An-Najah National University
Faculty of Graduate Studies

ACCEPTANCE AND SATISFACTION WITH ELECTRONIC HEALTH INFORMATION SYSTEM BY HEALTHCARE PROVIDERS IN PALESTINIAN HOSPITALS

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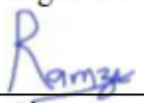
Prof. Dr. Ramzi Shawahna Co-Supervisor	 Signature
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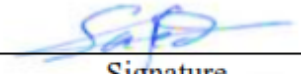
Prof. Sa'ed Zyoud Internal Examiner	 Signature

Dedication

To my family, you are, through your never-ending support and undeterred motivation, my beam of light to lead me through the road. To my mentors and advisors for their unbelievable guidance, expertise, and support in general which helped me to produce this work. To those people who groundlessly conceded their time and knowledge, which would likely have never happened without their willingness to participate.

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Ahmad Sabri Dweikat

Declaration

I, the undersigned, declare that I submitted the thesis entitled:

ACCEPTANCE AND SATISFACTION WITH ELECTRONIC HEALTH INFORMATION SYSTEM BY HEALTHCARE PROVIDERS IN PALESTINIAN HOSPITALS

I declare that the work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

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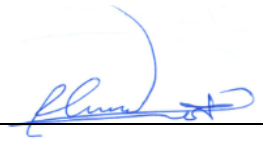
Signature:	
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ACCEPTANCE AND SATISFACTION WITH ELECTRONIC HEALTH INFORMATION SYSTEM BY HEALTHCARE PROVIDERS IN PALESTINIAN HOSPITALS

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Abstract

Background: This study investigated the factors influencing employees' acceptance and satisfaction of Electronic Health Information Systems (EHIS) in An-Najah National University Hospital and Rafidia Surgical Hospital.

Methods: The study included healthcare workers, including physicians, nurses, medical secretaries, pharmacists, laboratory technicians, and radiologists. The study investigated fifteen hypotheses related to relative advantage, system quality, top management support, information technology (IT) department support, and competitive pressure.

Results: A total of (*n = 220*)

The research study, found no significant gender differences in EHIS acceptance (55% males, 45% females). Educational backgrounds varied, with 71% holding bachelor's degrees, 22% master degrees, and 7% diplomas. Participants with younger ages and less experience exhibited different perspectives on EHIS. Postgraduate participants showed greater awareness of relative advantage. The study also revealed that external factors such as relative advantage, system quality, top management support, and competitive pressure significantly affected perceived usefulness (PU) and ease of use (PEOU).

Conclusion: The study looked at factors affected the acceptance of EHIS by Palestinian hospital staff and found that perceived usefulness (PU) was highly impacted by system quality, relative advantage, competitive pressure, top management support, and IT department support, while organizational support, compatibility, and system complexity had little effect on perceived ease of use (PEOU).

Keywords: Health Information Systems; Technology Acceptance Model; Perceived Usefulness; Perceived Ease of Use; User Acceptance; Demographic Variables; Compatibility; System Complexity; Top Management Support.

Chapter One

Introduction and Literature Review

1.1 Overview

This chapter establishes the basic principles and theories to be explored in this thesis. To achieve this, key subjects and background information on the acceptance of electronic hospital information system (EHIS) in healthcare sector in the West Bank of Palestine, especially at An-Najah National University Hospital as a representative of private hospitals and Rafaida Surgical Hospital as a representative of governmental hospitals. A comprehensive literature review was conducted to summarize the existing information about EHIS and various technology acceptance models. Consequently, gaps in the literature were identified, and this chapter outlines the research questions and objectives.

1.2 Background

Over the past two decades, the medical industry has undergone a transformation with the introduction of health information systems, which have provided comprehensive medical care coverage in developed countries. In this traditional system, hospitals and clinics maintained patient profiles using paper-based documents to track their medical history. However, this method faced several issues, particularly during human-induced disasters like the Middle East wars or natural disasters such as Hurricane Katrina in the United States (Tyagi & Singh, 2019). These events led to the destruction of countless medical records, highlighting the need for a more robust health information system (Tyagi & Singh, 2019).

Research has extensively explored the adoption and acceptance of particular types of technology across healthcare sectors especially EHIS. Technology Acceptance Model-1 (TAM-1) stands as a widely recognized conceptual research model derived from the Theory of Reasoned Actions (TRA), initially developed by Davis in 1989 (Hong et al., 2002). This model continues to be employed in contemporary studies. However, TAM encompasses external and non-specific variables. To address this, the Technology-Organization-Environment (TOE) framework is integrated with TAM to evaluate the acceptance of novel technologies.

1.3 Hospital Information System (EHIS) Definition

According to Abdekhoda et al. (2019), EHIS is a computerized system for gathering, storing, and retrieval of patient health information that was developed to replace the prevailing predominantly paper-based approach to medical record-keeping (Abdekhoda et al., 2019).

The EHIS comprises multiple modules, and every healthcare institution should, at a minimum, incorporate essential modules. These must be seamlessly integrated with back-office and support modules (Nadri et al., 2017). These fundamental modules include the registration module, medical records module, billing module, and the order communication system (OCS) module, which encompasses supporting modules like laboratory, radiology, and nutrition. It is imperative for organizations and developers to recognize the critical importance of adopting the EHIS for streamlined healthcare operations.

1.4 Some of Vital and supported EHIS modules

EHIS include various modules that are essential for the efficient management of healthcare services and patient care. These modules facilitate several procedures in a hospital or healthcare environment, leading to more efficient operations and better patient outcomes. Among the essential and well supported HIS modules are:

1.4.1 Registration Module

An EHIS works with registration module as its first and foremost feature, providing the healthcare workers a speedy and systematic entry of the patient's data into the system. The aim here is basically to get all the required information i.e., name, address, phone number, appointments etc., regarding a particular patient while he registers and which process will act as the basis for identification and thereafter ensure subsequent healthcare interactions. Considering the main functions of the registration module, are making sure that demographic information, such as age, gender, ethnicity, insurance details and contact information, are captured, all of these are vital in-patient management within the healthcare institution (Shawahna, 2019). Utilizing the registration module as part of the EHIS has the tendency to simplify the inputs and outputs of the administration, also boost the information accuracy, and then contributes to the overall well-being of the healthcare

system.(Shawahna, 2019). The registration module is the first important step in whole EHIS processes.

1.4.2 Billing module

The billing module in an EHIS is an essential component designed to manage and streamline the financial aspects of healthcare services, this module plays a crucial role in automating and organizing the billing process for patient services, ensuring accuracy and efficiency in financial transactions within the healthcare institution (Permanasari et al., 2018).

Because it guarantees the smooth operation of the patient accounting process and reduces time, the patient accounting and billing system is considered as one of the essential components of the computerized health information system.

1.4.3 Medical Records Module

The Medical Records module in a Hospital Information System is a vital module designed to organizes comprehensive patient health records and track and manage patient medical history, diagnoses, medications, treatments and other related healthcare info. Also, Enables secure access for authorized professional's healthcare (Ehteshami et al., 2013).

1.4.4 Laboratory Information System (LIS)

The Laboratory Information System module in a Hospital Information System is an important module implemented for Laboratory processes management also to facilitate different laboratory processes (Handayani et al., 2018).

1.4.4.1 LIS. benefits

Regarding to Handayani et al. (2018) who discuss the advantages of laboratory and Information system (LIS) in their research here are some general points into its potential advantages:

- Improving work efficiency: Improving work efficiency within the laboratory department by controlling the flow of various processes inside and outside the department.

- Accuracy improvement: It improves the control of report writing times and improves quality, performance and patient waiting time.
- Regulatory Compliance: Helps in complying with regulatory standards and quality assurance.

1.4.4.2 LIS Functions

Handayani et al. (2018) who explore Library and Information Science (LIS) in their study- outline several typical roles and functions within the field of LIS.

- Test Order Management: Manages the ordering of laboratory tests, ensuring proper documentation and organization.
- Sample Tracking: Tracks the movement and status of samples from collection to analysis.
- Result Reporting: Generates and reports laboratory test results accurately.
- Data Storage: Stores and organizes vast amounts of laboratory data securely.
- Quality Control: Monitors and maintains the quality of laboratory processes and results.
- Interoperability: Interfaces with other systems, such as the EHIS, to ensure seamless information flow.

1.4.5 Radiology Information System (RIS)

The RIS module in a Hospital Information System (HIS) is a vital system part developed to management of Radiology operations, workflow and processes within radiology departments (Handayani et al., 2018):

1.4.5.1 RIS Benefits

- Improving work efficiency: Improving work efficiency within the laboratory department by controlling the flow of various processes inside and outside the department.
- Reporting enhancement: It improves the control of report writing times and improves quality, performance and patient waiting time.

- Regulatory Compliance: Helps in complying with regulatory standards and quality assurance.

1.5 EHIS in Palestine

Palestine’s healthcare system is divided into a number of sectors, each of which serves a part in providing the population with full health services. Due to geopolitical reasons, the Palestinian healthcare system faces particular difficulties, currently attempts continue to offer comprehensive and easily accessible care. These are the main sectors for healthcare in Palestine.

1.5.1 Healthcare Sectors in Palestine

1.5.1.1 Public Healthcare Sector

Here are main points about the role and functions of the Ministry of Health in the public healthcare sector:

1. Governmental Oversight

The MOH is a government organization that oversees the public healthcare sector administratively and legally. To ensure that the general peoples receive high-quality healthcare services, it sets laws, regulations, and standards.

Rafidia Hospital, is one of the major hospitals under the jurisdiction of the Palestinian Ministry of Health. This facility, along with others in the area, is essential to the community's access to healthcare services. The hospital is a component of a network that the Ministry manages, which accounts for (61%) of all hospital beds in Palestine and consists of 27 hospitals spread throughout the West Bank (MOH Website).

2. Healthcare Facilities

Hospitals, clinics, and health centres are among the public healthcare facilities under the direction and supervisions of the MOH. These establishments have been placed in a way that maximize population access to healthcare services.

3. Service Delivery

The Ministry of Health acts a vital role in the delivery of important healthcare services to public people. This includes preventive measures, day care, emergency services, and other special medical treatments provided through public people healthcare facilities.

1.5.1.2 Private Hospitals and Clinics

The private sector acts avital role in healthcare services providing in Palestine. Private hospitals and clinics also offer specialized and elective services, contributing to the overall healthcare sectors.

plays a critical role in providing advanced medical care and serving as a center for medical education and research in the region. Equipped with modern technology and specialized departments, it offers a wide range of medical services, including surgery, oncology, cardiology, and more.

An-Najah National University Hospital with 120 beds plays a critical role in providing advanced medical care and serving as a center for medical education and research in the region. Equipped with modern technology and specialized departments, it offers a wide range of medical services, including surgery, oncology, cardiology, and more. The hospital has been recognized for its dedication to providing high-quality healthcare by earning certifications from organizations such as the International Organization for Standardization (ISO) and Joint Commission International (JCI). The hospital's JCI accreditation demonstrates its commitment to offering excellent services by attesting to its compliance with international standards for patient care and safety. On the other hand, ISO certification guarantees that the hospital complies with global standards in a number of operational areas, such as efficiency, safety, and management. These accreditations serve as a testament to the hospital's ongoing efforts to raise the standard of care, improve patient outcomes, and apply best practices that adhere to international standards (NNUH.ORG).

1.5.1.3 Non-Governmental Organizations (NGOs)

- International NGOs: there are Varity of international non-governmental organizations work in Palestine, they are offering medical care, support and also offering medical assistance and Rehabilitees support.

- Local NGOs: These organizations are essential for aiding vulnerable people, addressing particular health needs, and advancing community health.

