

Effectiveness of Human Resource Management Information System (HRMIS): A Case Study of Royal Army Engineers Regiment of Malaysia

Muhammad Azri Mohamad Hatta¹, Nurul Hidayana Mohd Noor^{2*}

¹ 91 Royal Army Engineers Regiment of Malaysia,

Batu Cantonment Camp, 51200 Jalan Ipoh, Kuala Lumpur, MALAYSIA

² Faculty of Administrative Science & Policy Studies,

Universiti Teknologi MARA (UiTM), 70300 Seremban, Negeri Sembilan, MALAYSIA

*Corresponding Author: hidayana@uitm.edu.my

DOI: <https://doi.org/10.30880/jtmb.2025.12.01.001>

Article Info

Received: 31 December 2025

Accepted: 3 March 2025

Available online: 30 June 2025

Keywords

Performance expectancy, effort expectancy, attitudes towards technology, social influence, Human Resource Management Information System (HRMIS), effectiveness

Abstract

The use of computer-based information systems to help improve the performance of an organisation can be seen in almost all management and administrative activities. A Human Resource Information System (HRIS) is used to obtain, store, manipulate, analyse, retrieve, and distribute important information about human resource activities in an organisation. The Human Resource Management Information System (HRMIS) system is one example of an HRIS. This study aims to identify the predictors of the effectiveness of the HRMIS, namely performance expectancy, effort expectancy, attitudes toward technology, and social influence. This study used a questionnaire to collect data from 91 Royal Engineers Regiment Malaysian Army staff. A total of 300 respondents were involved in this study, and a final dataset of 291 respondents was received. The data are analysed using Pearson correlation and multiple regression. This study's findings show a significant relationship between all variables and social influence, the most significant predictor of HRMIS effectiveness. The results support the combination model of the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Theory of Planned Behavior (TPB). In conclusion, a sound HRMIS can catalyse organisational success.

1. Introduction

Human Resource Management (HRM) involves various planning, strategies, and deployments to achieve organisational goals (Bratton et al., 2021). Human resource activities such as recruitment, selection, training, and rewards are important to achieve the company's objectives. HRM also addresses issues related to claims, performance management, organisational development, safety, well-being, benefits, employee motivation, training, and others (da Silva et al., 2022). In this regard, HRM plays a strategic role in managing employees, workplace culture, and the environment. In this era of globalisation, the use of technology is increasingly widespread and important (Bratton et al., 2021). Technology has enabled employees to perform tasks faster and more correctly. The use of information systems can be seen in almost all management and administrative activities to help improve the performance of an organisation. The use of technology in organisations in this decade has been accepted as a necessity. Organisations will not be able to move smoothly if they do not use technology to facilitate organisational management (Bal et al., 2022). Using technology in the public service sector can prevent civil servants from performing boring and repetitive tasks. Its use can also save working time and improve

customer experience for the people. Records that are managed systematically can help users access information quickly. This can save time and streamline institutional activities compared to poorly managed records. This opinion is supported by Alkhwaldi et al. (2023), who state that records held by each department or office in the public sector should be managed well to facilitate the quick search for information and the desired records. The efficiency of records management in an organisation can be measured by the speed of accessing the information, requiring minimal space and maintenance, and not being kept for an extended period unless it has continuing value to the government or organisation (Valcik et al., 2023a). Without optimal records management, the management will face problems such as lost, untraceable, and incomplete record information (Valcik et al., 2023b).

Human Resource Information System (HRIS) is used to obtain, store, manipulate, analyse, retrieve, and distribute important information about human resource activities in the organisation (Bal et al., 2022). The use of HRIS is important today because this system helps human resource functions in the organisation to be better and more effective. According to Satispi et al. (2023), the HRIS comprises various elements, such as technology and humans. If one element does not function properly, then it will cause the entire system to fail. Since technological advancements have experienced rapid growth, the Human Resources Department has successfully implemented various online-based systems, including HRIS (Maamari & Osta, 2021). Human resources information systems (HRIS) and human resources management information systems (HRMIS) are often used interchangeably. However, there are subtle differences between them that are worth exploring. HRMIS builds upon the functions of HRIS by incorporating strategic planning and decision-making.

Implementing e-government in the public service sector is believed to improve the quality of public services and make them more perfect and effective. E-Government is a transformation of the provision of public services by the government, which was previously done manually but is now handled electronically (Malodia et al., 2021). The main objective of implementing this e-government system is to renew and improve the effectiveness and efficiency of the Malaysian government's administrative machinery (Maamari & Osta, 2021). The Human Resource Management Information System (HRMIS) application is one of the e-government implementations that has successfully brought the public sector human resource management system to a more efficient and systematic level (Arifin & Tajudeen, 2020; Zahari et al., 2017). The HRMIS project, developed in 1999, is an effort by the Malaysian government to ensure that human resource management in public service can produce skilled, trained, and motivated workers. Its implementation has produced a continuous learning environment among civil servants (Sabani et al., 2024). The objectives of HRMIS are designed to ensure that the applications that have been developed can improve the performance of the public sector delivery system.

