

Article

# Determinants of Management Information System Acceptance in Yemen's Mobile Phone Industry: An Empirical Study

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**Abstract:** The aims of this study are to determine the factors that influence MIS acceptance among users of the Yemen's phone industry. This was achieved by applying the study framework based on the three models in the field of technology acceptance. Questionnaires were randomly distributed to MIS users from four mobile phone enterprises in Yemen. Structural equation modeling was used to assess the fit of the proposed model. The study findings showed that attitudes towards using MIS (ATU), user training (UT), system quality (SQ), and job relevance (JR) positively influenced MIS acceptance. This study's model determines the main factors that influence users in Yemen's phone industry to accept MIS, including ATU, UT, SQ, and JR. This study offers potential solutions for overcoming obstacles that hinder users and organizations from accepting MIS. The most noteworthy aspect of this study is its extensive focus on examining the direct effects of the key factors on MIS acceptance. Furthermore, it significantly contributes to the field of technology acceptance in organizations by broadening empirical research and offering a comprehensive understanding of the obstacles associated with MIS utilization and acceptance in Yemen's mobile phone industry.

**Keywords:** MIS acceptance; attitude toward MIS; user training; system quality; mobile phone industry; Yemen

## 1. Introduction

Technological advancements over the last several decades have had a profound effect on people's day-to-day lives, changing the way we live in our homes and at work. The positive effects of technology, such as greater efficiency, productivity, and convenience, are all around us. Nevertheless, one must acknowledge that the adoption of these technological developments may or may not occur in a predictable manner. Academics are strongly urged to delve into this field because technological advancements can only be realized through their effective application [1]. Integrating IT provides significant help across operational, managerial, and strategic aspects in both corporate and various organizational settings. Data created by everyday company operations are crucially processed by information systems. Ref. [2] state that systems like these help with things like managing employee performance, industrial control procedures, and transactional operations. The data generated by these systems are both internally and externally valuable.

An organization's ability to plan, organize, direct, and make decisions is greatly aided by management information systems, which provide reliable data to upper-level management at the exact moment it's needed [3]. Managers' decisions, tactics, and personnel management are all greatly impacted by MIS, making it indisputable in modern companies. In addition, MIS has an ever-increasing impact on production logistics by dictating when, when, and how manufacturing is conducted. This highlights the importance of MIS for decision makers with technical responsibilities [4]. Businesses depend on MIS to keep up-to-date and correct readily available data. Businesses rely on computers to monitor every aspect



of their operations. This is because it is difficult to predict what information will be needed in the future; therefore, every detail must be recorded. Data may be quickly obtained and updated in response to queries or routine business reports, making it easier to provide vital information [5].

To improve the overall efficacy of technology integration, organizations can boost technology acceptability and acceptance by correctly recognizing important influencing elements. It is widely recognized that MIS are crucial in Yemen, particularly in mobile phone enterprises, for improving organizational performance and operational capacities by making good use of information technology. The difficulties of transitioning from manual to electronic and automated procedures have been highlighted in an earlier Yemeni study, which has affected the efficiency of both individuals and organizations. Consequently, the overarching goal of this study is to identify the MIS acceptability variables. This investigation was framed by the following research question:

### **Q1. What factors influence the acceptance of MIS in Yemen's mobile phone industry?**

Several studies have investigated various elements that contribute to the effective MIS acceptance. The purpose of this study was to identify elements that influence the acceptance of MIS within the specific setting of Yemen. The findings of this study are crucial for mobile phone enterprise executives and decision makers. They provide users with access to a data-supported environment and shed light on elements that affect the likelihood of future MIS acceptance. To create a more competitive environment, these findings will direct the improvement, modification, reinforcement, and development of Yemen's telecom industry.

Here is the outline of the paper's structure: Background information, justification, research question, and significance; are all part of the introduction. A comprehensive analysis of the pertinent theories is provided in the form of a literature review. A conceptual model explains the selection and incorporation of these theories within the study, while a theoretical framework provides a concise overview of them. Methodology, research design, research tools, sample selection, and data collection procedures are all covered in the hypothesized developments that follow. An extensive analysis and discussion of the ramifications of the findings follows the presentation of the survey results and measurement technique. Along with any constraints and possible future research directions, the emphasis is on practical implications.

## **2. Literature Review**

### *2.1. Theoretical Background*

Several theories have been applied in the field of technology adoption, with prominent theories and models focusing on the acceptance and adoption of technology. This study emphasizes three prevalent models: the theory of planned behavior (TPB), Technology Acceptance Model (TAM), and IS success model.