1.5.2 Current situation (achievements and challenges) of EHIS in Palestine

EHIS implementation in Palestine, particularly in governmental hospitals and other healthcare sectors has both achievement and challenges. Here is an overview of the current status:

1.5.2.1 Achievements

- EHIS for Governmental Hospitals: The Palestinian MOH successfully implemented the AviCenna EHIS which connect all governmental hospitals in the West Bank. this implementation aims to streamline health information management within the public healthcare sector (Shawahna & Al-Atrash, 2019).
- UNRWA EHR System for Health Centers: In 2009, the United Nations Relief and Works Agency (UNRWA) initiated the development of an EHR for its 143 health centers across multiple regions, including the West Bank and Gaza Strip (Giacaman et al., 2009).
- In-House EHR System for Health Centers: One significant achievement in 2017 was the implementation of 121 health facilities' internal EHR system. Enhancing services for common illnesses, non-communicable diseases, maternity and child health, laboratory operations, and pharmacy administration are the main goals of this system (Shawahna & Al-Atrash, 2019).
- Going Paperless in Health Centres: One hundred of the 121 health institutions that are using the internal EHR system have made the switch to paperless records. This change is a big step toward increasing operational effectiveness and digitizing health records.

1.5.2.2 Challenges

- Diverse EHR Systems: The employment of several EHR systems in Palestinian hospitals and the healthcare industry presents difficulties for the effective transfer of patient data. Interoperability problems are partly caused by differences between governmental hospitals and other sectors features.

- Feature Dispraisers: systems utilized in public hospitals may have features that are absent from those utilized in other sectors, and vice versa. This leads to differences in the functions offered by various healthcare delivery organizations.
- Technical and Design Challenges: There are still problems need to be resolved with regard to design, logistics, technology, and compatibility. these obstacles are necessary to overcome to ensure smooth patient information flow between various healthcare providers.
- Compatibility Issues: different EHIS systems compatible with another is an important factor. Establishing a unified and interconnected environment for health information requires standardizing technical features and procedures.
- Logistic and Training Needs: Putting EHIS systems into place means that healthcare workers must receive thorough training in addition to solving logistical issues. A workforce that is proficient in using these systems is necessary for a successful integration.
- Patient Information transfer: It is still difficult to move patient data across various healthcare providers in an efficient manner. In order to have a completely interconnected and interoperable healthcare system, these obstacles must be removed.

1.6 Research Theoretical Basis

Over the last twenty years, the medical field has undergone a transition thanks to the advent of information systems within it which have assisted in providing the entire medical treatment to respond the needs of developed nations (Tyagi & Singh, 2019). The paper file system, where hospitals and clinics kept such patient sessions as health story was based on paper documents, served as a major storage for this information. Such as the tragedies of the Middle Eastern war, where dozens have died or the disasters such as Hurricane Katrina in the US, which killed a lot of people. It turned that medical document have given way to healthy system development if they were to be destroyed (Tyagi & Singh, 2019).

The loss of medical records put patients at significant risk of medical errors since healthcare providers couldn't establish connections between current health conditions and patients' medical his story, including diagnoses, treatment effects, and risk assessments (Tyagi & Singh, 2019). Also, the growing volume of data poses challenges in organizing information, making it increasingly intricate to compile and, more significantly, challenging to deliver optimal care to patients (Akhu-Zaheya et al., 2018).

To address these problems, the EHIS emerged as a type of Healthcare Information Technology, falling under the realm of Medical Informatics, Electronic Health IT, and telemedicine. EHIS offer a solution to the information-related challenges faced by hospitals and clinics, aiming to reduce such problems in patient profiling (Dahleez et al., 2020).

Presently, many hospitals and clinics worldwide have embraced EHIS. However, despite their potential benefits, the general adoption and use of EHIS by healthcare professionals have not occurred smoothly. Various challenges have arisen during the implementation and utilization of EHIS, hindering their widespread acceptance and integration into routine healthcare practices. EHIS systems possess the capability to record and store data, making them effective tools for maintaining data history (Maillet, Mathieu & Sicotte 2015). These systems offer valuable assistance to physicians in managing their schedules with patients and entering medication information. Across various vendor products, common features include results reporting, order entry, creation of multiple notes, software interfaces, prescription writing, flow charting, remote access, referral ordering, patient registration, scanning, automated chart documentation, automated charge entry, inpatient reports, and patient follow-up (Menachemi & Collum 2011).

Additionally, EHIS offer electronic dictation support, aiding physicians and healthcare providers in dictating medications (Dahleez et al., 2020). Results reporting enables the viewing and analysis of various test results, while electronic documentation management systems and patient care charting facilitate the documentation of patient examinations. Progress notes play a vital role in transferring data across organizations, and data mining capabilities assist in informed decision-making processes (Dahleez et al., 2020).

The integration of new technologies within any institution is not solely depend only on technological capabilities. e-Health depends primarily on the user's willingness to employ & utilize the computer in the health process, according to (Schaper & Pervan, 2007). Therefore, understanding the individuals' willingness to accept and utilize computer considered to be one of the most challenging issues in information systems research. Also, Haluza & Jungwirth (2015) mention, if this can be understood, any institution would be able to explain, predict, enhance, and raise up user acceptance of any technology.

1.7 Technology Acceptance Model (TAM)

Davis (1989) expanded upon the TRA to develop the Technology Acceptance Model (TAM), a theoretical framework aimed at clarifying individuals' intentions to accept or reject novel technologies (Helia et al., 2018). The TAM has garnered recognition as a valuable framework for understanding the factors influencing the adoption of new technology (Marangunić & Granić, 2015). In contrast to the TPB and TRA, the TAM primarily focuses on user acceptance within technological contexts, whereas the TRA encompasses acceptance intention, general human behavior, subjective norms, and attitudes of individuals (Davis1989, 1989-a).

The Technology Acceptance Model stands out among the limited models that assess the factors influencing users' readiness to adopt new technology. Throughout this evaluation, it becomes essential to identify users, considering their scientific background, age, experience, or any potential hindrances to integrating such a novel system, along with the anticipated benefits it offers (Helia et al., 2018).

The TAM model relies on assessing two primary factors, namely Perceived Usefulness (PU) and PEOU (Perceived Ease of Use). Perceived Usefulness indicators whether users perceive the advantages of implementing the new model in their professional or personal lives. On the other hand, Perceived Ease of Use evaluates the extent to which users feel the necessity for education and training to adeptly utilize the new technology (Yuen et al., 2021).

1.8 Technology-Organization-Environment (TOE) review

TOE is known as an analytical framework in research that examines many institutional factors in an effort to bring theoretical and practical applications into harmony. According to Khobi et al. (2020) it focuses on gauging an organizations receptiveness to new technologies from three perspectives: technological, organizational, and environmental.

To create a TOE framework, researchers gathered a sizable amount of literature-based publications. Because it has been applied in a wide range of industries and systems, including high tech, construction, and others, this method can thus be regarded as one of the most effective among others to measure the elements that affect the difficulty in applying a certain technological system (Marangunić & Granić, 2015).

Technological factors related to the technical infrastructure of the institutions, its challenges, strengths, and overall technical efficiency. These factors are indicative of the institution's technological readiness and capacity (Helia et al., 2018).

However, organizational factors are connected to the institution's administrative structure, which includes its managers, staff, and procedural administrative features. These elements show the governance structure and organizational dynamics that surround the acceptance of technology developments.

Environmental factors encompass external influences from outside the institution that both impact and are influenced by the institution's procedures and its acceptance of new technology. These factors reflect broader contextual elements such as regulatory frameworks, market dynamics, and societal trends that shape the institution's adoption of new technology within its operating environment (Khobi et al., 2020).

1.9 TAM and TOE Integration

The combination of TAM and TOE can give overall benefits by integrating the assessment of individual attitudes with factors influencing practical application. TAM focuses on individual attitudes, while TOE focus surrounded factors affecting implementation (Dube et al., 2020).

1.10 Problem Statement

The catch of acceptance for health information systems by healthcare providers is the fact that healthcare providers tend to get acquainted with EHIS slowly and they exhibit different levels of contentment with the EHIS in health facilities. While the effectiveness of EHIS in making patient cares easier, increasing efficiency and managing data securely can be harnessed, gaining acceptance in the totality of healthcare providers remained a critical challenge in the buildup of satisfaction among the providers (Handayani et al., 2018).

The slow adoption of EHIS can be assigned to several factors, such as resistance to change, usability issues, lack of training and support, concerns about data security and privacy, and organizational obstacles (Nadri et al., 2018); (Tsai et al., 2019). These challenges make it more difficult for healthcare providers to successfully adopt and integrate EHIS into their everyday operations, which results in less than ideal use and a restricted ability to fully utilize the system. Furthermore, even in cases where EHIS is implemented, there is a variance in the level of satisfaction among healthcare professionals. Factors influencing satisfaction with EHIS may include system usability, interoperability with other healthcare systems, customization options, responsiveness of the system, and the overall impact on healthcare delivery (Otieno et al., 2007).

Implementing the right strategies for eHealth Information Systems acceptance and satisfaction is a crucial step in harnessing the EHIS' numerous benefits and attaining a more patient centred, deft, and data-based healthcare surveillance. By establishing the underlying reasons why such low acceptance and even satisfaction are occurring, healthcare organizations can then further such changes to align with higher usability, more suitable training provisions, security strengthening, and positive user experience.

Overcoming these challenges will be the first step to link EHIS into health facilities and disclose the best of benefits in the field of healthcare delivery as well as patient results (Tian et al., 2019).

1.11 Significance of the Research

Health information system acceptance is crucial for several reasons, as it impacts various aspects of healthcare delivery, patient outcomes, and organizational efficiency. And Based on my work as IT Manager in private sector hospital it's important to me to analyze EHIS acceptance and satisfaction and study TOE factors that affect acceptance, aiming to overcome identified barriers and optimize system performance and increase job performance to staff.

Here are some key reasons why health information system acceptance is important:

- Patient Care enhancement: When healthcare providers and organizations fully embrace health information systems, it leads to improved patient care. Better diagnosis, treatment planning, and continuity of care are made possible by easier access to complete and accurate patient data. EHIS make it easier for various healthcare professionals to share vital patient's data, which promotes more efficient and well-coordinated treatment.
- Patient Safety: Using health information systems appropriately decrease the risk of adverse events and medical errors. Healthcare professionals can make well informed judgments and minimize risks connected with inaccurate or missing information when they have access to accurate patient records.
- Productivity: Healthcare practitioners become more productive and efficient as a result of EHIS, which automate jobs, decrease paperwork, and streamline administrative operations. They may now assign more of their attention to patient care and less time to administrative tasks as a result.
- Cost Savings: Healthcare companies can see long-term cost reductions through the implementation of health information systems. Savings on printing, storage space, and physical record upkeep are achieved by moving away from paper based systems. Furthermore, more economical care and more efficient use of resources can result from improved data administration
- Data Analytics and Decision making: Large scale healthcare data collection and analysis are made possible by EHIS. By using this data, healthcare professionals can make better decisions by spotting trends, patterns, and opportunities for enhancement in patient outcomes and general healthcare procedures.

- Interoperability and Continuity of Care: Interoperability, which ensures safe patient data transmission between various healthcare facilities and providers, is facilitated by the acceptance of health information systems. Especially when patients transfer between various healthcare venues or see several doctors, this accessibility improves continuity of treatment.
- Research and Public Health Initiatives: Health information systems acts a vital role in supporting medical research and public health initiatives. Aggregated and anonymized data from these systems can contribute to population health studies, disease surveillance, and the development of evidence-based healthcare policies.

1.12 Research Questions

The objective of this thesis is to address the following research questions:

RQ1: What is the level of acceptance and satisfaction of the currently used EHIS used in the Palestinian hospitals?

RQ2: How will TOE factors affect EHIS acceptance in Palestinian hospitals in WB?

RQ3: What's modifications and strategies required to enhance EHIS acceptance and satisfaction and to enhance clinical staff performance?

RQ4: What are the barriers and challenges hindering the acceptance and satisfaction of EHIS among healthcare providers from clinical staff point of view.

1.13 Research Objectives

The research objective of EHIS (Health Information System) acceptance typically focuses on understanding the factors influencing the adoption and usage of health information systems by various stakeholders, such as healthcare providers, administrators, and patients. So here the main objectives of this research:

- Assessing Acceptance Levels: Determine the extent of acceptance of EHIS among healthcare providers in Palestinian hospitals, understanding their attitudes, perceptions, and willingness to use the system in their daily practice.