The objectives of HRMIS that have been outlined are to automate the human resource management operational process and develop integrated and updated human resource information for effective human resource planning (Zhou et al., 2021). HRMIS also facilitates horizontal communication and integration, coordination of human resource processes, and access through a 'single window.' Furthermore, it creates a 'paperless' environment (Zahari et al., 2017). It provides an open and flexible human resource information system as well as updates to meet the needs of management at various agencies (Sabani et al., 2024). HRMIS covers all human resource management processes from recruitment to retirement and has resulted in a transformation process in the public sector, bringing the quality of the public sector to a more impressive level. The HRMIS Application 2.0 replaces version 1.0 used by all Malaysian civil servants, including universities, the military, teachers, and other bodies. It provides performance management, personal record management, benefits, leave management, and remuneration management (Mohd Lazim, 2021). Users who want access to the system can download the MyHRMIS application that has been released.

The myHRMIS Cuti, myHRMIS Profil, myHRMIS eGL, myHRMIS SelfCheck, and myHRMIS care applications are an innovation under the myGov Mobil MAMPU project. Studies on HRIS have been conducted, but most previous researchers have suggested that further studies be conducted on this system to evaluate its effectiveness (Arifin & Tajudeen, 2020; Mohd Lazim, 2021). Further studies should be conducted to fill the lack of studies on organisations' acceptance of this system. Technological resources are constantly changing and becoming more sophisticated every year. Although previous researchers have done many studies, empirical studies on this HRIS system model are still lacking, especially in Malaysia and in the context of the public sector (Ibrahim et al., 2024; Valcik et al., 2023). The different perceptions each employee gives regarding the use of information technology will also affect the quality of work, reducing work productivity. Negative responses toward technology will create difficulties for employees and employers (Valcik et al., 2023b). Employees with difficulty adapting to new technology in the organisation will face problems (Arifin & Tajudeen, 2020). This problem will affect the quality of employee work if the employer cannot identify the problems employees face due to the use of technology in the organisation (Alkhwaldi et al., 2023). Indirectly, employee productivity will also decrease.

To discover the predictors of the effectiveness of the HRMIS, this research applied the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Theory of Planned Behavior (TPB). The UTAUT model confirms that the intention to use technology is induced by performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy is the capability to benefit substantially after using

technology (Venkatesh et al., 2003). People will use the system when they experience that it gives an idea of security and ease of work (Menant et al., 2021). With the advanced operation of HRMIS in lightening work, there will be high intentions for users to use the system. Meanwhile, effort expectancy affects satisfaction and the continuation of users' use of the system (Alkhwaldi et al., 2023). Billanes and Enevoldsen (2021) express that when the system turns out challenging, it will demand great determination. When the complexity of using HRMIS declines, the usage of HRMIS tends to increase. Moreover, underlying the TPB theory, attitudes toward technologies contribute to individuals' acceptance of HRMIS. High attitude, confidence, and efficacy can help improve skills in using HRMIS (Roberts et al., 2021). Decisively, social influence is the extent to which an individual feels it is important for others to believe they should use a particular system or technology (Billanes & Enevoldsen, 2021; Hakeem & Sulphrey, 2024). UTAUT focuses more on the attributes of technology and social norms than on the individual attitude. Information systems studies have presented a rich understanding of why people use technologies, but have given much less consideration to why individuals resist or discard technologies, and the attitude can become a prominent factor in inhibiting or discouraging the usage of HRMIS. Hence, by incorporating the UTAUT and TPB, this study will add to a more comprehensive outcome. The objectives of this study are to identify the influence of performance expectancy, effort expectancy, attitudes towards technology, and social influence on the effectiveness of HRMIS as perceived by staff at the Malaysian Royal Army Engineers Regiment. Second is to assess the most significant predictor of the effectiveness of HRMIS as perceived by staff at the Malaysian Royal Army Engineers Regiments.

2. Literature Review & Hypothesis Development

2.1 Human Resource Management Information System (HRMIS)

The Human Resource Management Information System (HRMIS) is created to handle human resource matters in every agency/organisation (Arifin & Tajudeen, 2020). This system is widely used in Malaysia's public service sector, including the Malaysian Royal Army. HRMIS is the main application of the federal government, and all civil servants who have their respective IDs obtain them from the HRMIS Administrator of their respective departments (Zahari et al., 2018). There are two types of websites for HRMIS applications, namely HRMIS 1.0 and HRMIS 2.0. HRMIS 2.0 is an online system upgraded from the Classic version (see Fig. 1). MyHRMIS Profile allows civil servants to review personal information as it has been locked into the HRMIS Application. It also displays the personal information and permanent address of the officer, the officer's educational information, the officer's family information, information on awards received by officers throughout their service, the officer's service history, the officer's service profile, and the courses attended by officers in the last 10 years (Ibrahim et al., 2018).