#### **2.1.1. Theory of Planned Behavior (TPB)**

Ajzen formulated the Theory of Planned Behavior was formulated by Ajzen in 1991 as an extension of the Theory of Reasoned Action to address its inadequacies. Development of the TPB began in 1985. The Theory of Planned Behavior maintains the essential elements and behavioral goals of the Theory of Reasoned Action but incorporates perceived behavioral control as a distinctive characteristic [1]. In contrast to the Theory of Reasoned Action, the Theory of Planned Behavior acknowledges the significance of perceived behavioral control in situations where individuals have a limited ability to make choices, thus addressing a significant drawback [6]. To address these limitations, Ajzen expanded the Theory of Planned Behavior by including perceived behavioral control as a third factor influencing behavioral intention [7]. The TPB recognizes that individuals may not always possess absolute autonomy when it comes to carrying out a particular action, which differs from the TRA. An individual's subjective appraisal determines the perceived ease or difficulty of executing an action [8].

Perceived behavioral control (PBC) measures the degree to which an individual has the appropriate skills, resources, and conditions to perform a specific action [9]. The greater the degree of self-regulation that an individual possesses, the more reliable it is as a reflection of their future behavior and ability to make accurate predictions. Thus, the extent to which the PBC correctly represents behavior determines its reliability as a predictor. Prior studies investigating the correlation between PBC and user intention have yielded equivocal findings, as PBC alone frequently fails to predict users' behavioral intentions or views in most cases [10]. Therefore, if an individual has limited perceived behavioral control, their behavioral intention may not be strong, even if they have favorable views and subjective norms [7].

### 2.1.2. Technology Acceptance Model (TAM)

The technology acceptance model is a highly prevalent framework used to forecast human reactions to technology and information systems, rendering it one of the most globally acknowledged theories for comprehending technology adoption. TAM, introduced by Davis in 1986, includes important elements such as external variables, perceived ease of use, perceived utility, attitude towards use, and actual system usage. Ref. [6] highlighted that an individual's inclination to adopt a novel technology is affected by external cues. The cognitive response branch of human psychology is based on the concepts of perceived usefulness (PU) and perceived ease of use (PEOU), which are fundamental to the Technology Acceptance Model proposed by [11]. PU refers to the belief that adopting a given system will improve one's job performance, whereas PEOU refers to the perception of how easy it is to use that system [6]. External variables, such as system features, process development, and training, have an indirect impact on users' judgment of a system's ease of use and usefulness, which in turn affects the rate at which technology is adopted [12].

Ref. [13] proposed the incorporation of additional variables to address the limits of TAM in describing an individual's perception of a certain system's benefits. According to [14], TAM2 is a modification of the model developed by Venkatesh and Davis. TAM2 was formulated by incorporating two fundamental processes: social influence (Subjective Norm, Voluntariness, and Image) and cognitive instrumental processes (Job Relevance, Output Quality, Result Demonstrability, and Perceived Usefulness), which are considered crucial for examining user acceptance [15]. Ref. [13], have found that the combined factors of perceived usefulness, perceived ease of use, and subjective norm have a direct impact on actual system use through behavioral intention. Behavioral intention is influenced by three factors: perceived usefulness, perceived ease of use, and subjective norms. Subjective norm is recognized as a direct and important factor that influences perceived utility, whereas perceived ease of use has a minor but notable effect on perceived usefulness.

Ref. [16] combined TAM2 and TAM2 to create an integrated model called Technology Acceptance Model3. TAM3 based on a theoretical framework that includes four categories. The authors claim that these categories cover and combine all previous TAM studies. The four categories in question were individual differences, system characteristics, social influence, and facilitating conditions. Each category consists of its own variables, which are based on the two main factors that determine perceived usefulness and perceived ease of use [17].

### 2.1.3. IS Success Model

In 1992, Ref. [18] conducted a comprehensive analysis of the research completed between 1981 and 1987. This analysis resulted in the development of a taxonomy of Information System success, based on the findings of the analyzed research. DeLone and McLean identified six factors that are indicative of IS effectiveness of information systems: system quality, information quality, utilization, user satisfaction, individual impact, and organizational impact. System quality, which is one of the characteristics of Information System success, has been thoroughly investigated. This is an assessment of the efficiency with which hardware and software components work together. According to [19], the idea of using "use" as a measure of success for information systems is more applicable to users who choose to use the system, rather than those who are obligated to use it.

In 2003, Ref. [20] presented an updated model derived from a comprehensive analysis of the existing materials. Service quality was presented as a crucial aspect and intention to use was incorporated as an alternate metric, considering that attitude measurement is important in some situations. Updated model combined the effects of both individuals and organizations into one measure known as net benefits. The performance of an Information System department is frequently evaluated based on promptness, dependability, and understanding of the support organization. Ref. [20] defined service quality as the comprehensive help provided by the service provider, regardless of whether it is delivered by the IS department, a newly formed organizational unit, or outsourced to an Internet service provider. Conversely, net benefits refer to the extent to which Information Systems contribute to the achievements of individuals, groups, companies, industries, and nations. These effects include improved decision making, heightened productivity, increased sales, reduced costs, enhanced profits, greater market efficiency, improved customer welfare, job creation, and economic development [21].

