchange of knowledge. The development of knowledge for employees through their own skills and through the help of input from the organization's partners will help the easy adoption of the built-in technology. The knowledge absorbed by the employees will also help them to use technology and increasing its perceived ease of use. This achievement can be considered as a contribution to the support of partners, as partners provide additional support for the development of staff knowledge (Awa & Ojiabo, 2016).

Additionally, it was shown that the Internet service providers and telecommunications infrastructure had a substantial impact on TOE (Kandil et al., 2018).

Compared to many other adoption frameworks, the T-O-E framework places a greater emphasis on social and psychological perspectives. Despite the growing scholarly praise for the T-O-E framework and given the flexibility of everything and the fact that updated information is a competitive tool (Awa et al., 2017). Moreover, TOE has been widely used and is an instrument to measure and assess three criteria in various industries. In recent studies, these have included: block chain technology in banking sector (Kulkarni & Patilb, 2020), Marketing field (Habiboğlu et al., 2020), and Human Resources Management (ElNakib et al., 2021; Kutieshat & Farmanesh, 2022).

2.4. HRIS and TOE

There are ongoing calls in the literature to expand TOE techniques to underexplored fields like HR/HRIS, despite the fact that it is still difficult to find a theory that is relevant and suitable to properly understand the notion of HRIS and present fragmented empirical evidence.

A study by Thong found that adopting the TOE framework using HRIS as a dependent variable and a recognizable set of factors that influence adoption to include in the model as independent variables: firm size, industry type, type of organization, and age of organization. Others were organizational fit, regulatory compliance, technology competence, managerial commitment, prior IS deployment, and competency in technology (Thong, 1999). Also, Troshani et al. claimed that HRIS adoption in the public sector is dependent on Technological, Organizational, and Environmental (TOE) aspects (Troshani et al., 2011; Valcik et al., 2021).

In 2014, Al-Dmour (2014) found that the necessity for an integrated perspective of the adoption phenomena because the adoption of HRIS in business organizations depends heavily on the interaction of internal and external environmental elements. In that regard, this study also aims to provide a significant theoretical contribution by articulating variations in adoption factors, imple-

mentation levels, and efficacy of HRIS applications.

In 2016, the goal of this study is to examine the factors that affect management decisions about the use of HRIS in the healthcare sector by combining two well-known adoption theories namely the Technology-Organization-Environment (TOE) framework and the Human-Organization-Technology fit (HOT-fit) model (Alam et al., 2016; Srivastava et al., 2022). In 2018, another study included that TOE model and HR activities were used to highlight the cloud HRIS key impacting elements. This study is one of the few to operationalize the concept of cloud HRIS in the Egyptian hotel industry (Zaki & Saad, 2018).

2.5. Decision Making

Decision-making is one of the basic cognitive processes of human behavior by which the preferred option or course of actions is selected from a set of alternatives on the basis of certain criteria. Decision theories are widely applied in many disciplines that include cognitive informatics, computer Science, management science, economics, sociology, psychology, political science and statistics because making an important decision is the specific Executive task (Obi & Agwu, 2017; Litvaj et al., 2022).

Decision-making is the most important activity in which managers are involved in all types of organizations at any level. It is the only activity that roughly summarizes the behavior of managers, the one that clearly distinguishes managers from other professions in society. In an infinite variety of careers, decision making demands cognitive talent and sufficient information (Jumino, 2018).

The decision-making is the heart of management that faces at all levels of their administrative and functional responsibilities, because decision-making is one of the basic functions in management that the leader should be good at applying, and be aware of, because the structure of the administrative institution is determined by the way decisions are made (Hallo et al., 2020). Also, the concepts of management theory should be derived from Logic and the psychology of human choice.

Moreover, decisions are only a series connected to each other, and every big decision is followed by a continuous series of decisions, each decision is preceded by a decision until the goals are implemented. Since the logical effect is represented by the goals, the value of the decision is related to the degree of its impact in achieving those goals (Gok & Atsan, 2016; Olalekan et al., 2021).

The decision-making process requires a thought process, time, resources and previous experiences. The thought process plays an important role in this process. The decision plays an important role because it determines the organizational and administrative activities. Most management decisions are made under the influence of external and internal environmental restrictions. Since the environment is constantly changing and information is not always complete and available, management decisions can be made in certain, uncertain and risky circumstances. Decisions made in uncertain and serious circumstances are characteristic of complex, unstructured and unplanned problems, features of Stra-

tegic Management. The decision-making process of managers has developed over time not only due to the complexity of the problems they direct, but also due to the contribution of theorists and practitioners to the enrichment of certain literature (Panpatte & Takale, 2019).