- Evaluating Satisfaction: Measure the satisfaction levels of healthcare providers with the EHIS, identifying the aspects that contribute to satisfaction and those that need improvement.
- Identifying Barriers: Identify the barriers and challenges hindering the acceptance and satisfaction of EHIS among healthcare providers, such as usability issues, training gaps, or resistance to change.
- Assessing System Usability: Evaluate the usability of the EHIS from the perspective of healthcare providers, identifying parts for improvements to enhance user acceptance and efficiency.

1.14 Suggesting Improvements

Based on the data, make evidence-based recommendations and methods to improve EHIS acceptance and satisfaction while overcoming identified hurdles and optimizing system performance.

1.15 Hypotheses

In this section a review of the literature of how constructs in the model related to each other. It is crucial to note that this model incorporates primarily significant relations derived from previous literature findings. Consequently, these relations are amalgamated in the current research model to assess its relevance specifically in the context of acceptance of EHIS.

In this literature I used TAM model which developed by Davis (1989) to comprehend the mechanism of embracing and incorporating information technology, the model revolves around key components such as PEOU, Perceived Usefulness (PU), Attitude, and Usage.

- Relative advantage variable ➔ PU variable

A relative advantage, within the context of adopting new technologies, is the recognition that a novel technology holds greater significance and effectiveness compared to its predecessor. It involves the understanding that the new technology brings something innovative and valuable to individuals, surpassing the capabilities of the existing technology (Qiu et al., 2023).

Gholami et al. (2018) highlighted that relative advantage signifies the degree to which an innovation is perceived as superior to an existing solution or method. In contrast, perceived usefulness denotes the belief that the adoption of a specific technology will result in enhanced job performance.

PU reflects the acknowledgment by clinical staff of the practical value and effectiveness of technology, and its influence on enhancing performance and improving outcomes across various services. Within the context of EHIS, PU signifies the conviction among staff and users that EHIS contributes to heightened efficiency and effectiveness, driving improved performance. Furthermore, it has a tangible impact on optimizing resource utilization and mitigating the drawbacks associated with traditional methods. This, in turn, significantly influences the BI to actively embrace new technology (Gangwar et al., 2015a).

In this framework, this study will investigate three key indicators. The initial one assesses the enhancement of tasks for an employee when they become easier. The second indicator is directly associated with how employees perceive the usefulness of incorporating new technologies like EHIS. The final indicator measures the perception of improved performance when using EHIS, as outlined by (Davis, 1989-a).

Therefore, when a particular option appears more advantageous than other alternatives, individuals tend to perceive it as useful. Technologies with a multitude of benefits are regarded as particularly significant. Conversely, if the relative advantage is minimal, the perceived benefits will also be low and as noted that there are positive impacts on PU are anticipated based on the perceptions of the relative advantage of the target technology (Zhang et al., 2008.).

After reviewing multiple previous studies, the following hypothesis have been proposed:

H1: There is positive effect on relative advantage on the PU of EHIS.

- System Quality variable ➔ PU variable
- System Quality variable ➔ PEOU variable

Most previous researchers have commonly included perceived system quality as a key dimension within the broader concept of system quality. For instance, Sharma & Bahl (2018) identified the design of the system as a precursor to system quality. In their study, they observed a remarkable association between system design, system quality, and customer PU.

Additionally, Ting et al. (2016) put forth a conceptual model of system quality that encompasses four dimensions: design, fulfillment/reliability, security, privacy, and trust. This comprehensive model was designed to capture the multifaceted nature of system quality, acknowledging its various facets, and providing a framework to understand its impact on user perceptions and they found that any system quality has a significant influence on PU and user trustiness.

Komiak & Ilyas (2010) noted that the expected relation in the Perceived System Quality (PSQ) construct are anticipated to have an impact on the PU and PEOU of the system. Building on the rationale of perceived usefulness as outlined by Davis in 1989, a heightened user perception regarding the authenticity and security of feedback implies greater user confidence in the usefulness of this feedback for enhancing decision-making performance. In essence, a positive assessment of system quality contributes to users' confidence in the utility of feedback for improving their decision-making processes (Komiak & Ilyas, 2010).

After reviewing multiple previous studies, the following hypotheses have been proposed:

H2: There is positive effect of system quality on PU of EHIS.

H3: There is positive effect of system quality on PEOU of EHIS.

- complexity variable ➔ PU variable

In the digital world, complexity and digital solutions present new opportunities and challenges for information systems (Vassilakopoulou & Hustad, 2023). So, the perception of information system complexity is an obstruction factor in the adoption of new technology, particularly when users recognize that substantial effort is needed to learn and effectively apply it (Abdekhoda et al., 2019).

Complexity described as the subjective assessment of the level of difficulty associated with comprehending and utilizing a system. In the context of technology or any organized structure, the term refers to individuals' perceptions of how challenging it is to understand and operate the given system. This perceived difficulty may encompass factors such as intricate interfaces, intricate processes, or a steep learning curve, all contributing to the overall sense of complexity in using the system (Complexity and Information Systems Research in the Emerging Digital World, n.d.)

In the case of adopting a Hospital Information System, complexity is measure by various factors such as the time required to complete tasks, the seamless integration of applications with the specialized EHIS infrastructure, the effectiveness of data transfer, the functionality of the system, and the design of its interface, among others. While complexity is generally seen as closely related to ease of use, many studies examine them as separate entities, recognizing their independent influences on the system's acceptance and usefulness (Complexity and Information Systems Research in the Emerging Digital World, 2020).

The outcomes of these research indicate there is a negative correlation between complexity and perceived usefulness (PU). In other words, as a system's perceived complexity increases, users are less likely to see it as useful. This suggests that a more user-friendly and simple technology is related with higher ratings of ease of use and usefulness among users (Halmdienst et al., 2021).

After evaluating several previous searches, the following hypothesis was proposed:

H4: there is a negative effect of complexity on perceived usefulness (PU).

- Compatibility variable ➔ PU variable

- Compatibility variable ➔ PEOU variable

Compatibility is described as "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters. "EHIS definition highlights the relationship between the innovation with the beliefs, prior relationships, and requirements of persons or entities considering accepting it (Rogers et al., n.d.).

Dasgupta et al. (1999) provided a definition of compatibility as "the degree to which the innovation is perceived to be consistent with the potential users' existing valus, previous experiences, and requirements". EHIS definition underscores the importance of perceived consistency between the innovation and the values, previous experiences, and needs of individuals or entities who may potentially adopt it.

However, PEOU is a measure of an individual's perception of the amount of work that is necessary to use a certain system or technology. When the system appears easy to use and does not require significant effort and specialized knowledge, the PEOU value is regarded as high. In essence, PEOU reflects the user's opinion that dealing with the system is simple and does not require a large investment of time or knowledge (Abdekhoda et al., 2019).

The concept of compatibility is important for forecasting user expectations, which then influence PEOU. The ease with which new technology can be used is determined by its compatibility with current systems and workflows. This aspect is important not just for individual technology adoption, however it also has a substantial impact on the overall acceptability of new technologies in various situations. Compatibility serves an important role in defining users' impressions of how easily a technology aligns with their present routines and contexts, impacting their perceived ease of use and, as a result, their readiness to adopt new technologies (Lutfi et al., 2022).

Several studies in the field of IT adoption have consistently observed the significant role of compatibility both in Perceived Ease of Use and Perceived Usefulness (Gangwar et al., 2015b). The findings suggest that the perceived alignment of a new technology with existing systems and user needs not only affects how easy it is perceived to use but also influences its perceived usefulness. This highlights the interconnectedness of compatibility with users' perceptions of both ease of use and the utility of a technology, emphasizing its pivotal role in shaping attitudes towards technology adoption.

As a result, the primary conclusion to draw from this subject is that compatibility is an important component in determining PEOU and PU while using EHIS. The alignment of EHIS with daily tasks, workflows, and objectives has an important effect on the perception of its ease of use, eventually leading to its acceptance in the healthcare sector.

After reviewing many previous research's, the following hypotheses have been proposed:

H5. Compatibility has positive impact on PU.

H6. Compatibility has positive impact on PEOU.

- Top management support variable ➔ PU variable

- Top management support variable ➔ PEOU variable

Support from management is the extent to which senior management figures inspire and help the implementation of a new system or technology. This support may include allocating resources, establishing clear objectives, or creating an environment favorable to the successful deployment of new technologies (Gangwar et al., 2015b).

Support for technology from TM can increase perceived advantages. This is because leadership endorsement typically signifies that the technology aligns with the organization's objectives, and the utilization of such technologies is highly likely to result in positive enhancements in performance (Abdekhoda et al., 2015).

Top management support can enhance users' confidence in the technology and diminish uncertainty during its utilization. Furthermore, supportive management may furnish users with essential resources and training to improve the utilization of EHIS, thereby augmenting its PU, although its impact on Perceived Ease of Use (PEOU) remains uncertain (Yandemye & Nimubona, 2024).

After reviewing multiple previous studies, the following hypotheses have been proposed:

H7: Top Management has positive effect on PU.

H8: There is strong significant impact of top management support on the perceived usefulness (PEOU) of EHIS.

- IT infrastructure and IT department support variable ➔ PU variable.

- IT infrastructure and IT department support variable ➔ PEOU variable.

As per (Eason & Waterson, 2013), a robust technology infrastructure is essential for supporting e-health systems. When healthcare providers utilize computers with internet

connectivity in their interactions with patients, it enhances PU and PEOU. Additionally, the extensive adoption of EHIS by physicians aids them in making clinical decisions for patient healthcare. Moreover, a strong network connection facilitates the seamless sharing of medical data among healthcare professionals through the utilization of EHIS (Abdekhoda et al., 2019).

Training by IT department helps to diminish technophobia and stress, explains the ambiguity, increases motivation for technology adoption, and improves the basic skills needed to know the new technologies (Eason & Waterson, 2013).

Empowering individuals with basic knowledge and required skills on new technology is achieved by training. Rise up to face the change and master the technology rather than fear it. Either way, you learn whatever it is that is needed, be it through adapting to new software interfaces, mastering different programming languages or developing skills for handling the newest tools, you gain this confidence and competence (Abdekhoda et al., 2019).

Regarding the effects of IT infrastructure and training support from IT department and as per (Alsahafi et al., 2022). IT staff experience plays a pivotal role in shaping the intention to use e-health technology. Healthcare professionals who have prior experience with IT systems are more likely to recognize the usefulness of e-health technology. Their familiarity with digital tools allows them to appreciate how these applications can enhance healthcare delivery, streamline processes, and improve patient outcomes.

After reviewing previous studies, the following hypotheses have been proposed:

H9: There is highly significant impact IT department support on the perceived usefulness (PU) of EHIS.

H10: There is highly significant impact of IT department support the perceived ease of use (PEOU) of EHIS.

- Competitive pressure variable ➔ PU variable.
- Competitive pressure variable ➔ PEOU variable.

Crystal Jiang et al. (2015) defined Competitive pressure as "the level of competitive pressure experienced by the company from rivals within the industry".

Organizations aim to gain a competitive advantage by adopting user-friendly technology. They invest in the development of intuitive and user-friendly interfaces, incorporating features that enhance product usability. Consequently, ease of use directly contributes to positive perceptions through PEOU, as employees find the technology more accessible. In response to competitive pressures, organizations frequently implement comprehensive employee training and support initiatives (Moucheraud et al., 2017).

After reviewing multiple previous studies, the following hypotheses have been proposed:

H11: There is directly significant impact of Competitive pressure on the PU of EHIS.

H12: There is directly significant impact of Competitive pressure on the PEOU of EHIS.

- PEOU variable ➔ PU variable.

The relationship between PEOU and PU is straightforward. Elevated PEOU is directly related to high PU. The relationship arises from the idea that user-friendly technology allows consumers to focus on their activities rather than struggle with its operation, hence improving the perceived ease of use. (Abdekhoda et al., 2019).

After reviewing multiple previous research, the following hypothesis have been proposed:

H13: There is directly impact for PEOU on the PU of EHIS.

- PU variable ➔ BI variable.