MyHRMIS Leave enables civil servants to apply for leave, check leave status, check leave eligibility, support leave, and approve leave via a mobile platform (Arifin & Tajudeen, 2020). This system allows civil servants to check their annual leave eligibility for the current year and makes it easier to apply for leave (Sinniah et al., 2019). It provides facilities for support officers to review leave applications and support leave, and for approving officers to review and subsequently consider leave approval. It allows officers to check the status of leave applications to see if they have been supported and approved. MyHRMIS Out of Office facilitates the management of civil servants' out-of-office hours during duty hours and complies with General Order 5 Chapter G – Complying with Working Hours. It makes applying for time off on the go easy and allows approvers to consider and view the approval status of time off applications (Sinniah et al., 2019).

The dashboard function consists of three categories: individual dashboard, approver dashboard, and management dashboard. It also reports that officers not in the office are categorized into three (3): on vacation, currently not, and not in the office by date selection. MyHRMIS EGL displays records of Self-Verification Letters and Officer's Declarations (GL) for civil servants as an alternative to online or manual eGL. It displays personal information, service profile, and officer salary. The elements displayed are elements used by eGL. It also displays officer family information. The elements displayed are elements used by eGL. It displays the names, phone numbers, and addresses of government hospitals/clinics. MyHRMIS CARE provides convenience for civil servants to seek assistance, provide suggestions for improvement, check the status of complaints, and refer to frequently asked questions (Arifin & Tajudeen, 2020).

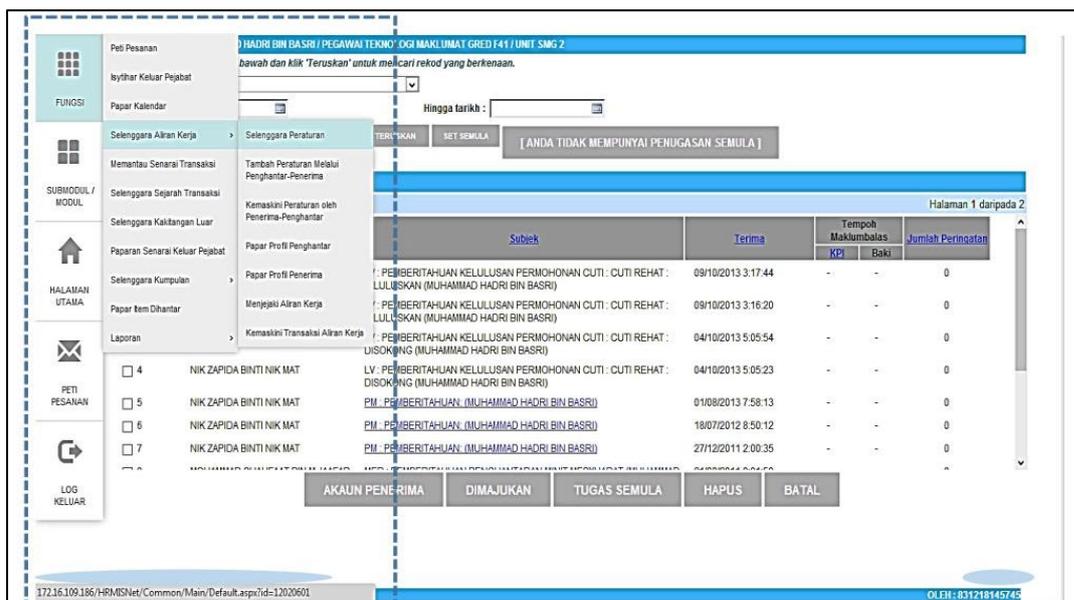


Fig. 1 HRMIS Interfaces

2.2 Integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) and The Theory of Planned Behavior (TPB)

This research tests the determinants of the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Theory of Planned Behaviour (TPB) to evaluate the predictors of HRMIS effectiveness. In this research, UTAUT and TPB determinants include the attitude towards technology, performance expectancy, effort expectancy, and social influence. The unified Theory of Acceptance and Use of Technology (UTAUT) model is one of the theories that is comprehensive in predicting how someone can adopt the use of a technology system (Venkatesh et al., 2003). This design model consists of several models that examine behavior and influences that can motivate someone to adopt or accept a technology system. Venkatesh et al. (2003) created a UTAUT model with the power of proof as much as 70%. The first UTAUT model states that an individual's intention to use new technology, which is interpreted as behavioral intention, is influenced by three determining factors: performance expectancy, effort expectancy, social influence, and the actual use of the technology itself. The use behavior has two determining factors: behavioral intention and facilitating conditions. Performance expectancy is confidence in using a system that can help a person improve job performance. Then, facility conditions are the level of user confidence in others in supporting their activities and the extent to which users believe that technical facilities are available to support the system. On the other hand, effort expectancy is the level of user convenience in utilizing information technology systems. The easier the system is to use, the less effort it takes, and vice versa. Finally, social influence

is the level of user awareness of the environment that uses information technology systems. Users will think about the importance that others believe in, which will influence the use of the new system.