In summary literature review explores three influential models in the field of technology acceptance: the Theory of Planned Behavior, the Technology Acceptance Model, and the IS Success Model. Despite their strengths and limitations, these models collectively enhance our understanding of user behavior and information system success. According to the previous theories, it is clear that each includes several factors. Some of these factors share more than one theory, whereas others differ according to the context of each study. Based on the above models, the study framework includes factors related to the problem statement that have a significant effect on the acceptance of a management information system.

## 2.2. MIS Acceptance Determinants and Hypotheses Development

### 2.2.1. Attitude towards Using MIS

An attitude is a strong predisposition to react honestly, either positively or negatively, to a single major event. How a person feels about utilizing a certain information system is called their attitude toward that system. A user's credibility is important in this regard; as a result, users who have faith in information systems are more likely to adopt them enthusiastically [22]. According to [23], regarding employees' use of technology at work, TAM defines attitude toward utilization as the level of propensity for acceptance or rejection. What influences a person's propensity to engage in a particular conduct is their belief in the likelihood of positive or negative consequences. An individual's positive or negative "attitude towards behavior" captures their perspective on life in general and is intimately related to their intention to participate in a specific action.

According to studies done by [24], there is a strong link between certain behaviors and attitudes. There appears to be a strong correlation between one's outlook on conduct and the amount of time spent using a system, according to [6] and [15]. According to [25], system users see a direct and beneficial effect. Individuals' attitudes toward utilizing the system are significantly related to their acceptance of management information systems, according to another study by [26]. Therefore, in this study, we propose the following hypotheses:

**H1: Attitude towards using MIS strongly influences MIS acceptance in Yemen's mobile phone industry.**

### 2.2.2. User Training

The term "system user training" describes the steps taken to ensure that individuals utilizing a company's software or data management system are properly educated and equipped to perform their jobs. According to [27], the purpose of system user training is to teach people how to use a system effectively by providing them with the information they need to traverse the system, operate it, and make the most of its features and functionalities. According to [28], the goal of training programs is to provide users with self-assurance, competence, and the understanding that they need to make the most of technology. To ensure that users are confident and at ease when using a new technology, businesses should offer thorough training. As a result, training is seen as a useful instrument that enhances organizational effectiveness and, in the long run, boosts productivity levels by encouraging a positive motivation to use technology.

According to [29], training is crucial for technological acceptance. They pointed out that users often need training to use systems efficiently. Training has greatly aided the incorporation of contemporary technology. The significance of properly training users in handling digital systems was emphasized by [30]. It is essential to provide users with adequate training to ensure effective adoption of new technologies. According to [31], training is a main component in assessing technological access, self-assurance, and attitudes. Users' knowledge of how to use online services for work-related purposes and their level of professional technical competence were evaluated by the training attribute. The ability to communicate and work together is essential to gaining access to resources and completing business transactions. Consequently, we propose the following hypotheses:

**H2: User training strongly influences MIS acceptance in in Yemen's mobile phone industry.**

### 2.2.3. System Quality

One of the most important factors in IS success is system quality, which measures the features and benefits of information-processing systems. Ref. [32] was crucial in redefining System Quality as IS viewpoints developed. They ensured that things were bug-free and that the user interface was consistent. The need for adaptability and flexibility in achieving IS success was highlighted by [21]. System quality was determined based on how well it could be learned, how easy it was to use, and how reliable it was. The total evaluation considers not only the system's complexity and intuitiveness but also its reaction times [21]. By considering System Quality and its implications within the larger framework of organizational success, this holistic approach guarantees a thorough comprehension.

According to the prior studies on the IS success model. They hypothesized in their model that MIS would gain popularity as a result of higher user satisfaction levels brought about by better system quality. Ref. [33] conducted research into which parts of a system's quality affect adoption and acceptability by users. The author offers an insightful commentary on the relationship between system quality and users' openness to MIS. Focusing on the present, Ref. [27] examined how users' impressions of the system's quality affect their adoption behavior by considering the ways in which technology has changed over time. According to the previous discussion, this leads to our hypotheses:

**H3: System quality strongly influences MIS acceptance in Yemen's mobile phone industry.**

2.2.4. Job Relevance

According to [34], one of the most important factors in the matching process is job relevance, which helps prospective users assess how a system affects their work. According to [13], this important idea is how a person perceives the system's usefulness in their work, measured by how well the system can assist with certain tasks in their work environment. Perceived job relevance is directly correlated with the importance of the tasks supplied by the system. Ref. [13] stated that users have unique insights into their work environments, which are crucial for determining what a system is capable of doing. While the factors similar to job relevance, such as task-technology fit, personal importance and relevance, and job-determined importance, are associated with user acceptance [35]. Crucially, system proposals are often discarded if they fail to meet the criteria for perceived work relevance. By considering the whole picture, we can see how important it is for users' perceptions and decisions on IS acceptance of information systems to be job related.