When people see the several benefits of new technology, they expect - as a result of using the tool- to have positive outcomes, such as increased productivity or better job performance.

TAM can explain the relationship between perceived usefulness PU and behavioral intention BI. These theories claim that people’s attitudes toward a given technology are heavily influenced by its utility. A positive attitude develops when people realize the

benefit of technology, which drives them to implement it into their work or daily routines (Gangwar et al., 2015b).

In summary, the positive perception of the usefulness of Health Information Systems acts a vital role in encouraging user acceptance. This relation is pivotal for the effective implementation and widespread acceptance of EHIS across various sectors.

Reviewing multiple previous research sleds to the following hypothesis:

H14: There is strong impact of PU on BI of EHIS.

- PEOU variable ➔ BI variable.

In today's healthcare environments, health information systems are critical tools for improving patient care quality, efficacy, and efficiency. Perceived Ease of Use is an important factor affecting medical staff acceptance and utilization of EHIS, among other factors. Perceived Ease of Use shows how many individuals believe a system is easy to use and involves little effort or complexity. In terms of EHIS, the degree to which healthcare professionals believe the system is user-friendly strongly determines their desire to incorporate it into their routines (Zhou et al., 2009).

The relation between healthcare workers' BI to utilize EHIS and their Perceived Easy of utilize has been examined in a various number of researches. Davis's Technology Acceptance Model (TAM) said that people's behavioral intention to utilize a technology is positively influenced by perceived ease of use. Healthcare workers are more likely to express a positive desire to utilize EHIS in their clinical practice if they believe it to be easy to use. This is relevant to EHIS acceptability (Davis1989, 1989).

Furthermore, Behavioral Intention (BI) to use EHIS among nurses was found to be substantially related by PEOU, according to a study done in Greece by Melas et al. (2011) showed a strong positive correlation between nurses' behavioral intentions BI to utilize EHIS and their perceived ease of use PEOU.

After reviewing multiple previous studies, the following hypothesis have been proposed:

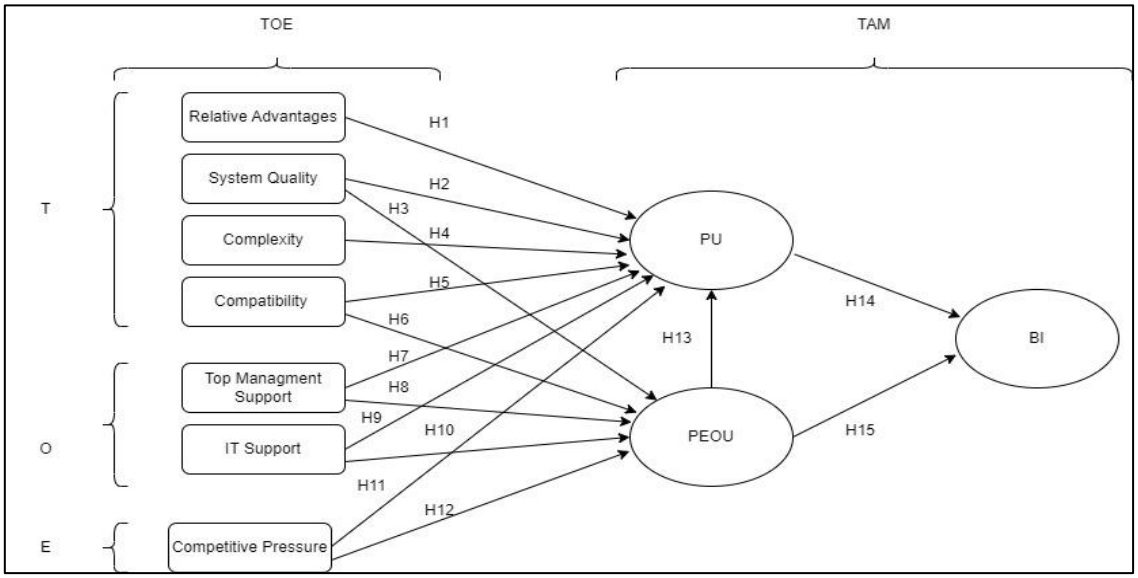
H15: There is significant impact of perceived ease of use (PEOU) on behavioral intention (BI) of EHIS.

1.16 Conceptual Model Design

A theoretical framework, based on the literature mentioned above, is proposed to assess Staff acceptance and satisfaction in Plastination Health care Hospitals. This framework is illustrated in Figure 1. The variables are drawn from previous literature and TAM suggesting a direct influence of these factors on the dependent variables.

Figure 1

Proposed Model



1.17 Operationalization table

This operationalization table lists the precise model components and the indicators that go along with them that are used to evaluate different facets of the acceptability of Health Information Systems (HIS). Certain questionnaire items collected from published research are linked to constructs such as Relative Advantage, Compatibility, Complexity, Top Management Support, IT Support and Training, System Quality, and Competitive Pressure. To ensure a thorough assessment of HIS acceptability criteria, each construct is examined using a variety of indicators. For instance, improved productivity and service quality are indications of the Relative Advantage construct, but information correctness and system stability are components of the System Quality construct. These concepts are essential for comprehending the ways in which various elements impact the uptake and efficiency of HIS in healthcare environments.

Table 1

Operationalization Table: Model Constructs and indicators with references

Construct	Indicator	Item	Q's	References
Relative Advantage	Enhance Services quality	ADV1	Q1	(Abdekhoda et al., 2019)
	Improve Productivity	ADV4	Q4	(Otieno et al., 2007)
	Improve treatment procedures	ADV5	Q5	(Otieno et al., 2007)
	Enhance Communication	ADV6	Q6	(Otieno et al., 2007)
	Reduce Costs and time	ADV7	Q7	(Abdekhoda et al., 2019)
compatibility	IT Infrastructure	COMPT1	Q8	(Abdekhoda et al., 2019)
	Fit to work stile	COMPT2	Q9	
	Fit to job position	COMPT3	Q10	
complexity	Technical Expertise	COMPLX1	Q14	(Abdekhoda et al., 2019)
	Level of Familiarity	COMPLX2	Q13	
	Level of ease of use	COMPLX3	Q11	
Top management support	Level of Providing Resources	TOPS1	Q15	(Abdekhoda et al., 2019)
	Resource Allocation	TOPS2	Q16	
	Management decisions	TOPS3	Q17	
	Management goals and expectations	TOPS4	Q18	
IT Suuport & training (O)	Training	ITS1	Q21	(Aldosari et al., 2018)
	Technical support availability	ITS2	Q19	
	Technological resources	ITS3	Q20	
System Quality	Information accuracy	SQ1	Q22	(Aldosari et al., 2018)
	User friendly	SQ2	Q23	
	Stability	SQ3	Q24	
Competitive Pressure	Awareness of EHIS Adoption by Others	COMP1	Q41	(Abdekhoda et al., 2019)
	Competitive Advantage	COMP2	Q42	
PU		PU1	Q25	(Davis, 1989)
		PU5	Q29	
		PU6	Q30	
		PU7	Q31	
		PU8	Q32	
		PU9	Q33	
PEOU		PEOU1	Q34	
		PEOU2	Q35	
		PEOU3	Q36	
BI		BI1	Q38	
		BI2	Q39	
		BI3	Q40	

Chapter Two

Research Methodology

THIS chapter concentrates on outlining the methodological procedures employed in the research, providing a detailed description of the methods utilized throughout the research process.

2.1 Research Type

THIS research categorized as quantitative research. The relevance of this analysis explains the factors which are linked to each other and outline the case for certain operating events. It is not just about the kinds of "how's" or conditions, but it involves exploring the issues deep into "whys" of the phenomenon being observed (Bentouhami et al., 2021).

TOE and TAM model is a hypothetical conceptual model for the explanatory science; here the factors determining the degree of adoption of technology are described. Indeed, the development of a subjective conception of technology is intimately intertwined with the incorporation of both technological and psychological factors at both the organizational and environmental levels. Apart from these, they make a broad picture about the processes underlie technology adoption, benefiting both the researchers and the practitioners, they guide their comprehension to the own individual acceptance or resistance of the various technologies (Zaineldeen et al., 2020).

2.2 Research design

THIS quantitative study will be conducted in a cross-sectional design using a questionnaire that will be developed, piloted, and assessed for suitability of use in the Palestinian context.

The efficiency in using quantitative research approaches can be heightened as you can study multiple elements like human understanding of technology, health, and relationships with others, TOE factors, and so on. These variables and overall trends, however, can be measured and defined with suitable numbers from which more statistically sound analysis can be conducted using the Likert scale or other statistical techniques.

Moreover, in this type of research we can analyses the hypotheses based on collected data and determine the variable that affecting the assessing of Hospital information system adoption.

the research commences by establishing the research objectives and questions. Subsequently, the study employs a literature review and draws insights from previous studies to enhance comprehension of the research topic. Following this, a questionnaire is developed based on the information gathered from the literature review and the outcomes of the interviews.

2.3 Study population and sample

Bentouhami et al. (2021) defines the population as the specific group of individuals or objects that are the focus of the researcher's examination and interest.

The study will include all Clinical Staff in the northern hospitals in Palestine - specially in Nablus Governorate - who are working directly with EHIS. Using a population of more than 1200 staff and a margin of error of .05, the sample size will be calculated at a 90% confidence interval using the Raosoft sample size calculator. The sample size will turn out to be 220.

In terms of the numbers that selected above, the sample size n and margin of error E are given by:

$$x = Z(^{c}/_{100})^{2} r(100-r)$$
$$n = {}^{N\,x}/_{((N-1)E^{2} + x)}$$
$$E = \mathrm{Sqrt}\left[{}^{(N-n)x}/_{n(N-1)}\right]$$

where N is the population size, r is the fraction of responses:
http://www.raosoft.com/samplesize.html

This study focused on Nablus governorate hospitals selection as a case study, paying particular attention to the categories of medical workers (doctors, radiologists, laboratory technicians, nurses and those working in pharmacies). The research used three hospitals that these e-Health systems operational effectively.

The targeted hospitals were Al-Najah National University Hospital as private sector and Rafedia Hospital as public one because these hospitals are the biggest in this governorate that use EHIS system from different vendor.

2.4 Questionnaire Development

To collect data from hospitals that have implemented EHIS, a questionnaire-based survey method was employed. The questionnaire consisted of two main parts:

- The first part for collect the demographic and practice characteristics of the participants like age, gender, educational Level, training certificates, number of years in practice, place or work, name and sector of the hospital, specialty and job title.
- The second part of the questionnaire delves into the participants' experience and interactions with EHIS. It aims to understand their familiarity, challenges, factors affecting their use of EHIS, and preferences regarding EHIS usage

All the variables and questions identified from the literature review of past literatures which listed in (Table 12) in appendix A.

The two-part questionnaire has been thoughtfully designed to capture comprehensive data, enabling a thorough analysis of participants' experiences with EHIS systems. By utilizing this research instrument, the study aims to gain valuable insights into the effectiveness and usability of the current EHIS, as well as opportunities for enhancement based on user feedback and experiences.

The tool will be assessed for face validity by a panel of experts. The experts will be asked to rate each item in the questionnaire for suitability and relevance on a Likert scale of 1-5 (1 = completely unsuitable/irrelevant, 5 = completely suitable/relevant). Conflicting ratings will be resolved through discussion and consensus.

2.5 Pilot Testing

The researcher conducts a pilot study conducted among approximately 10% of the sample size which approx. 27 participants. The participants of the pilot asked to respond to the questionnaire. The same participants asked to respond to the questionnaire once again. The test-retest reliability of the questionnaire assessed by correlating the responses in the

two rounds. A Pearson’s correlation coefficient was > 0.70 and this indicate acceptable test-retest reliability, also Cronbach Alfa was > 0.90.

2.6 SPSS

The demographic information of the respondents was examined by the researcher using SPSS 21. The organization and interpretation of a number of demographic factors, including age, gender, years of experience, and educational background, were made easier by this software. The research helped to uncover patterns and correlations that might have an impact on the study's conclusions by illuminating how these traits were distributed across the respondents. The thorough analysis of the data made possible by SPSS 21's powerful statistical capabilities ensured that the findings were accurate and trustworthy when it came to making judgments regarding the study participants' demographic makeup.