3. Research Theoretical Framework

Due to the negligible attention given to examining the relationship between the TOE variables and decision making through the utilization of HRIS as an intervening variable, and other variables as shown from an extensive review of literature, the study at hand provides proposed framework to be used by decision makers at organizations in general, and in higher education institutions in particular. This developed proposed research framework is shown in **Figure 1**.

In order to accomplish the above research objectives, the following hypotheses were formulated:

H01: There is a direct and statistically significant impact of technology on the adoption of HRIS.

H1.1: There is a direct and statistically significant impact of comparative advantage on the adoption of the HRIS.

H1.2: There is a direct and statistically significant impact of complexity on the adoption of the HRIS.

H1.3: There is a dispositive and statistically significant effect of compatibility on the adoption of the HRIS.

H1.4: There is a dispositive and statistically significant impact of security and trust on the adoption of the HRIS.

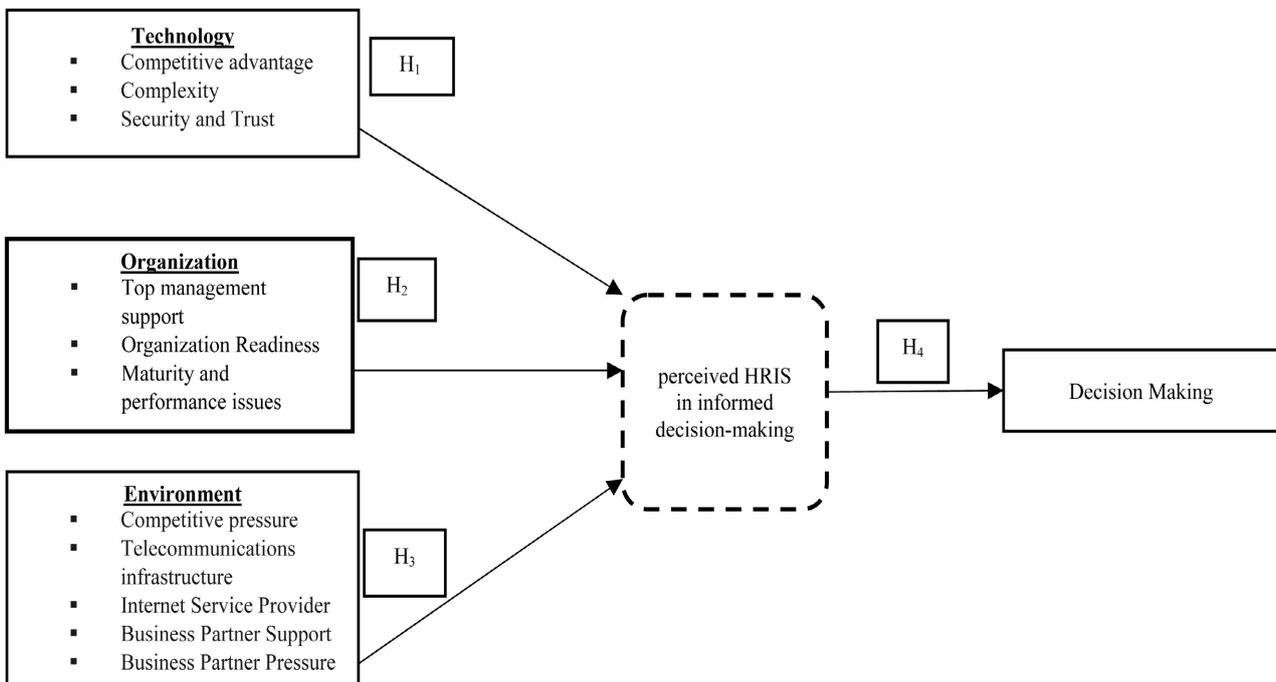


Figure 1. Research proposed framework (by the authors).

H02: There is a direct and statistically significant impact of regulation on the adoption of the HRIS.

H2.1: There is a dispositive and statistically significant impact of senior management on the adoption of the HRIS.

H2.2: There is a direct and statistically significant impact of readiness and technology on the adoption of HRIS.

H2.3: There is a direct and statistically significant impact of maturity and performance on the adoption of the HRIS.