While UTAUT is robust in explaining technology adoption behavior, it primarily emphasises technological characteristics (e.g., performance and effort expectancy). However, it underrepresents individual volition and internal psychological determinants such as attitude and perceived behavioral control. Conversely, the theory of planned behavior (TPB) addresses internal cognitive and social factors influencing behavioral intention (e.g., attitude, subjective norms, and perceived behavioral control). However, it lacks constructs that capture technological affordances and usability factors critical in digital systems. The TPB is an extension of the Theory of Reasoned Action (TRA), which Ajzen also developed. The Theory of Reasoned Action was first coined by Ajzen in 1980. Further, Ajzen (1991) stated that two essential determinants influence the intention to perform a specific behavior: the first is related to attitude towards behavior, and the second is related to social influence, namely subjective norms. Apart from the two variables in TRA, other factors influence intentions, namely perceived behavior control (Ajzen, 1991). The advantage of the TPB is that it analyses a situation when individuals do not have control over the resources they need, knowledge, and opportunities they get (Ajzen, 2020). Attitude generally refers to an individual's desire and tendency towards something, while subjective norms refer to the involvement or pressure that exists and acceptance of an action (Ajzen, 2020). However, such behavior is often hindered and prevented due to a lack of opportunity to do so, a lack of education, a lack of skills, and the existence of time constraints. Therefore, TPB is a continuation of the TRA by adding several variables to enable this theory to be applied in the present. Perceived behavioral control refers to the individual's perception of an individual's ability to carry out a behavior or action (Ajzen, 1991). A study conducted by Valle et al. (2005) concluded that it reflects two main dimensions: external conditions and the individual's ability to perceive or evaluate. Fig. 2 portrays the integration of the TPB and UTAUT model for this study. Performance and effort expectancy (UTAUT) and attitude toward behavior (TPB) are conceptually similar, representing how positively individuals evaluate the outcome of using technology. However, attitude in TPB includes emotional and affective dimensions, which UTAUT does not address. Therefore, integrating both theories allows for a richer explanation of user evaluations.

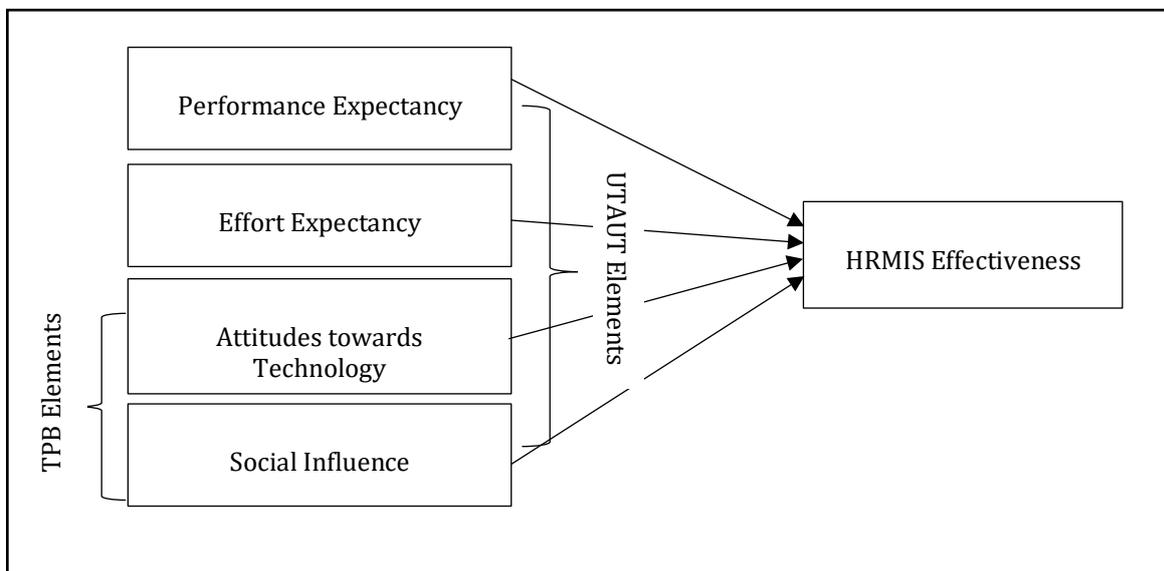


Fig. 2 The Integration of the TPB and UTAUT model

2.3 Predictors of HRMIS Effectiveness

Performance expectations are defined as the extent to which technology will benefit users in performing a particular activity (Venkatesh et al., 2003). Performance is conceptualized using attributes related to system efficiency, speed, and accuracy in completing tasks. Menant et al. (2021) found that perceived usefulness increases the use of technology. This is consistent with the study of Venkatesh (2022), who found that perceived usefulness plays an important role in increasing the number of technology users. HRMIS can help revolutionize the workplace by making the environment more productive, saving time, and creating a paperless culture. The use of HRMIS can maximize the organisation's productivity because, through this HRMIS, data and all information can be analysed efficiently without requiring a large workforce (Safaa & Mohamed, 2020). Therefore, organisations can operate satisfactorily if this HRMIS is optimized to the appropriate level so that the employees can make and welcome changes (Sabani et al., 2024; Zahari et al., 2017).