2.7 Structural Equation Modeling (SEM) and SMART-PLS

This research finds that the explanatory model allows a researcher to understand and predict complex interrelationships in the advancement through the utilization of this approach. On the other hand, partial least squares structural equation modeling (PLS-SEM) is an SEM technique designed to seek out explanations for the greatest variations in dependent latent variables.

As the subject of this study is the PLS-SEM, the first step of the process would be the designing the relationships. Following that, the algorithm proceeds to estimate the model parameters in two steps: hypothesis testing for the measurement model and the structural model.

The most common choice here is SMART-PLS (Partial Least Squares), a statistical software package suited for Structural Equation Modeling (SEM). Studies choose it mainly because it has a user-friendly interface, advanced estimation techniques, and fully equipped analysis functions which enables in depth study of the research objectives. SMART-PLS is very important for modeling complex models with hidden variables and enables researchers to create models and conduct a variety of analyses that require no deep programming experience or knowledge of complex statistical methods.

Iqbal et al. (2021) emphasizes one key advantage of SMART-PLS, its capacity to process small research data efficiently. The inclusion of bootstrapping helps develop strong estimates of relationships of the model even if the sample size is low.

Furthermore, SMART-PLS is also equipped with several tools, like path plots, mediation analysis, moderator analysis, and multigroup analysis. Researchers can capitalize on such functions to examine the accuracy and effectiveness of measurement tools and to examine the hypothesized relationships between variables.

Through the software's detailed graphical displays; transmission and interpretation of outcomes are easier and make it simple for researchers to communicate without jargon. Its adaptability enables both reflective and formative measurement systems, tackling the complexity that is almost always encountered during design and development.

Thus, in addition to these, SMART-PLS is also useful for researchers whose research fields encompass management, marketing, and social sciences. The undergoing research used the SMART-PLS 4 for data analysis.

2.8 Model Modification

At the beginning, the model included 7 constructs of TOE framework. During the research, some issues in the validity and reliability of the model, so the researcher make some modifications which are:

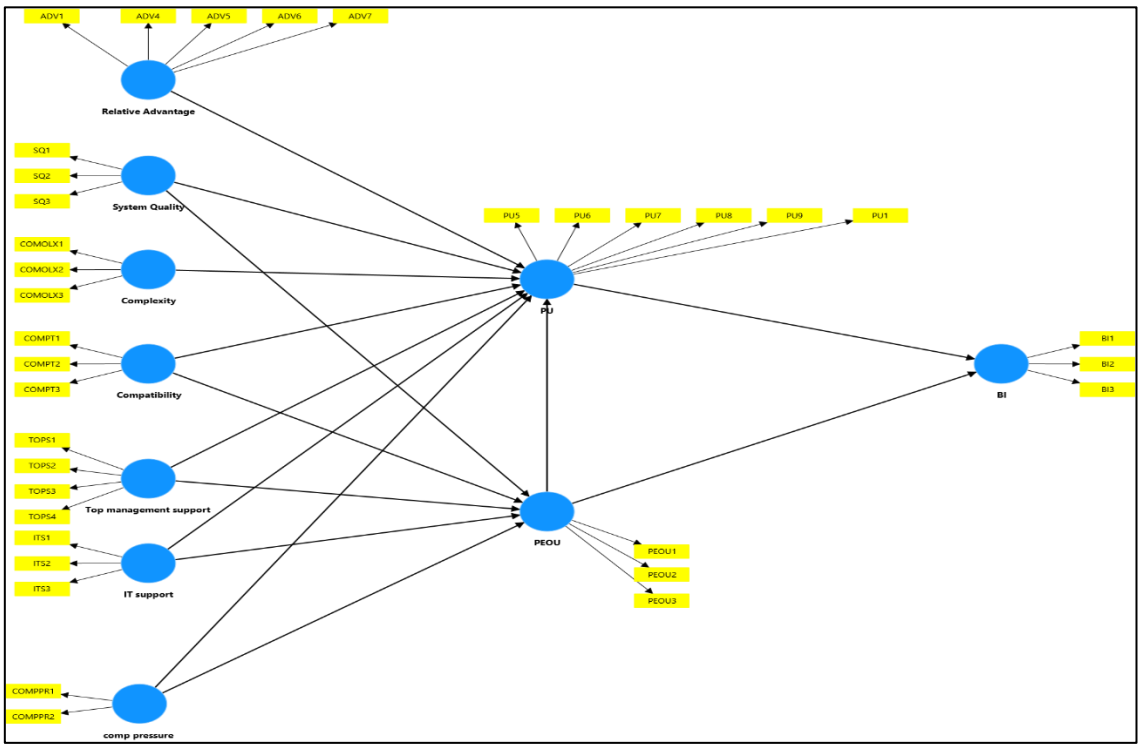
- Deleting of PEOU4 indicator because the outer loading was 0.043 which less than 0.7.
- Deleting some of Relative advantage, PU indicators to enhance some of model criterion.

Overall, Previous studies on analysis using SMART PLS allow deleting up to 20 percent of the model constructs in order to fix such problems in analysis (Hulland, 1999).

After the above simple modifications, the final modified model is illustrated in Figure 2 below.

Figure 2

Final Model



2.9 Outer and Inner Models Analysis

The outer model, called measurement model, in SmartPLS, refers to the connections between the latent variables and item indicators. This is one of the important points for establishing the model reliability and validity. We have several tasks during the external model evaluating. Initially, a factor analysis time is conducted with focus on the outer loadings, which clearly explain the indicator reliability. Increased weight ratings mean better reliability and robustness. Besides that, internal consistency reliability of observable latent variables is appraised by the way of Composite Reliability (CR) and Cronbach's α, both of which should be above 0.7 for a valid attribute (Sarstedt et al., 2017).

Along with convergent validity - measuring the degree to which an indicator correlates positively with other indicators of the same construct - is one of the main criteria for assessing the reliability of studies. Accordingly, the value of AVE (average variance extracted) which is a measure of convergent validity and it should always be greater than 0.5. Discriminant validity which measures the degree of separating a construct with other

is tested using criteria like Fornell Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. In discriminant validity, there is no mixing of different ideas and repeated measures, otherwise the reliability of the study's findings will be at risk.

To conclude, the outer modeling step in SmartPLS is concerned with providing evidence for the reliability and validity of utilized measures, which constitutes a key prerequisite for any Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis that should be approached with diligence.

Smart-PLS also includes a structural model investigation, which is the internal model. This inner model analysis reflects the relations between the latent variables. Generation of hypothesis becomes one of the main stages in the period. There are two types of latent variables in a structural model: In narrative or descriptive prose case study lays stress on arithmetic or qualitative with relationships direct, indirect or total.

Direct effects (both tolerances and dependencies) represent a direct relationship between two latent variables, while indirect effects are brought on by some intervening variables.

Model testing is conducted by inspecting the variables correlations with each other values, in the regression model where collinearity takes place when VIF goes up above 5.

2.10 Measurement model: validity and reliability

Variable's validity and reliability are essential statistics in order to be taken in consideration when assessing measurement conceptual models. in this stage we aim to test the validity and internal consistency of the variables of the conceptual model by using Cronbach's alpha and composite reliability for reliability testing and convergent and discriminant for validity tests. based on General and well-known rule for a good indicator of reliability Cronbach's alpha value must be 0.7 or above this also for Composite reliability and it's used to double-check the internal consistency of the variables.

Measurement validity is a significant side that must be taken in consideration. Also, discriminant and convergent validity analysis are popular measures to estimate the indicators validity and their constructs.

In addition to conventional statistical measures used for determining the discriminant validity of construct functions in the research, the research also used the heterotrait-

monotrait ratio of correlations (HTMT) method. The inclusion of Dimensionality analysis technique in the study explains the extent the unique measures for each component are independent from each other. Through the process of finding the respective combinations of the constructs with an equal weight to the within each construct correlations the ratio would then determine the level of discriminant validity. As the HTMT ratio is lower than the value 1, it means disparity is manifested in constructs, hence proves that discriminant validity has been demonstrated.

Chapter Three

Data Analysis and Results

3.1 Overview

This chapter illustrates the qualitative and quantitative data collected from the questionnaire to help in the interpretation and presentation of research findings addressing the research questions. Particular analytical tools applied are described to building explanations and drawing conclusions from the data. The outcomes follow an attentive plan, with the model supporting the study's hypothesis examined and reliability tested. Relation is given a deep dive as compared to the existing system of EHIS acceptance mainly by healthcare providers. This involves application the integrated model of TOE framework factors and TAM factors.

The researcher's results for the Skewness and Kurtosis tests showed that the data's distribution is reasonably symmetrical and does not show any extreme departures from normalcy, with Skewness falling between -2 and +2 and Kurtosis falling between -7 and +7. The data exhibits no discernible skewness, with Skewness values ranging from -2 to +2, suggesting a reasonably balanced distribution. The data does not appear to have overly heavy or light tails, according to Kurtosis values between -7 and +7, which also point to a distribution that is neither too peaked nor too flat.

3.2 Characteristics of the study participants

This section includes a descriptive analysis of the study participants, which provides insights into the sample population's characteristics. The study had a total of 220 participants, all from different backgrounds and demographics.

The researcher used Linear Regression and the One-Way ANOVA Test to investigate statistical differences among study participants. These statistical approaches were used to determine whether the observed distribution of values for each variable category differed from a predetermined distribution.

As showed in Table 2 The gender distribution among responders was fairly equal, with 99 identifying as female (45%) and 121 as male (55%). The majority of respondents were between the ages of 30-39 (53%), followed by the 20-29 age group (32%), with lesser

amounts in the 40-49 age group (14%), and the 50-59 age group (1%). The sample comprised mainly up of people with bachelor's degrees (71%), with a smaller number of respondents earning master's degrees (22%), and diplomas (7%).

Regarding the responder Physicians (25%), nurses (41%), medical secretaries (5%), pharmacists (7%), laboratory technicians (13%), and radiologists (9%) each had various positions. In terms of training, (46%) reported receiving it, while (54%) said they had not. This complete overview sheds light on the different composition of the respondent participants, which is critical for understanding their viewpoints and experiences.

Table 2

Descriptive of respondents

Category	Sub-category	Frequency (n)	Percent (%)
Gender	Female	99	45.0
	Male	121	55.0
Age (years)	20-29	70	31.8
	30-39	116	52.7
	40-49	32	14.5
	50-59	2	0.9
Educational qualification	Diploma	15	6.8
	Bachelor	156	70.9
	Master	49	22.3
Job	Physicians	56	25.5
	Nurses	89	40.5
	Medical Secretaries	11	5.0
	Pharmacist	16	7.3
	Laboratory technicians	29	13.2
	Radiologists	19	8.6
Training	Yes	101	45.9
	No	119	54.1

Table 13 showed in Appendix A includes questionnaire response from healthcare workers about their perceptions and experiences with Electronic Medical Records (EMR) and EHIS. The responses follow a Likert scale, ranging from strongly disagree to strongly agree. Analysis of the responses offers information about many elements of EMR/EHIS

uptake, usefulness, and perceived advantages. For example, while a significant number of respondents believe that EMRs have enhanced the quality of their work and job performance, there are concerns about system complexity and the mental effort necessary for adoption. Furthermore, the chart emphasizes the significance of organizational support, such as senior management and IT department assistance, in supporting EMR implementation.

3.3 Descriptive analysis for responses

The following tables show means values, and standard deviations, for all indicators. A higher mean value of a response indicates more level of agreement with the indicator whereas the lower standard deviation of the responses means a smaller variance.

1- Relative Advantage Response

Table 3

Results of the descriptive analysis for Relative Advantage

	Indicator	Mean	Standard deviation
ADV1	Enhance Services quality	4.127	0.852
ADV4	Improve Productivity	4.081	0.745
ADV5	Improve treatment procedures	4.163	0.761
ADV6	Enhance Communication	4.050	0.732
ADV7	Reduce Costs and time	4.122	0.717
	Total Score	4.109	0.761

- The above table shows high level of agreement for Improve treatment procedures indicators and the lower for Enhance Communication.
- The above table shows high level of variance for Enhance Services quality indicators and the lower for Reduce Costs and time.