Ref. [13] highlight the importance of job relevance in influencing users' willingness to adopt technology. According to one study, people are more inclined to accept information technologies when they see how they can benefit from their work. According to [33], there is a correlation between MIS acceptance and job relevance. The study results found; users are more likely to accept MIS to improve their work responsibilities. According to [14], there are favorable correlations between acceptability, system utilization, and work relevance. This discussion leads to the following hypotheses:

**H4: Job relevance strongly influences MIS acceptance in Yemen's mobile phone industry.**

The preceding discussion confirms that the most extensively studied factors in the acceptance of MIS include attitudes towards using MIS, User training, system quality, and job relevance. These factors were also incorporated into the proposed framework, as shown in Figure 1.

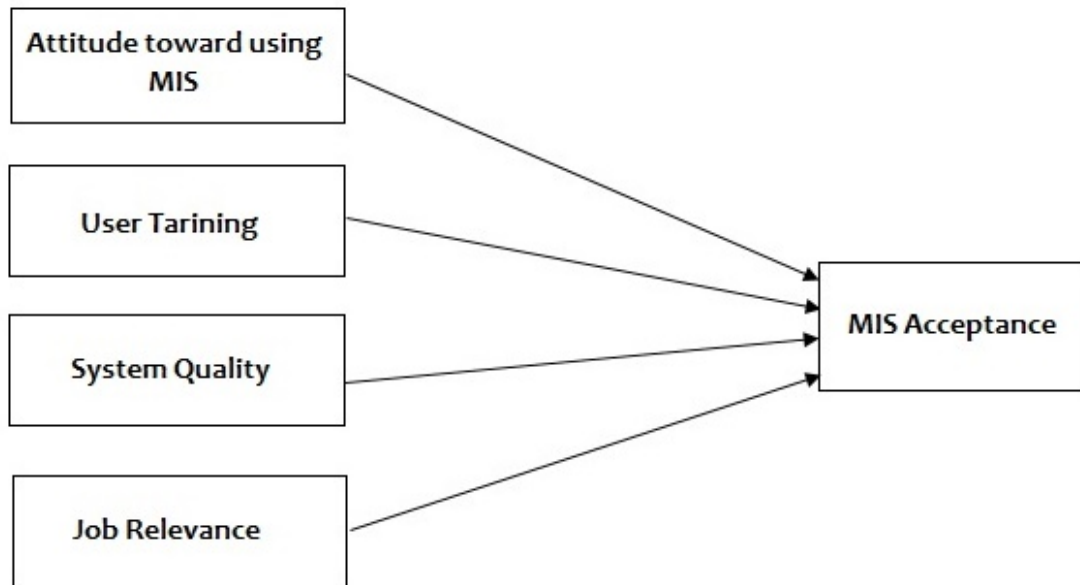


Figure 1. Study model.

### 3. Methodology

#### 3.1. Data Collection and Instrumentation

This study aimed to examine the factors that influence the acceptance of MIS. Data collection employed a quantitative approach utilizing a questionnaire as the primary instrument. Measurement tools were developed based on previously validated instruments. The proposed model was investigated through Structural Equation Modeling using AMOS software and Statistical Package for the Social Sciences (SPSS). All variables were measured using a Likert scale. The survey questions are rated on a scale of 1 to 5, where 1 signifies "Strongly Disagree," and 5 signifies "Strongly Agree." Data were collected using Google Forms and respondents were asked to respond to an Arabic questionnaire. The

survey link was distributed to system users within four mobile phone enterprises in Yemen and collectively employed approximately 3,872 individuals across a diverse range of job levels. Using the table introduced by [36], we obtained a minimum sample size of 351 responses to ensure accurate representation of the research population. This resulted in 369 participants completing the questionnaires.

The current study integrated 22 criteria derived from previous research. These criteria have been further refined and expanded by [16,21,25,28,37] and (Table 1). The evaluation tool consisted of three distinct components. The first segment, known as Section A, collected demographic information from the respondents, including gender, age, enterprise name, and education level. Section B comprised 18 questions that assessed respondents' attitudes towards using MIS, user training, system quality, and job relevance. Section C contains four elements that focus on the dependent variable "MIS acceptance".

*Table 1.* Measurement items.

<b>Dimension</b>	<b>Questions</b>	<b>Sources</b>
Attitude toward using MIS	1) Using MIS provides various benefits.	[25]
	2) I personally prefer the utilization of MIS.	
	3) I would recommend to my colleagues to use MIS in their job tasks.	
User training	I received training in using the system. I received internal training I received external training	[28]
System quality	I received training to use operation systems System ease of use System ease of learning System reliability System flexibility	[21]
Job relevance	System usage is important in my job. System usage is relevant to my job. System usage related to my various job-tasks.	[16]
MIS acceptance	I prefer to use MIS. Using MIS make me satisfied. Using MIS complies with my expectation and requirements. Overall, I am pleased with the experience of utilizing MIS.	[37]

### 3.2. Demographic Characteristics

Table 2 shows the demographic profiles of 369 respondents belonging to the four Yemeni mobile phone enterprises. This study examined several demographic characteristics, including age, gender, education level, and various enterprises. Among the participants, 297 were male and 72 were female. The respondents' age percentages were 28.7%, 46.9%, 22.2%, and 2.2% for those aged > 45 years. The percentage of the educational level ranged from 0.80% to 9.7%.