Second, effort expectancy is the ease of technology use (Venkatesh et al., 2003). Menant et al. (2021) found that perceived ease of use positively affected the use of human resource technology. Sabani et al. (2024) also found

that perceived ease of use did influence civil servants' adoption of HRIS during the post-COVID-19 pandemic. Previous research studies have found evidence of the relationship between effort expectancy and behavioral intention, reporting that effort expectancy positively affected behavioral intention in different contexts (e.g., Alkhwaldi et al., 2023; Billanes & Enevoldsen, 2021). According to Venkatesh (2022), there are indicators of ease of use of information technology. First, ease of learning means the user can understand the information technology used even if it is only used once. Second, a user feels immensely helped in fulfilling their needs or not; if the user finds it difficult to achieve their needs, then there is no sense of interest for the user to use the technology. Third is convenience, which can increase user desire. Convenience trust is the level of a person's belief that using the system will increase the convenience of their work. Graphic display affects the system's ease of use, such as visual display, design, size, and icons, so users will find it easy to do their work (Al Mamun, 2022). Fourth is ease of operation. The perception of ease indicates that an operating system is not made to complicate the user but to provide ease. Thus, someone who uses a particular system will work more efficiently than someone who works manually (Venkatesh, 2022). If the user thinks that the operating system is easy, then the service is easy to run and does not require much effort. On the other hand, if the user thinks it is not easy or too complicated to operate, the service does not create a sense of interest in using it (Menant et al., 2021).

Third, attitude is a positive or negative feeling when performing a specific behavior (Fishbein & Ajzen, 1975). Attitude also involves an evaluation that ultimately determines whether it is good or bad according to the values held by that society itself (Ajzen, 1991). This means that a behavior considered harmful according to the values of one society may be considered reasonable by another. The attitude towards using technology is conceptualized as an attitude towards using the system in the form of acceptance or rejection, as an impact when someone uses technology in their work. Other researchers stated that the attitude factor is one aspect that affects individual behavior toward technology (Roberts et al., 2021). Technology continues to develop rapidly and has a significant impact on our lives. Therefore, having the right attitude when facing technology development is important to ensure that we can benefit from it and reduce its negative impact (Safaa & Mohamed, 2020). The employees need to be open to change and ready to learn and adapt themselves to new emerging technologies (Safaa & Mohamed, 2020). They need to have a critical attitude towards technology, not just accept it without considering its impact. A positive attitude towards HRIS can be developed by reading and searching for information to understand better. Moreover, the employees could attend training and seminars related to technology to improve their knowledge and skills (Perera & Jayawardana, 2022).

Finally, social influence refers to people's perceptions of others who are important to them and whether the actor should behave in a certain way (Fishbein & Ajzen, 1975). This is related to human actions based on perceptions of what others think they should do. Social influence is more important in the early stages of innovation implementation when users have limited experience developing attitudes (Ajzen, 1991). For service-oriented users, relevant user groups around the individual can influence the individual's acceptance. Hakeem and Sulphay (2024) described employers, supervisors, friends, family, and colleagues as groups that have the potential to influence individual acceptance. Billanes and Enevoldsen (2021) explained that there is a strong connection between the theory of organisational support and technology acceptance in influencing employees to use technology in their work. Employees can easily accept technology when organisations provide support such as facilities, appropriate policies, training and development, and programs related to e-learning and technology. Meanwhile, a study by Heinze and Heinze (2020) emphasized that high organisational support will create a sense of responsibility to give back to the organisation; it increases employee performance, makes employees achieve work quality, and increases efficiency and job effectiveness. Based on the discussion, the following hypotheses are posited:

H1: Performance expectancy significantly predicts the effectiveness of HRMIS as perceived by staff at the Malaysian Royal Army Engineers Regiment.

H2: Effort expectancy significantly predicts the effectiveness of HRMIS as perceived by staff at the Malaysian Royal Army Engineers Regiment.

H3: Attitudes towards technology significantly predict the effectiveness of HRMIS as perceived by staff at the Malaysian Royal Army Engineers Regiment.

H4: Social influence significantly predicts the effectiveness of HRMIS as perceived by staff at the Malaysian Royal Army Engineers Regiment.

Fig. 3 summarises the conceptual model of the study.