Since all standard deviation less than 1, it can be concluded that there is a homogeneous perception of all indicators.

2- Compatibility Response

Table 4

Results of the descriptive analysis for Compatibility factor

	Indicator	Mean	Standard deviation
COMPT1	IT Infrastructure	4.077	0.698
COMPT2	Fit to work stile	4.109	0.677
COMPT3	Fit to job position	4.023	0.721
Total Score		4.070	0.699

- The above table shows high level of agreement for Fit to work stile indicators and the lower for Fit to job position.
- The above table shows high level of variance for Fit to job position indicators and the lower for Fit to work stile.

Since all standard deviation less than 1, it can be concluded that there is a homogeneous perception of all indicators.

3- Complexity Response

Table 5

Results of the descriptive analysis for Complexity factor

	Indicator	Mean	Standard deviation
COMOLX1	Technical Expertise	2.629	1.203
COMOLX2	Level of Familiarity	2.525	1.140
COMOLX3	Level of ease of use	2.674	1.212
Total Score		2.609	1.185

- The above table shows high level of agreement for Level of ease-of-use indicators and the lower for Level of Familiarity.
- The above table shows high level of variance for Level of ease-of-use indicators and the lower for Level of Familiarity.

4- Top management support Response

Table 6

Results of the descriptive analysis for Top management support factor

	Indicator	Mean	Standard deviation
TOPS1	Level of Providing Resources	4.109	0.671
TOPS2	Resource Allocation	4.131	0.642
TOPS3	Management decisions	4.100	0.645
TOPS4	Management goals and expectations	4.140	0.619
Total Score		4.120	0.644

- The above table shows high level of agreement for Management goals and expectations indicators and the lower for Management decisions.
- The above table shows high level of variance for Level of Providing Resources indicators and the lower for Management goals and expectations.

Since all standard deviation less than 1, it can be concluded that there is a homogeneous perception of all indicators.

5- IT Support and training

Table 7

Results of the descriptive analysis for IT Support and training factor

	Indicator	Mean	Standard deviation
ITS1	Training	4.045	0.723
ITS2	Technical support availability	3.900	0.866
ITS3	Technological resources	3.729	0.997
Total Score		3.891	0.862

- The above table shows high level of agreement for Training indicators and the lower for Technological resources.
- The above table shows high level of variance for Technological resources indicators and the lower for Training.

Since all standard deviation less than 1, it can be concluded that there is a homogeneous perception of all indicators.

6- System Quality

Table 8

Results of the descriptive analysis for System Quality factor

	Indicator	Mean	Standard deviation
SQ1	Information accuracy	3.991	0.705
SQ2	User friendly	3.900	0.807
SQ3	Stability	3.566	1.012
Total Score		0.3819	0.841

- The above table shows high level of agreement for Information accuracy indicators and the lower for Stability.
- The above table shows high level of variance for Stability indicators and the lower for Information accuracy.

Since all standard deviation less than 1, it can be concluded that there is a homogeneous perception of all indicators.

7- Competitive Pressure

Table 9

Results of the descriptive analysis for Competitive Pressure factor

	Indicator	Mean	Standard deviation
COMPPR1	Awareness of EHIS Adoption by Others	4.045	0.637
COMPPR2	Competitive Advantage	4.027	0.652

- The above table shows high level of agreement for Awareness of EHIS Adoption by Others indicators and the lower for Competitive Advantage.
- The above table shows high level of variance for Competitive Advantage indicators and the lower for Awareness of EHIS Adoption by Others.

Since all standard deviation less than 1, it can be concluded that there is a homogeneous perception of all indicators.

8- PU, PEOU and BI Response

Table 10

Results of the descriptive analysis for PU, PEOU and BI Response

Variables	Mean	Standard deviation
PEOU1	3.995	0.702
PEOU2	4.027	0.749
PEOU3	4.059	0.667
PU1	4.032	0.682
PU5	3.873	0.726
PU6	4.113	0.632
PU7	4.054	0.657
PU8	3.986	0.746
PU9	3.991	0.718
BI1	3.973	0.672
BI2	3.950	0.720
BI3	3.946	0.670

Since all standard deviation less than 1, it can be concluded that there is a homogeneous perception of all indicators.

3.4 Associations between demographics variables with scores

3.4.1 According to Gender

In this study, both males and females were surveyed, pushing the researcher to use the t-test method to study the statistical differences between the two genders. As shown in Table 3 and based on the analysis, there were no statistically significant variations in male and female awareness or perception of the factors under assessment. In other words, both men and women had comparable levels of knowledge or understand of these factors.

3.4.2 According to Educational level

The present research covers participants whose educational levels are classified into three categories: diploma degree, bachelor degree, and graduate studies. The researcher employed the one-way ANOVA method to study the statistical differences between the three levels of the qualification variable and other research variables.

As shown in Table 3 and concluded from the analysis, there are no significant statistical differences among participants based on Educational Level for Complexity, TOPS (Top management support), ITS (IT support), SQ (System Quality), PU (Perceived usefulness), PEOU (Perceived ease of use), and BI (Behavioral intention) ($p > 0.05$). However, there are significant statistical differences among participants based on their educational level in terms of relative advantage, compatibility, and competitive pressure ($p < 0.05$).

- According to Relative advantage: based on Table 3 it seems that Postgraduate are more perceived about the Relative advantage and consider its importance in EHIS acceptance (mean equals 21.7) more than Diploma and Undergraduate (mean equals 20.2).
- According to compatibility: based on Table 3 it seems that Postgraduate also are more perceived about the system compatibility and consider its importance in EHIS acceptance (mean equals 13.1) more than Diploma and Undergraduate (mean equals 12.0 and 12.1).
- According to competitive pressure: based on Table 3 it seems that Postgraduate also are more perceived about the competitive pressure effects and consider its importance in EHIS acceptance (mean equals 8.4) more than Diploma and Undergraduate (mean equals 7.9 and 8.0).

3.4.3 According to Job Title

Participants in this study were classified into six job categories: nurse, medical secretary, physician, radiology technician, laboratory technician, and pharmacist. Using the One-Way ANOVA approach, the researcher investigated the statistical differences between model variables and job titles. The analysis found no statistically significant differences between participants based on their job roles in terms of Complexity, TOPS, SQ, PU, Relative Advantage, Compatibility, Competitive Pressure, and BI ($p > 0.05$). There were

significant statistical differences among participants based on their knowledge in ITS and PEOU ($p < 0.05$).

As we can see from the Table 3 and according to IT support the researcher found that the medical secretaries are more perceived about the IT support effects and consider its importance in EHIS acceptance (mean equals 12.9) more than other job titles. Regarding to PEOU the researcher found that the Nurses are more perceived about the PEOU effects and consider its importance in EHIS acceptance (mean equals 12.9) more than other job titles.

3.4.4 According Age

THIS study included people aged 20-29, 30-39, 40-49, and 50-59 years. The researcher used the One-Way ANOVA approach to evaluate statistical differences between the four levels of the age variable. The analysis revealed significant statistical differences between participants' ages in terms of Relative Advantage, Compatibility, Competitive Pressure, Complexity, TOPS, ITS, SQ, PU, PEOU, and BI.

The mean of age is 32.8.

3.4.5 According Years of experience.

One-way ANOVA tests were used to investigate the relationship between participants' experience years and other dependent variables. The investigation indicated significant statistical differences among participants in terms of their years of experience with Relative Advantage, Compatibility, Competitive Pressure, TOPS, SQ, PEOU, and BI. The results showed no significant statistical differences among participants based on experience years for ITS, SQ, PU and Complexity.

Table 25 (in Appendix) and Table 3 show full details about these statistical differences.

3.4.6 According Formal computer training

One-way ANOVA tests were used to investigate the relationship between participants' Formal computer training and other dependent variables. The investigation indicated significant statistical differences among participants in terms of training with Relative Advantage, Competitive Pressure, Top management support, System Quality, System Quality, Perceived Usefulness. The results showed no significant statistical differences

among participants based on computer training for Perceived ease of use PEOU, BI, compatibility band Complexity.

Table 25 (in Appendix A) and Table 3 show full details about these statistical differences.

3.5 Measurement Model and outer loading results

Within the framework of Structural Equation Modeling (SEM) or partial least squares (PLS) analysis, the measurement model evaluates the connections between indicators and their latent variables, which represent constructs. It ensures that the measurement indicators accurately reflect the constructs they aim to represent.

Common checks performed using the PLS algorithm button on Smart PLS include assessing outer loadings, reliability, validity, and overall model fit.

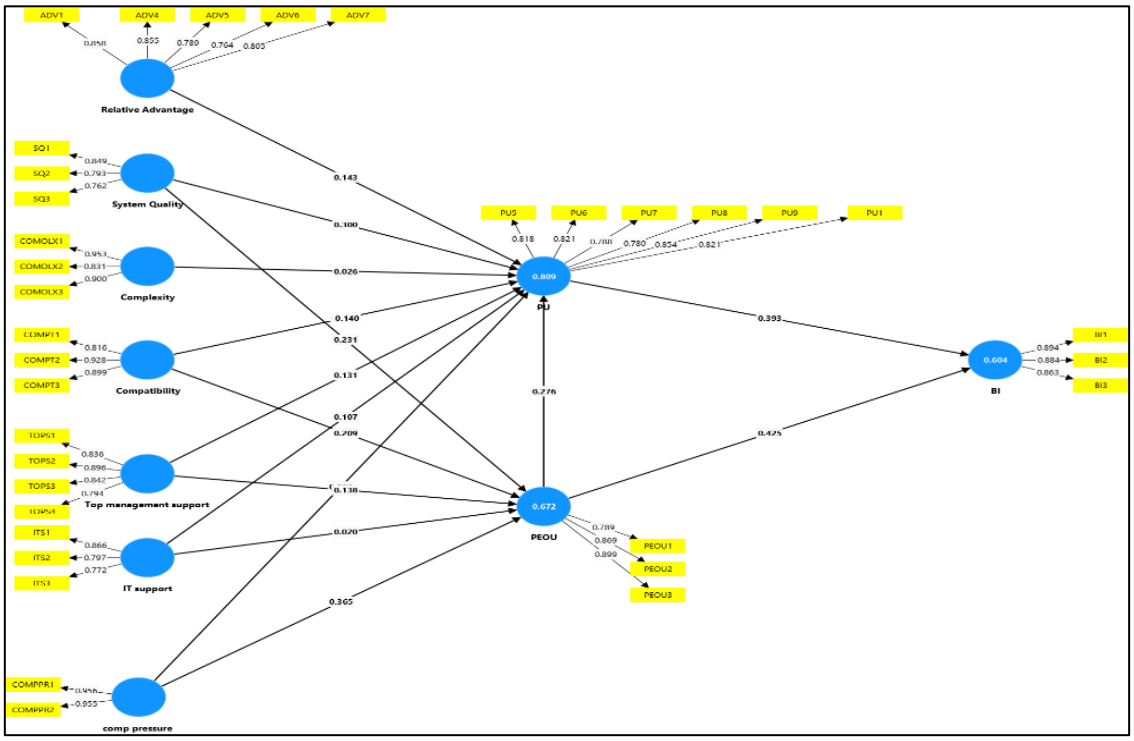
- Reliability checks concentrate on the consistency and stability of the measurement indicators, employing methods such as Cronbach's alpha and composite reliability.

- Validity checks confirm that the measurement indicators effectively measure the intended construct, employing techniques such as Convergent validity, Discriminant validity and cross-loading.

- Model fit checks determine how well the measurement model fits the data, typically evaluated using metrics like Standardized Root Mean Squared Residual (SRMR).

Figure 3

Measurement Modell



High outer loadings mean the observed variables are highly correlated with their respective latent variable and they therefore have high proportion of common variances. The fact that the observed variables do well job to reflect on the lent construct is an advantage because good indicators.