*Table 2.* demographics characteristics.

<b>Categories</b>	<b>Frequency</b>	<b>Percentage</b>
Gender		
Male	297	80.5
Female	72	19.5
Age		
Less than 25	106	28.7
Between 25-35	173	46.9
Between 35-45	82	22.2
Above 45	8	2.2
Education level		
High school	3	0.80
Diploma	36	9.7

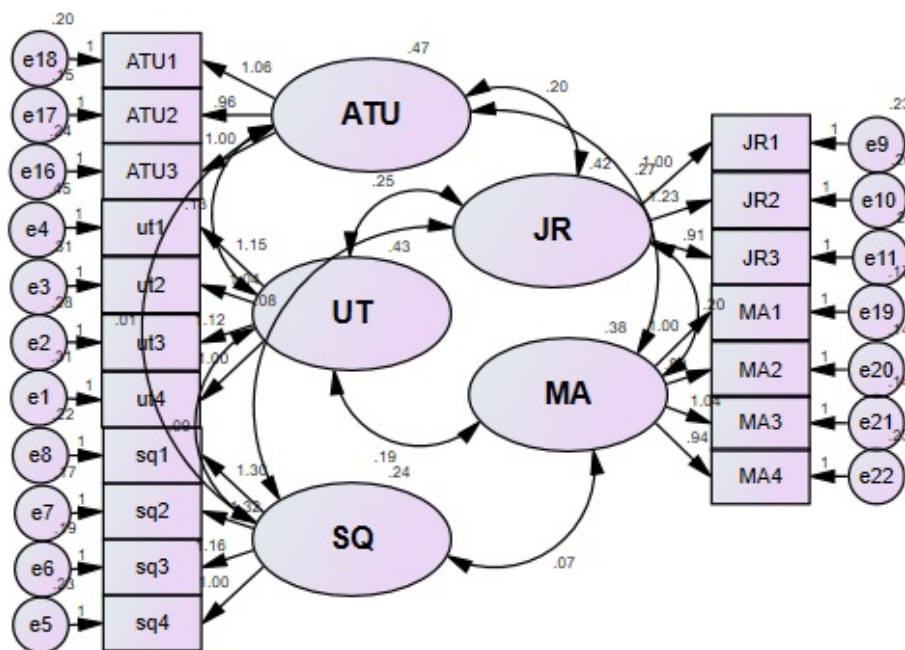
Bachelor	284	70.7
Master	41	11.1
PhD	5	1.4
Entreprises		
Yemen mobile	109	29.5
Sabafon	93	25.2
You	89	24.1
Y Telecom	78	21.2

## 4. Results

### 4.1. Measurement Model

The measurement models for each component were validated by confirmatory factor analysis (CFA) using AMOS software. CFA is a type of factor analysis that researchers use to check whether their theories about a construct align with its measurements. According to [38], this validation method includes entering the necessary data into a computer and running the CFA application. Beyond its confirmatory function, structural equation modeling provides a thorough method for examining and improving structural and measurement models. The assessment of a CFA model relies on specific fitness indices, making it a statistical method employed to gauge the effectiveness of a set of observed variables in measuring an underlying construct or latent variable.

The fitness indices depicted in Figure 2 demonstrate that the CFA model is highly consistent with the studied data, implying that the observable variables included in the study are dependent markers of the underlying construct. Evaluation of these fitness indices indicated a satisfactory fit for the CFA model, as the TLI, CFI, and NFI values exceeded 0.90, suggesting a strong fit. Furthermore, the ChiSq/df value was less than 3 and the RMSEA value was less than 0.08, providing additional evidence to support the conclusion that the fit is adequate.



#### Fitness Indexes

1. ChiSq/df = 2.138
2. TLI = .954
3. CFI = .963
4. NFI = .933
5. GFI = .928
6. RMSEA = .056

Figure 2. Measurement model. Notes: ATU = Attitude toward using MIS, UT = user training, SQ = system quality, JR = job relevance, MA = MIS acceptance.

In summary, the CFA model is a reliable method for assessing the data. The fitness indices found in the measurement model were in line with the ranges reported by [25] and [39]. They emphasized that a factor loading value more than 0.6 for a single item should be included in further analyses, as it indicates a stronger association between the item and the factor being researched.

#### 4.2. Reliability and Validity of a Measurement Model

In order to guarantee the accuracy and dependability of the measurement model, the authors deemed it essential to calculate supplementary measures after conducting the CFA for each measurement model, as highlighted by [38]. This remains relevant, even if the authors possess prior knowledge that confirms the accuracy and reliability of the measurement model. Construct and convergent validity were the two primary factors considered when assessing the validity. Convergent validity is relevant when the adjusted mean value is less than 0.50, and is considered valid if all fitness indices for the models satisfy the specified threshold. To evaluate the trustworthiness of a construct, it is necessary to consider both internal reliability, which requires a minimum Cronbach's alpha of 0.7, and construct reliability, which requires a minimum CR of 0.7.