H03: There is a direct and statistically significant impact of the environment on the adoption of the HRIS.

H3.1: There is a dispositive and statistically significant impact of competition for the adoption of the HRIS.

H3.2: there is a direct and statistically significant impact of communication infrastructure on the adoption of the HRIS.

H3.3: There is a direct and statistically significant impact of the internet service provider on the adoption of the HRIS.

H3.4: there is a direct and statistically significant impact of business partner support on the adoption of the HRIS.

H3.5: There is a direct and statistically significant impact of the pressure of the business partner on the adoption of the HRIS.

H04: There is a direct and statistically significant impact of the dependence of the Human Resources Information System on the decision-making process.

4. Findings and Analysis

The questionnaire was administered to 400 employees in AASTMT out of the 500 questionnaires administered. Most of the respondents were obtained electronically and some physically, both are valid for analysis while fifteen were invalid as a result of improper and double responses. The valid questionnaires, which formed the analysis, yielded 97% response rate.

In this section, frequency tables will be provided to each variable under the study in order to describe the absolute frequency and the relative frequency. This is done through measuring employees' opinion regarding factors of each dimension of them with a scale from 1 to 5, where 1 refers to "Strongly Agree", which means that the customer is totally satisfied with the service provided for a specific dimension, while 5 refers to "Strongly Disagree", which means that the customer is totally unsatisfied with the service provided regarding a specific dimension.

As can be seen from **Table 1** descriptive analysis of the research variables, includes the mean value and the standard deviation. It can be seen from the following table that the average value of all the search variables is greater than the average of 3 which explains that most of the answers in the questionnaire fall in the area of neutrality and consent.

Table 1. Descriptive analysis of research variables.

	Repetition					Std. Deviation	Mean	N	Variables
	5	4	3	2	1				
18	277	91	14	0	0.59128	3.7475	400	Complexity	
5	231	148	16	0	0.59327	3.5625	400	Compatibility	
82	140	162	16	0	0.83267	3.7200	400	Comparative advantage	
0	204	182	14	0	0.56584	3.4750	400	Security considerations	
0	181	195	14	0	0.56346	3.4425	400	Senior management support	
6	234	146	14	0	0.58691	3.5800	400	Organization readiness	
53	229	102	16	0	0.71258	3.7975	400	Organization Size	
39	203	144	14	0	0.69869	3.6675	400	The age of the organization	
46	252	88	14	0	0.66745	3.8250	400	External support	
54	220	114	12	0	0.70508	3.7900	400	Pressure from competitors	
47	235	102	16	0	0.69743	3.7825	400	Partner support	
158	197	45	0	0	0.65480	4.2825	400	Adoption of the Human Resources Information System	
263	94	43	0	0	0.68093	4.5500	400	Improved/effective decision making	

5. Conclusion

Decision making plays a crucial role in organizations. Key factors affecting the decision-making process at higher education institutions need to be investigated.

Finally, most tedious and repetitive jobs are being increasingly automated across enterprise software architecture thanks to available technology. HRIS software platforms are among those whose capabilities are constantly expanding, notably in terms of efficiently filling and flowing the hiring pipeline.

This study extensively reviews literature and uses the TOE as a base for the developed model affecting the decision-making process. HRIS was found to be the information that has great potential and is yet not fully utilized. Arab Academy for Science, Technology, and Maritime Transport was selected as a candidate case study for the investigation. Continuous progress in revealing other factors with significant influence together with TOE core variables, are still unexplored. Consequently, possible future directions for TOE research based on the conducted literature review and analysis are identified and presented.

A structured questionnaire was adopted, adapted, and randomly distributed over employee. Data collected was statistically described using SPSS. Preliminary data analysis reveals that the research framework developed provides a good guideline for decision-makers and that paves the way for an enhanced decision-making process in the education sector.

Despite the research implications, the current research has some limitations. The lack of data on HRIS in the Egyptian context, did not allow room for con-

ducting a comparative study between studies conducted in Egypt compared to those on a different context. Moreover, questionnaires were only distributed to employees in higher institution industry. It is recommended that the model should be tested across various sectors other than the higher institution industry. Furthermore, the study only investigated the perspective of HR employees; a stakeholder analysis may reveal similarities or differences. Although the study provides an extensive literature review, statistical data analysis is primarily descriptive. Finally, further statistical analysis with Structured Equation Modelling, using AMOS could reveal more insights.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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