Outer loadings have values that range from -1 to 1. If the absolute value gets closer to 1, then the relation between the dependent variable and its covert variable becomes stronger.

Table 14 in appendix A shows the results for outer loading results.

3.6 Internal consistency

There are a number of measures to assess reliability:

- Cronbach alpha is one of the most popular one which is expressed as the correlation among the indicators and the construct being measuring, and is indicative of the indicators which are truly contents and also unambiguous. Any coefficient of determination greater than 0.7 would be accepted (Hair et al., 2019).

- The other measures of internal consistency are composite reliability which is the overall measure and tool used to decide the consistency of a construct or the very dependable measure. Moreover, such as Cronbach an acceptable factor loads higher than 0.7 is universally accepted (Hair et al., 2019).
- The third one is AVE. It can be really used to calculate reliability that is with a cut-off value of 0.5, and then, if so, the construct has almost no measurement errors (Voorhees et al., 2016).

3.6.1 Cronbach's alpha

Cronbach's alpha assesses the correlation among items within a scale by the given value which ranges from zero to one. This means that the higher score for it is the sign of a better coherence in the questionnaire tool. A score of 1 is the best possible reliability, which means that all items of the questionnaire are directly connected, and measure 1 underlying aspect.

Table 15 in the appendix A illustrates the alpha values for research model, all values are above the threshold of 0.7 indicates that constructs are reliable due to alpha method.

3.6.2 Composite reliability

Composite reliability is an index of assessing the overall reliability of the constructs or construct factors in Structural Equation Modeling and Confirmatory Factor Analysis. The extent is measured to which the items of the measurement model or the indicators that are included contribute to the overall reliability of the construct.

Unlike Cronbach's Alpha, Composite Reliability takes factors such as variable loadings of all indicators into account. The reliability coefficient is calculated by taking into account the amount of common variance, which shows the overlapping extent among the construct and its indicators. In other words, the composite reliability is the amount of common variance that can be interpreted between the indicators and the construct.

Table 16 in the appendix A is the composite reliability values for research model, all values are above the threshold of 0.7 indicates that constructs are reliable due to composite reliability.

3.6.3 Average Variance Extracted (AVE)

AVE is a vital measurement for studying reliability and convergent validity in SEM. It shows how much of the variance in the indicators of a construct can be explained.

Calculation is done by taking the arithmetic mean of the squared correlations for each indicator related to the construct being examined. It is amount of variance in indicators that associated with the construct. The higher the AVE values; the more reliability levels will be also higher. This can be translated into suggesting that those accountable is nothing short of the object being review.

Greater values of AVE show greater convergent validity, while lower value indicate low convergent validity.

Table 17 in the appendix A represents the values of AVE. all of them are above the threshold of 0.5.

3.7 Validity

Furthermore, it is also necessary to ascertain the validity of the model to ascertain whether a certain construct measure is what it is purported to measure or not. Among the 3 concepts, HTMT refers to the association of discriminant validity and shows that models include constructs, which are different from other constructs. Besides that, you can also check the discriminant validity here, by comparing correlations with other constructs, here it is said that that the discriminant validity is established if every construct has the highest correlation with the value on the same row in Fornell-Larcker matrix(Fornell & Larcker, 1981).

Table 18 in the appendix A represents Fornell-Larcker matrix for constructs relations, with the look on the diagonal values it found that it is the largest in the same column indicates that validity is established (Fornell & Larcker, 1981).

3.8 Multicollinearity Test

Multicollinearity, which influence results and interpretations obtained from the PLS model in SmartPLS, must be considered. There could be multicollinearity among the predictors which results in unstable regression coefficients and high standard error estimates. These factors set a lower standard of reliability of the model. It is vital to

identify linearities before PLS is performed in order to obtain appropriate results. VIF showed a strong tendency to collinearity of the predictor variable. All VIF values which are introduced Table 19 appendix A are lower than 5 – default collinearity threshold – (Hu & Bentler, 1999)which confirms that there is no multicollinearity problem in the data.

3.9 Model Fit

The model fit is a relying measure used to conclude the model ability of fitting data and to be credibility for generalizing a result. There are different model fit indices for different statistical types that are used such as CB-SEM or PLS-SEM and the indices which are applied to the first cannot be applied to the second, as the measures based on Chi square which (Hair et al., 2019) recommended that it should not be used in PLS-SEM. In Smart PLS 4, the SRMR index which is an acronym of Standardized Root Mean Square Residual, the mean absolute value of the covariance residuals has been calculated. A value below 0.1 or around 0.08 will be considered a perfect fit (Hu & Bentler, 1999).

The depicted value in table 20 in appendix A of the SRMR is 0.075 which is lower than the threshold hence our model fit is acceptable.

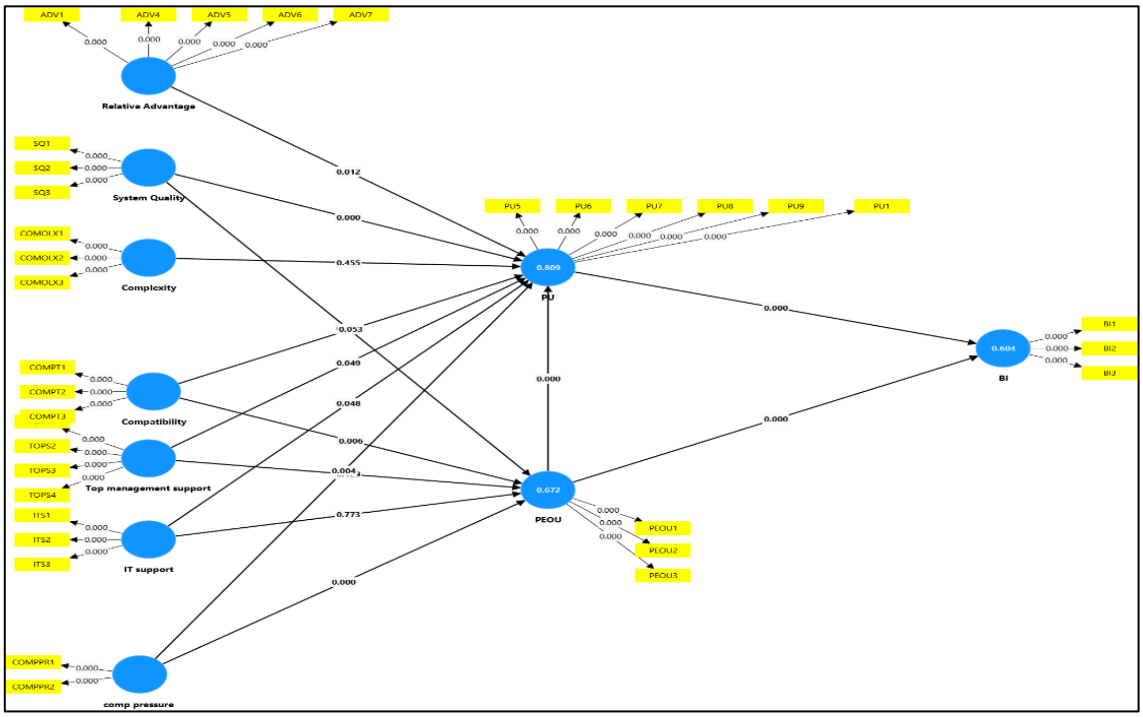
3.10 Assessment of the Structural Model

R^2 is called Predictive Power, and it is a form of expressing relationships between variables in the model and the extent to which the variables entered into a specific construct express this construct. All values which are illustrated in Table 21 in Appendix A in the appendix is valid and above 0.2 threshold value. The meaning of the value of BI represents that (60%) of the construct is due to the constructs of PU and PEOU. The same thing can be said about PEOU which (67.2%) consists of system quality, compatibility, top management support, IT support and competitive pressure. And this also applied for PU which is (80.9%) of the variance and it is due to relative advantage, system quality, complexity, compatibility, top management support, IT support and competitive pressure.

F^2 **test**, is a statistical test used to determine if there are significant differences between the variances of two or more groups. All values which are illustrated in Table 27 in appendix A shows test result

Figure 4

Structural Model



3.11 Testing Hypotheses

When assessing the strength of the relationship between the constructs, it is critical to examine some of measurement values which are:

- Path coefficient
- P values

The values for these indicators indicate whether or not the association is significant. Path coefficients equal to or more than 0.1 indicate a strong link, and p values must be less than the first category of error, which in this case is 0.05 (Hu & Bentler, 1999).

Table 22 in Appendix A depicts the model's relationships with its p values and path coefficients.

1. Supported Relationships (Strongest to Weakest):

- PEOU ➔ BI:

P-value: 0.000

Path Coefficient: 0.425

THIS relationship has both a significant p-value and a relatively high path coefficient, indicating a strong (+) relationship between perceived ease of use (PEOU) and behavioral intention (BI).

- PU ➔ BI:

P-value: 0.000

Path Coefficient: 0.393

Like PEOU -> BI, this relation exhibits a substantial P-value and a high path coefficient, indicating a strong (+) relationship between perceived utility (PU) and behavioural intention (BI).

- System Quality ➔ PU:

P-value: 0.000

Path Coefficient: 0.300

The relation also has a significant p-value and a moderate path coefficient, showing a strong (positive) relationship between system quality and perceived usefulness.

- PEOU ➔PU:

P-value: 0.000

Path Coefficient: 0.276

Considering a significant p-value and a moderate path coefficient, this relation implies a strong (+) relationship between perceived ease of use PEOU and PU.

- Competitive Pressure ➔PEOU:

P-value: 0.000

Path Coefficient: 0.365

The relationship has a substantial p-value and a moderately high path coefficient, demonstrating a strong (+) relationship between competitive pressure and perceived ease of use PEOU.

- Compatibility -> PEOU:

P-value: 0.006

Path Coefficient: 0.209

The relationship above, while slightly weaker than the others, nevertheless has a significant path coefficient and a significant p-value, suggesting a high (+) correlation between compatibility and perceived ease of use PEOU.

- System Quality ➔ PEOU:

P-value: 0.001

Path Coefficient: 0.231

The link between system quality and perceived ease of use (PEOU) is strong (+), with a substantial p-value and a moderate path coefficient.

- PU ➔BI:

P-value: 0.000

Path Coefficient: 0.393Even though it has already been discussed, it is important to note that there is a strong positive correlation between BI and PU, as evidenced by the moderate path coefficient and significant p-value supporting PU -> BI.

- Relative Advantage ➔PU:

P-value: 0.012

Path Coefficient: 0.143

The relationship has a significant p-value, indicating a substantial positive association between relative advantage and PU, even if its path coefficient is smaller than those of the other relationships.

- Top management support ➔ PU:

P-value: 0.049

Path Coefficient: 0.131

Although the link is significantly weaker, it still has a moderate path coefficient and a significant p-value, suggesting that perceived usefulness (PU) and top management support have a strong positive relationship.

- IT support ➔PU:

P-value: 0.048

Path Coefficient: 0.107

The relationship is substantiated by a substantial p-value, indicating a strong positive correlation between IT support and perceived usefulness (PU), despite having a slightly smaller path coefficient.

- Competitive Pressure ➔ PU:

P-value: 0.004

Path Coefficient: 0.225

THIS link has a significant p-value and a moderate path coefficient which indicating a strong positive relationship between competitive pressure and perceived usefulness (PU).

2. Not Supported Relationships:

IT support -> PEOU

Complexity -> PU

Top management support -> PEOU

Compatibility -> PU

Chapter Four

Discussions, Conclusions and Recommendations

4.1 Overview

In this chapter, we summarize the key conclusions reached from the examination of the data and findings gathered during the study process. In response to the research questions and objectives, we identified critical findings that provide light on the acceptability of EHIS within healthcare organizations. Our findings offer light on the elements that influence EHIS acceptance, the problems that users experience, and potential techniques for increasing acceptance and utilization.

The study indicators were found to be highly important for their corresponding constructs as shown in Table 23 in appendix A with 0000 P-value, and this complies with the literature. For example, it was found that Enhance Services quality, Improve Productivity, improve treatment procedures, Enhance Communication and Reduce Costs and time are highly related to the construct of relative advantage. The same thing can be said about other constructs indicators.