Table 3 presents a summary of the statistical analysis, specifically CFA, conducted for all constructs. In this context, a construct refers to a concept or idea under investigation by a researcher, and CFA serves as a statistical method for evaluating the interrelationships among the various constructs within a research model. Reliability denotes the ability of a research model to generate consistent and reproducible results over time. However, validity indicates that the research model accurately measures what it purports to measure. Reliability, convergent validity, and discriminant validity were investigated, as outlined in Tables 3 and 4.

Table 3. CFA summary report.

Construct	Item	Factor Loading	Cronbach a (> = 0.7)	CR (> = 0.7)	AVEs (> = 0.5)
ATU	ATU1	0.852	0.878	0.881	0.712
	ATU2	0.862			
	ATU3	0.816			
UT	UT1	0.747	0.854	0.857	0.599
	UT2	0.775			
	UT3	0.809			
	UT4	0.764			
SQ	SQ1	0.807	0.869	0.870	0.627
	SQ2	0.845			
	SQ3	0.792			
JR	SQ4	0.719	0.854	0.858	0.669
	JR1	0.807			
	JR2	0.873			
MA	JR3	0.771	0.892	0.894	0.679
	MA1	0.833			
	MA2	0.827			
	MA3	0.866			
	MA4	0.768			

Table 4. Discriminant validity.

Variables	ATU	UT	SQ	JR	MA
ATU	<b>0.844</b>				
UT	0.391	<b>0.774</b>			
SQ	0.019	0.291	<b>0.792</b>		
JR	0.453	0.583	0.260	<b>0.818</b>	
MA	0.648	0.472	0.215	0.508	<b>0.824</b>

#### 4.3. Structural Model

Structural Equation Modeling is a statistical methodology employed to examine and estimate complex interconnections between various variables. The social sciences extensively utilize Structural Equation Modeling to examine causal linkages and evaluate theoretical models. The assessment of the

degree to which a structural equation model corresponds to the data typically entails the use of commonly employed goodness-of-fit indices such as TLI, CFI, and NFI. A result equal to or greater than 0.90 indicates a satisfactory level of fit. Figure 3 shows that all three indices exceeded 0.90, indicating a strong fit.

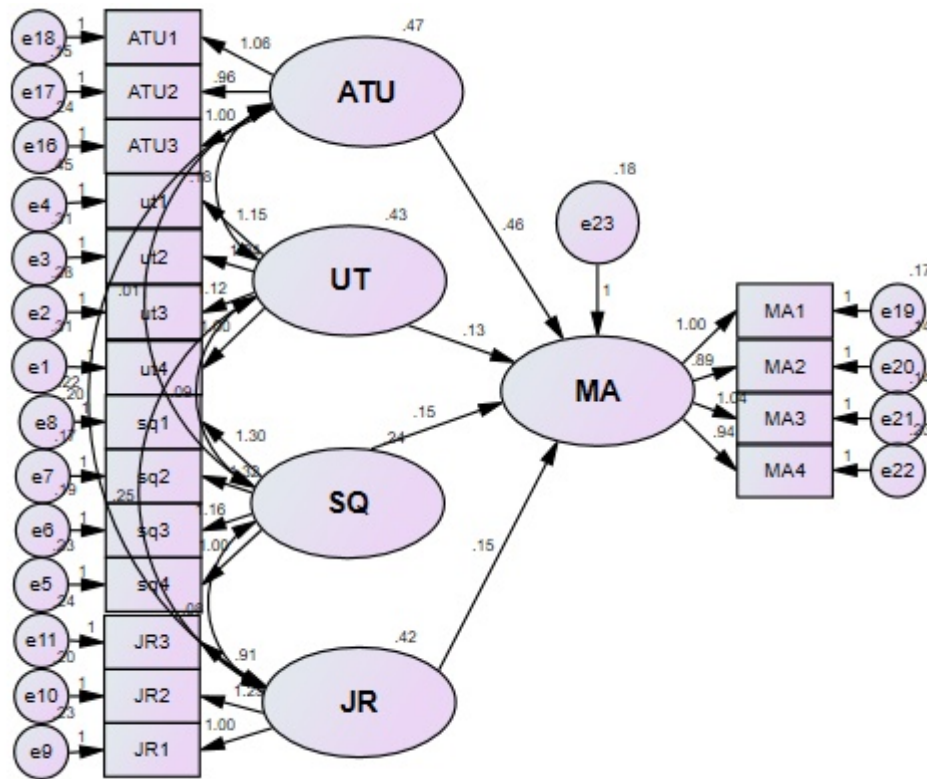


Figure 3. Structural model.

The ChiSq/df ratio, a commonly used measure of fit, shows acceptability when it is less than 3. Similarly, an RMSEA value below 0.08 also reflects a positive match. According to this statement, these measures confirm that the model fits the data well. Based on the findings of the hypothesis testing presented in Table 5, we can determine whether the hypothesis is supported. These findings may facilitate further research or aid in refining the hypotheses or theories being investigated. All hypotheses were supported. The next part discusses this issue in detail.