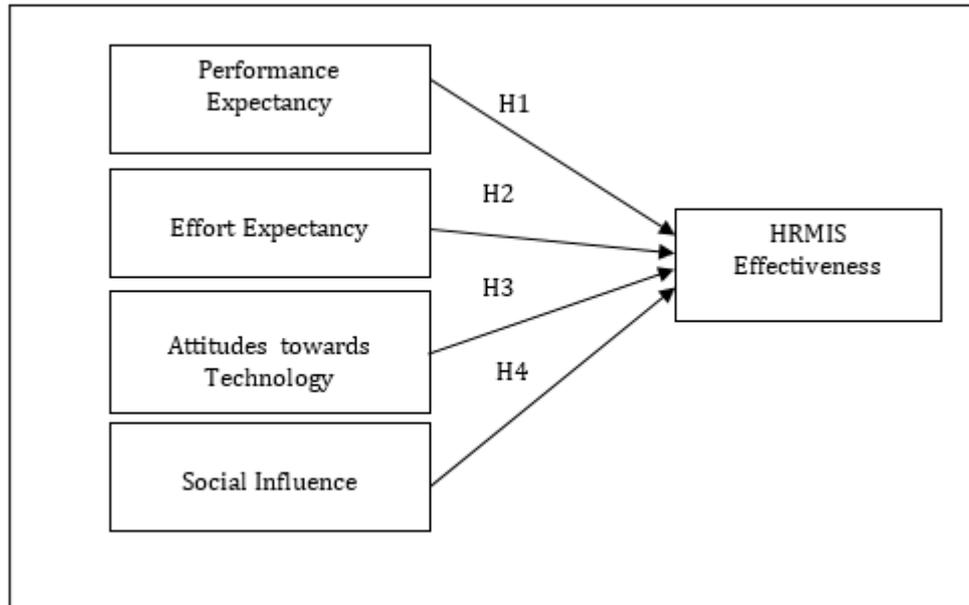


Fig. 3 Research model

3. Methodology

This study uses a quantitative method in data collection, namely a questionnaire survey. This study's population is the staff and officers of the Malaysian Royal Army Engineers Regiment. This is crucial since there is a lack of studies examining the application and effectiveness of HRMIS from the context of military organisations (Arifin, 2020). This can close the population gap, which refers to a gap in population reach when taking research data. There is a limited scope from past studies that will affect the research results. For example, the studies conducted by Shahibi et al. (2016), Sabani et al. (2024), and Paje (2023) may not accurately represent the military organisation. The questionnaire developed is based on previous research studies such as Saadé and Galloway (2005) and Venkatesh et al. (2012) (see Table 1). The questions are measured using a 5-point Likert scale (from 1 to 5 representing "strongly disagree" to "strongly agree"). The sampling technique used is a nonrandom convenience sampling technique. The main target of this questionnaire survey is to be conveniently administered to the Malaysian Royal Army Engineers Regiment. According to Roscoe (1975), the appropriate sample size is greater than 30 and smaller than 500 for most research. Using regression analysis, Green's (1991) formula developed an equation as $n \geq 50 + 8m$, where n is the sample size, m is the predictor or independent variables, and if $m=4$, the sample size estimated is 82. Therefore, the study sample of around 300 respondents is suitable for analysis. Each respondent filled out the distributed questionnaire for the study and provided complete information.

The sampling method used in this study is convenience sampling. This study also uses descriptive analysis methods, correlation analysis, and multiple regression analysis to analyse the structure of the study model. The research tool was measured in terms of reliability based on data analysis. Cronbach's Alpha coefficient was used for each variable to test its reliability. Table 1 shows the value of Cronbach's Alpha for the constructions in the study framework. Nunnally (1967) suggested a minimum Alpha value of 0.60. It was found that Cronbach's Alpha was in the range of 0.901 to 0.968. The constructions were found to have sufficient reliability values. A normality test is performed to evaluate the distribution of data in a group of variables and whether the data distribution is normally distributed. Skewness and kurtosis formulas and interpretation are used where the skewness value needs to fall between -3.0 and +3.0, and the kurtosis value needs to fall between -10.0 and +10.0 (Kline, 2005). Based on the results in Table 1, the normality of the data is assumed.

Table 1 Measurement items, normality, & reliability results

Variables	Items	Skewness	Kurtosis	Cronbach's Alpha
Performance Expectancy	1. HRMIS is helpful in my job.	-1.887	9.515	0.901
	2. Using HRMIS enables me to accomplish tasks more quickly.			
	3. Using HRMIS increases my productivity.			
	4. If I use HRMIS, I will increase my chances of getting a raise.			
Effort Expectancy	1. My interaction with HRMIS would be clear and understandable.	-1.464	9.129	0.925
	2. It would be easy for me to become skillful at using HRMIS.			
	3. I want to find HRMIS easy to use.			
	4. Learning to operate HRMIS is easy for me.			
Attitudes towards Technology	1. Using HRMIS is a bad/good idea.	-1.069	6.327	0.933
	2. The HRMIS makes work more enjoyable.			
	3. Working with the HRMIS is fun.			
	4. I like working with HRMIS.			
Social Influence	1. People who influence my behavior will think that I should use HRMIS.	-1.276	6.499	0.915
	2. People who are important to me will think that I should use HRMIS.			
	3. The seniors in my office have been helpful in the use of HRMIS.			
	4. In general, the organisation supports the use of HRMIS.			
HRMIS Effectiveness	1. HRMIS is sufficient and relevant.	-.886	6.607	0.968
	2. HRMIS is easy to use.			
	3. HRMIS is easy to navigate.			
	4. HRMIS is current and up to date.			
	5. HRMIS user interface is well-designed.			