Table 5. Hypotheses testing result.

Hypothesis	<i>p</i>	Result
H1: ATU → MA	***	supported
H2: UT → MA	0.023	supported
H3: SQ → MA	0.013	supported
H4: JR → MA	0.013	supported

Note: \*\*\* = less than 0.001.

## 5. Discussion

This study investigated the impact of various factors, including attitude toward using MIS, user training, system quality, and job relevance, on the acceptance of MIS among users of Yemeni mobile phone industry. The results of this study demonstrate that these factors are critical to the successful acceptance of MIS.

The results of this study support H1, which suggests that an individual's attitude towards using the system significantly affects MIS acceptance. This implies that, based on past experiences, a user's behavior towards a system can determine whether they will accept and adopt it. This finding aligns with those of previous studies [6,13,26,25]. The findings highlight that a key factor influencing behavioral change in individuals is their perception of the importance of their actions. Active endorsement of MIS by top management strongly encourages users to accept it. In addition, MIS provides users with support

for completing their tasks, leading to improved individual performance. Users who utilize MIS tend to have a greater understanding of the system's benefits, resulting in a more positive attitude towards it. Therefore, if MIS are more engaged with users, they are more inclined to use them [25]. The level of interest of a user in a new technology, which directly impacts the expected ethical behavior during its use, is known as attitude [6]. Consequently, enterprises need to understand that a negative attitude towards technology leads to a lack of intention to use it. Consequently, a positive attitude indicates a favorable intention. This implies that users' positive attitudes towards using the system are crucial for the acceptance of MIS.

Our Study findings confirm hypothesis H2, demonstrating that providing training to users significantly affects MIS acceptance. This finding aligns with that of a previous study by [27,28,29,30, 31]. According to these findings, once system users receive adequate training and feel fully prepared, they are likely to show high levels of satisfaction. Training enables users to acquire the necessary skills and confidence to use MIS effectively. Training is a critical factor influencing user satisfaction in Yemeni mobile phone enterprises. Additionally, training significantly enhances the user's understanding of the available technological capabilities. Consequently, User training enables individuals to acquire the necessary skills and confidence to use the system effectively. In addition, it helps them to gain a better understanding of the structure of information systems. Adequate training not only improves performance, but also increases user motivation for MIS utilization. Training educates individuals on system usage and familiarizes them with the various functions of the application, ultimately enhancing MIS acceptance [27].

The results of this study support H3, indicating that system quality has a significant impact on MIS acceptance. This aligns with the findings of previous studies by [18,21,27,33,40]. The outcomes of these studies emphasize the impact of system quality on MIS acceptance. System quality is a critical factor in determining MIS acceptance success. Ref. [18] found that system quality is positively associated with user satisfaction and intention to use an information system. Similarly, Refs. [21,40] found that system quality significantly influences users' perceptions of the usefulness of an information system. As a result, system quality is considered a crucial technology factor that influences users to embrace and effectively use MIS. This can lead to a range of benefits, including improved decision making, increased productivity, and enhanced organizational performance. System users will be more positive toward the acceptance of MIS if they realize the system's ease of use and learning.

The study findings validated H4, indicating that job relevance affects MIS acceptance. Our results are consistent with previous studies conducted by [13,14,16,33]. These studies found that job relevance affects the acceptance and usage of an actual system. This means that job relevance has an impact on the acceptance of MIS depending on the job tasks required when using the system. Consequently, job relevance plays a crucial role in determining the acceptance and usage of information systems. When individuals perceive that using an information system is relevant to their job responsibilities and helps them perform their tasks more efficiently, they are likely to accept the system. This is because job relevance enhances the perceived usefulness of the system, which is a key determinant of MIS acceptance.

Although the acceptance factors established in the MIS literature were the primary focus of this study, it is essential to recognize the distinct social, economic, and political environments in Yemen. It should be noted that traditional technology adoption models may not fully account for how ongoing conflict and economic instability affect user perceptions and behaviors. Therefore, given the difficulty of instability in Yemen, it may be beneficial to discuss these influences based on the qualitative or mixed-methods approach, which may be more comprehensive for examining how these contextual factors influence MIS acceptance. Future studies will examine these patterns in greater detail to enhance our knowledge of technology adoption in war-affected Yemen country.

Based on the previous discussion, mobile phone enterprises need to focus on these factors to cultivate a positive user attitude towards the system, which in turn encourages a willingness to use the system. In other words, mobile phone enterprises must address these factors to generate a user interest in using a system. Consequently, individuals approve the system to be utilized. Moreover, mobile phone enterprises should create training programs to enhance MIS skills and improve their job performance. Managers should also motivate individuals to use the system to multitask in their jobs. They should strive to emphasize the advantages of the system as this will increase the level of MIS acceptance.

## **6. Implication**

### *6.1. Theoretical Implications*

This study contributes to the theoretical framework for the successful acceptance of MIS by proposing a model based on the Theory of Planned Behavior, the Information Systems Success Model, Technology Acceptance Model 1, and Technology Acceptance Model 2. This model offers a more comprehensive

explanation of the influence of technological, organizational, and individual factors on MIS acceptance. Subsequently, this study evaluated the effectiveness of this model in explaining the successful acceptance of MIS in Yemeni mobile phone industry.

Theoretically, the results of this study contribute in several ways. This study contributes to the understanding and explanation of factors that affect MIS. Our study involved individual factors: attitude toward using MIS, which was mentioned in TBP, TAM1, and TAM2. However, another technological factor, the system quality, was determined in the IS success model. Another factor, job relevance, was mentioned in the TAM1 and TAM2. This means that the study model was developed based on well-known theories in the field of the acceptance of technology and information systems, which have been cited thousands of times by researchers. Based on the results of this study, the theoretical model is a good measure of the determinants of MIS acceptance and use in the Yemeni mobile phone industry. It can also be a good measure in other sectors, such as banks and hospitals, in the Yemeni context, and in the Arab region.

## *6.2. Practical Implications*

In Yemen, challenges persist regarding the successful acceptance of information systems and technologies. It is crucial for organizational administrators and managers to understand the factors that influence MIS acceptance. This study will assist managers and decision-makers in Yemeni mobile phone enterprises in recognizing these factors and their impact on the successful acceptance of MIS within their organizations. Furthermore, the findings encourage them to devise suitable implementation strategies to enhance MIS use, which leads to improved organizational and individual performance. Moreover, the results of this study offer valuable insights for organizations, particularly their information systems departments, regarding the successful acceptance of MIS. These findings offer practical recommendations for both development and policymaking. These recommendations aim to enhance user perceptions of MIS usefulness, thereby encouraging its acceptance. However, managers overseeing MIS should provide training to improve the user proficiency in the system. Such training would not only increase users' knowledge and skill levels, but also motivate them to use MIS increasingly. Based on these findings, managers can identify the main factors that hinder MIS acceptance. Therefore, it was easy for them to get past.

In general, the study of factors influencing MIS acceptance in the Yemeni mobile phone industry has important practical implications for different parties. For users and decision-makers, the findings offer valuable insights into overcoming the challenges associated with adopting MIS, potentially enhancing the overall MIS process in the Yemeni Telecom sector. For scholars, this study could stimulate additional research on this subject in Yemen and in the broader Arabian region. Finally, for the general public, this study's findings could raise awareness of the potential benefits of using MIS and promote a more favorable attitude toward adopting technology in enterprises.

## **7. Conclusion, Limitations and Future Directions**

MIS acceptance plays a pivotal role in modern business enterprises, including those in Yemen's mobile phone sector. MIS facilitates decision-making, enhances operational efficiency, and supports strategic planning. Therefore, understanding the factors that influence MIS acceptance is crucial to organizational success. This study aims to evaluate the factors influencing MIS acceptance among users using the proposed model to investigate the acceptance of MIS in mobile phone enterprises in Yemen. The study model involved four independent variables and one dependent variable, MIS acceptance. Our study results support the four hypotheses that attitudes toward MIS, user training, system quality, and job relevance significantly affect MIS acceptance. These findings can be leveraged to offer crucial support and enhance the probability of users adopting and utilizing MIS. In addition, it could inspire further research in this field and assist practitioners in enhancing the engagement practices for MIS acceptance in enterprises.

This study had certain limitations that could guide future research. Conducted in Yemen, data were collected from 369 participants in Sana'a, Aden, and Marib. Data collection occurred during a period of conflict in the country, making it challenging to gather information from all branches of mobile phone enterprises in different cities. The respondents were specifically targeted to only three cities. In addition, data collection was limited to the questionnaire tool because of the difficulty in conducting interviews with respondents owing to the policies of most enterprises not facilitating interview procedures with researchers, especially in recent periods, in light of the conflict in the country. As a result, the findings could be more reflective of the perspectives of participants in the selected cities than others, as individuals from other conflict-affected or relatively stable cities were not included. This geographic concentration could influence the scope of the study and slightly limit the extent to which the results apply to mobile

phone enterprises in Yemen as a whole.

Future studies should aim to enhance the generalizability of these findings by exploring diverse settings and segments. Additionally, the current study was constrained by time limitations and utilized a cross-sectional data-collection method. Future research should consider employing a multi-stage, longitudinal approach. The model used in this study was derived from existing models of acceptance and usage of technology and MIS in enterprises. Future research could expand this model by incorporating additional factors that influence MIS acceptance. Furthermore, focusing on both organizational and individual factors could provide deeper insights into the acceptance of MIS.

### **Author Contributions**

Writing—Original Draft, Methodology, Investigation, Data Analysis, Mohammed Saleh Al-Tuhaifi; Review, Supervision, Souad Kamoun-Chouk. All authors have read and agreed to the published version of the manuscript.

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### **Conflicts of Interest statement**

The authors declare no conflict of interest.

### **Data Availability**

The data are available upon request.

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