4. Findings

4.1 Demographic Profile

Based on Table 2, out of 300 respondents, 291 final responses have been received, with a return rate of 97%. The return rate needs to be at least 60% for most research (Fincham, 2008). Most respondents are male staff, with 258 staff (88.7%), and the rest are female staff (n=33, 11.3%). Moreover, most staff have a monthly income between RM2001 - RM4000 (n=195, 67.0%). Next, more than half of the respondents obtained the Malaysian Certificate of Education (SPM) qualification, the highest educational level (n=191, 65.6%). Finally, regarding service length, most respondents have served for 6-10 years (n=103, 35.4%).

Table 2 Demographic profiles

	Profile	Frequency (n)	Percentage (%)
1. Gender	Male	258	88.7
	Female	33	11.3
2. Monthly Income	Less than RM2000	78	26.8
	RM2001 - RM4000	195	67.0
	RM4001 - RM6000	10	3.4
	RM8001 - RM10000	5	1.7
	RM10001 above	3	1.0
3. Highest Educational Level	Malaysian Certificate of Education (SPM)	191	65.6
	Foundation/Certificate	47	16.2
	Diploma	48	16.5
	Bachelor's degree	3	1.0
	Master's degree	1	0.3
4. Years of Service	PhD	1	0.3
	1-5 years	91	31.3
	6-10 years	103	35.4
	11-15 years	50	17.2
	16 years and above	47	16.2

4.2 Correlation Analysis

Based on the results of the Pearson product-moment correlation analysis (see Table 3), there are significant positive relationships between performance expectancy ($r=0.651$; $p < 0.05$), effort expectancy ($r=0.768$; $p < 0.05$), attitude towards technology ($r=0.780$; $p < 0.05$), social influence ($r=0.793$; $p < 0.05$), and HRMIS effectiveness. Thus, the hypotheses proposed in this research are declared accepted.

Table 3 Pearson correlation results

Variable		HRMIS Effectiveness	Hypotheses
Performance Expectancy	Pearson Correlation	0.651**	H1 accepted
	Sig. (2-tailed)	<.001	
	N	291	
Effort Expectancy	Pearson Correlation	0.768**	H2 accepted
	Sig. (2-tailed)	<.001	
	N	291	
Attitude towards Technology	Pearson Correlation	0.780**	H3 accepted
	Sig. (2-tailed)	<.001	
	N	291	
Social Influence	Pearson Correlation	0.793**	H4 accepted
	Sig. (2-tailed)	<.001	
	N	291	

4.3 Regression Analysis

Based on Table 4, the regression model developed does not have a multicollinearity issue. Each independent variable has a tolerance value above 10 percent, and the VIF value obtained is less than 10. Thus, the regression model does not appear multicollinear in each independent variable. Based on Table 4, the adjusted R-squared value is 0.674. Thus, the contribution of performance expectancy, effort expectancy, attitude towards technology, and social influence on HRMIS effectiveness is as significant as 67.4%. In contrast, the rest is influenced by other variables not examined in research. Based on Table 4, the regression coefficient of social influence is 0.338, which shows that social influence positively influences HRMIS effectiveness. This means that when the social influence is getting more positive, in other words, the staff receives more positive support from his or her circle, and the decision to use and utilize HRMIS will also be higher, and the increase is significant.

Table 4 Regression results

Variable	Beta	Sig.	Tolerance	VIF
Performance Expectancy	0.087	0.088	0.430	2.325
Effort Expectancy	0.191	0.010	0.207	4.829
Attitude towards Technology	0.266	<.001	0.210	4.770
Social Influence	0.338	<.001	0.189	5.296
R ²			0.679	
Adjusted R ²			0.674	
F Change			151.183	
Sig			<.001 ^b	

5. Discussion

In the era of globalisation and digital transformation that continues to develop, the public sector has experienced significant changes in managing human resources. Technology integration is an important element in changing the human resource landscape (Al Mamun, 2022). The application of technology in human resource management changes how organisations view the workforce and significantly impacts productivity, quality, and innovation in the public sector (Bal et al., 2022). This study's findings show a significant relationship between performance expectancy, effort expectancy, attitudes towards technology, and social influence on the effectiveness of HRMIS as perceived by staff at the Malaysian Royal Army Engineers Regiment. These findings are consistent with the findings of past studies (e.g., Shahibi et al., 2016; Sabani et al., 2024; Paje, 2023). Satispi et al. (2023) stated that performance expectancy is a person's self-confidence level in using technology. This means that by using the HRMIS application, users can produce excellent and maximum work performance (Sinniah et al., 2019). Ibrahim et al. (2018) and Malodia et al. (2021) support the effort expectancy factor as the most significant factor influencing human intentions to use technology. Therefore, the effort expectancy factor is another predictor of civil servants' acceptance or rejection of the HRMIS application. Next, Roberts et al. (2021) and Sabani et al. (2024) found how individuals consider others important in influencing them to believe in using a new system, such as the MyEG and HRMIS applications. Second, social influence acts as the most significant predictor of HRMIS effectiveness. A social norm is a person's perception or view of the beliefs of others that will influence the intention to do or not do a behavior (Fishbein & Ajzen, 1975). This is usually perceived as something that "important other people" think should be done by those people with specific behavior. Hakeem and Sulphrey (2024) and Heinze and Heinze (2020) state that a person's social pressure when performing or not performing an action or behavior can influence people toward technological adoption.

As an implication, a systematic, effective, and efficient system requires policies. Policies are statements that act as a roadmap and guide that can help organisations make appropriate decisions and actions in records management initiatives (Nagendra & Deshpande, 2014). Policies are also paths or methods chosen from various alternatives to guide and determine current and future decisions. In other words, policies can help organize new strategies that have a successful impact in the long term. Therefore, effective HRIS requires policies so that a framework can be created. The importance of policies in records and document management is emphasized in ISO-15489 because, ultimately, policies will guide procedures and training to ensure that records are stored and maintained appropriately, as in its statement, "An organisation ... should establish, document, maintain and promulgate policies ... for records management." The system must align with laws and audit requirements and be extensible and flexible to accommodate future needs. Information access also needs to be considered at the policy planning stage. Without a policy, organisations do not know what to keep and what to destroy. Without a policy, organisations could not plan for job development, training, and financial allocation. Problems arising related to records management were also not represented in meetings. Good policies can ensure that records management is listed on the agenda of organisational management and administration meetings (Valcik et al., 2023a). The current transition to HRMIS aligns with the changes in the Industrial Revolution, namely the era of Industrial Revolution 4.0. This change has, to some extent, led to the need and use of digital technology. The use of digital technology today is also increasingly accepted by society. However, there is still a segment of society and public servants who are less proficient or skilled in using digital systems. Thus, there is a need for public servants to develop skills and training in HRMIS. In addition, ebooks, videos, or manuals could guide understanding of the system.

6. Conclusion

The introduction of information technology has changed the way human resources are managed. The use of manual files has changed to a computerized system. Various benefits can be obtained through computerising the main functions of human resources. This study briefly discusses the predictors of HRMIS effectiveness. The findings have contributed to new insights into the current literature on human resource management. Even though the implementation of HRMIS has been done in Malaysia, many practitioners and researchers are not observing the evaluation of its effectiveness. Thus, this study is among the pioneers of research examining the implementation of HRMIS in the military sector. Despite its contribution, several limitations have been identified and need to be addressed by future research. First, this research does not represent all government departments in Malaysia because it only considers the Royal Army Engineers Regiment of Malaysia, and the number of respondents is not too large. Therefore, the results of this study cannot be generalized to all government departments in Malaysia. Therefore, conducting further studies with a large-scale sample is appropriate to obtain more robust and up-to-date findings. This study used a cross-sectional survey. Although the design sounds straightforward, cross-sectional research does not pay attention to the time aspect of data collection, which means there is no observation of changes or developments in the studied variables. Although efficient, fast, and economical, this research cannot show cause-and-effect relationships or variable changes over time. Therefore, future studies are encouraged to employ longitudinal studies to establish the actual sequence of events better and eliminate the risk of bias. This study also used non-probability sampling. The convenience samples raise the issue of a lack of generalization since the sample does not represent the population from which it is drawn (Hu & Qin, 2018). Thus, future studies may employ a probability sampling to limit bias.

Moreover, this study assessed the direct relationship between the effectiveness of the HRMIS system, performance expectancy, effort expectancy, attitudes toward technology, and social influence. Future studies are encouraged to expand the model by examining causal relationships by including mediating or moderating variables that might affect the relationships between the effectiveness of the HRMIS, performance expectancy, effort expectancy, attitudes toward technology, and social influence. Mediation and moderation variables are similar because their function determines the causal relationship between variables. The connection between the two phenomena is sometimes not present in a direct form because sometimes the connection is mediated by other phenomena (Fairchild & MacKinnon, 2009). For example, the effect of performance expectancy on the effectiveness of HRMIS might be mediated by variables such as management support and digital competencies. The researchers also suggest that further studies on HRMIS be conducted more often because studies on information systems are few and should be given attention by future researchers. Therefore, future studies can replicate this study to obtain more robust and up-to-date results for future reference. In addition, the research instrument used is a questionnaire. This instrument only depends on the perceptions and views of the respondents. The level of honesty of the respondents in answering the questionnaire affects the findings of this study. Therefore, in addition to using a questionnaire, it is also recommended that a qualitative assessment be conducted so that the results obtained reflect the opinions of each party involved.

Acknowledgment

Part of this article was extracted from an undergraduate final-year dissertation submitted to the Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA (UiTM). The researchers are thankful to the participants in this study.

Conflict of Interest

The authors declare no conflict of interest regarding the paper's publication.

Author Contribution

*The authors confirm their contribution to the paper as follows: **study conception and design:** Hatta, M.A.M; Noor, N.H.M; **data collection:** Hatta, M.A.M; **analysis and interpretation of results:** Hatta, M.A.M; **draft manuscript preparation:** Noor, N.H.M. All authors reviewed the results and approved the final version of the manuscript.*

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