4.2 Discussions on Participants Demographic analysis

The descriptive analysis of participant characteristics gives useful information about the sample population's makeup and demographics. The study, which included 220 participants from various backgrounds, aimed to analyze statistical differences between them using Linear Regression and One-Way ANOVA testing.

The gender distribution was almost equal, with (45%) women and (55%) men. The majority of participants were between the ages of 30 and 39, with those aged 20 to 29 ranking in second. The majority had bachelor's degrees (71%), with a lesser minority having master's degrees (22%), and diplomas (7%). Several job roles were represented, with physicians (25%) and nurses (41%) being the most common.

The results of statistical research showed that there were no statistically significant differences between the knowledge or perception of factors between males and females, indicating equivalent levels of understanding among both genders. These findings are

consistent with earlier research that found similar attitudes and perspectives between the sexes (Smith et al., 2021).

While there was no significant statistical variance in educational qualification across specific factors, such as complexity, TMS, and system quality, significant variances seen in terms of relative advantages, compatibility, and competitive pressures. Postgraduate participants showed heightened awareness and perceived importance of these factors, indicating that their higher educational backgrounds encourage deeper insights into EHIS acceptance. These results align with Kutney-Lee et al. (2013) who emphasized the role of educational background in shaping healthcare professionals' perceptions of EHIS, suggesting that customized interventions based on educational levels could enhance EHIS acceptance.

In addition, an analysis of job titles showed some unexpected patterns. There were notable variations in the participants' assessments of IT support and perceived ease of use PEOU, although no significant variances were observed in a number of categories, such as complexity and top management support. These results indicate that certain worker types, including nurses and medical secretaries, might be more aware of the technological capabilities and usability of EHIS, requiring focused interventions and training strategies. These results synchronize with (Baumann et al., 2018).

The analysis of statistical variances based on years of experience and age improves our understanding. Significant variations were found across several variables, demonstrating that age and experience are important determinants upon forming opinions about EHIS acceptability. Younger participants with fewer years of experience showed unique attitudes and preferences, highlighting the significance of customized interventions catering to diverse demographic sections.

The results also indicated a considerable variation in the participants' perceptions of formal computer training, with respect to relative advantage, competitive pressure, top management support, system quality, and IT assistance. These findings highlight the need to include targeted training programs and educational campaigns focused at increasing knowledge and understanding of EHIS acceptability factors (Holden & Karsh, 2010).

4.3 Discussions on Hypotheses Testing

The research investigated the elements influencing employees' acceptance to use EHIS in Palestinian hospitals. A range of healthcare workers, including physicians, nurses, medical secretaries, lab technicians, radiology technicians, and pharmacists, provided the data. For this goal, fifteen hypotheses were constructed; the supported and not supported hypotheses are shown in Table 24 in appendix A. As a result, the analysis shows that hypotheses H1, H2, H3, H6, H7, H9, H11, H12, H13, H14 and H15 are accepted. In contrast, it was discovered that hypotheses H4, H5, H8 and H10 lacked evidence.

The results validated the evidence for Hypothesis 1 (H1), showing that relative advantage has a favorable and significant impact on perceived usefulness (PU). The case study carried out by Gholami et al. (2018) serves as an example of this claim and emphasizes the significance of technological factors like relative advantage in judging the perceived superiority of an innovation over current approaches or solutions. These results also support the findings of Zhang et al. (n.d.), who highlight the expected positive impacts on perceived usefulness (PU) based on perceptions of the relative advantage of the target technology and argue that minimal relative advantage leads to lower perceived benefits.

The findings indicate that system quality apply a positive and statistically significant effect on PU and PEOU therefore H2 and H3 are supported and this result is in accordance with previous study results like "Influence of Service Quality of E-Commerce Websites on Customers' Trust, Commitment and Loyalty" by Sharma & Bahl (2018) which identified the design of the system as a precursor to system quality. In their study, they observed a remarkable association between system design, system quality, and customer perceived usefulness PU. Furthermore, Komiak & Ilyas (2010) said that the expected significant positive relationship in the PSQ construct is likely to have an impact on the perceived Ease of Use PEOU of the system.

Interestingly, no significant association was found between system complexity and perceived usefulness PU, implying that Hypothesis 4 is not supported. This finding contrasts with previous study results by Abdekhoda et al. (2019), who identified information system complexity as a barrier to technology adoption, especially when consumers recognize the major effort necessary for learning and implementation. The sample used in this study may have contributed to this difference. Furthermore, users may

believe that the system's benefits or utility outweigh its complexity. As a result, people may be ready to tolerate some complexity if they believe the system provides significant benefits in terms of usefulness, efficiency, or effectiveness.

The relationship between the compatibility and PU is also insignificant Hence, H5 is not supported too. This result contrasts with previous study results by Dasgupta et al. (1999) who conclude that there is importance of perceived consistency between the innovation and the values, past experiences, and needs of individuals or entities who might potentially adopt it. Also, these contrasts with Gangwar et al. (2015b) which suggest that the perceived alignment of a new technology with existing systems and user needs not only affects how easy it is perceived to use but also influences its perceived usefulness.

The lack of a major impact of compatibility on perceived usefulness (PU) in specific circumstances can be attributed to a variety of variables, including: Users might prioritize other factors, such as system functionality, performance, or ease of use, beyond compatibility when assessing the usefulness of the system. If users believe the system is useful and efficient in achieving desired results, they may place less importance on its compatibility with other systems. Alternatively, the effect of compatibility on perceived usefulness might vary based on the specific tasks or purposes for which the system is designed. While compatibility is important for jobs that require integration with existing systems, it may be less relevant for actions that may be completed separately or within the new system.

On the other hand, the results indicate that compatibility has a significant impact on PEOU Therefore, H6 is supported. This is similar with the results achieved through previous reviewed research (Gangwar et al., 2015b).

Regarding Top management support construct the result indicates that there is significant relation with PU therefor H7 is supported. On the other hand, there is insignificant relation between top management support and PEOU thus H8 not supported. These results support the findings of Yandemye & Nimubona (n.d.) who found that top management support can enhance users' confidence in the technology and diminish uncertainty during its utilization. Furthermore, supportive management may furnish users with essential resources and training to improve the utilization of EHIS, thereby augmenting its PU, although its impact on PEOU remains uncertain.

Regarding IT department support construct the result indicates that there is significant relation with PU therefor H9 is supported. On the other hand, there is insignificant relation between IT department support and PEOU thus H10 not supported.

H9 result status come consistent with the results of previous research, as Eason & Waterson (2013) who found that a robust technology infrastructure is essential for supporting e-health systems. When healthcare providers utilize computers with internet connectivity in their interactions with patients, it enhances PU.

On the other hand, H10 Result was in contradiction to previous results. The sample used in this study may have contributed to this difference. Furthermore, the perceived ease of use of the system may be primarily determined by its design, interface, and features rather than the availability of IT support. Even with robust IT support, users may still perceive the system as difficult to use if it lacks intuitive design, clear navigation, or user-friendly features.

Competitive Pressure has a significant impact on the both PU and PEOU of EHIS using. Therefore, H11 and H12 is supported. Crystal Jiang et al. (2015) also contains this result in EHIS study on Mapping the intellectual structure of e-Health and also Moucheraud et al. (2017) found that in response to competitive pressures, organizations frequently implement comprehensive employee training and support initiatives because this directly contributes to positive perceptions through PEOU, as employees find the technology more accessible.

The findings of this study validate the significant and positive relationships among the TAM factors of PU, PEOU, and BI. These findings are consistent with previous research in the TAM domain, particularly the groundbreaking research conducted by (Davis, 1989). Within this particular context, it may be inferred that employees' perceptions of the usability and simplicity of use of EHIS are correlated. According to the same reasoning, employees' intentions to utilize EHIS are also likely to increase when they believe it to be useful and easy to use. So H13, H14 and H15 are supported.

4.4 Conclusions

To summarize, this study examined the variables affecting Palestinian hospital staff members' acceptance of EHIS, using information from a range of medical specialists from public and private sector of Nablus hospitals in northern west bank. There were fifteen hypotheses presented, some of which had evidence and others of which did not. The analysis revealed that while the hypotheses regarding system compatibility and complexity lacked evidence, the ones regarding competitive pressure, system quality, relative advantage, top management support, and IT department support were found to be accepted.

The TAM and TPB were merged into an integrated model for the study, along with seven new factors that were discovered after a careful review of the literature. This hybrid approach allowed for a more in-depth examination of the factors influencing the acceptability of EHIS by Palestinian hospital employees. The framework for examining consumers' behavioral intentions about the adoption of new technologies was established by Davis's TAM paradigm from 1989. Meanwhile, the TPB, which provided insights into the influence of subjective norms and perceived behavioral control on behavioral intentions, supplemented the TAM categories of PU and PEOU.

After a thorough review of the literature, seven key constructs were introduced through the integration of these models. Variables including relative advantage, system quality, compatibility, system complexity, IT department support, top management support, and competitive pressure were probably included in these structures. Every idea was selected by considering its importance and applicability in past research on the adoption and reception of technology in healthcare environments.

The information demonstrates a distinct pattern in the strength of hypotheses concerning the TAM elements. The most highly supported theory is the one that relates TAM variables, more especially the relationship between perceived usefulness (PU) and system quality. This indicates that, of the variables evaluated, users' opinions of the value of EHIS in Palestinian hospitals are significantly influenced by system quality. Users' perceptions of EHIS implementation are shaped by the design, functionality, and dependability of the system, as seen by the high correlation found between PU and system quality.

In contrast, the hypotheses about system complexity and compatibility with PU, as well as top management and IT support with PEOU, are the weakest and least supported. These data indicate that in the context of Palestinian hospitals, system complexity and compatibility may not have a substantial impact on users' attitudes regarding EHIS acceptance. Similarly, the lack of support for the hypotheses concerning top and IT support with PEOU indicates that organizational support mechanisms may not have a significant impact on users' perceptions of system ease of use.

Overall, the findings emphasize the vital importance of system quality in determining users' acceptance of EHIS usefulness, while also emphasizing areas where future research may be needed to better understand the factors driving EHIS acceptance.

4.5 Research contributions

Based on the data provided regarding the factors that influence the acceptability of EHIS in Palestinian hospitals, the study contributes to both the theoretical and practical sides of this region. The findings provide various contributions.

4.5.1 Theoretical Contribution

1. The study adds to the current body of literature by conducting an empirical investigation of the relationship between multiple factors (such as perceived ease of use, system complexity, top management support, etc.) and EHIS acceptance among healthcare providers in Palestinian hospitals.
2. It improves to the understanding of the TAM by exploring the role of characteristics such as perceived ease of use and perceived usefulness in the context of EHIS adoption, providing insights into TAM's significance in healthcare environments.
3. The identification of factors influencing EHIS acceptance in the specific context of Palestinian hospitals contributes to filling the gap in the literature regarding EHIS adoption in resource-constrained and politically challenging environments.

4.5.2 Practical Contribution

1. The findings help healthcare policymakers, administrators, and IT experts in Palestinian hospitals better understand the factors that influence EHIS acceptability among healthcare professionals.

2. The research-based recommendations, such as investing in training and assistance, resolving interoperability issues, and encouraging corporate culture, can help guide decision-making and strategic planning for EHIS deployment and adoption.
3. Healthcare organizations can create focused interventions and strategies to remove obstacles and improve the successful adoption and utilization of EHIS by knowing the factors that influence EHIS acceptance. This will eventually enhance patient care and healthcare outcomes in Palestinian hospitals.
4. Evaluate the effects of EHIS on patient outcomes, safety, and quality of care, considering how its deployment impacts the capacity of healthcare practitioners to offer effective and efficient care.

4.6 Limitations

- The study's sample size and composition might be constrained. The sample size may not have been sufficient to capture all healthcare workers' distinct perspectives and experiences with EHIS execution, despite the fact that data was gathered from a broad spectrum of medical professionals in Palestinian hospitals. Additionally, the generalizability of the results may be impacted by sample structure, such as the distribution of respondents across departments or degrees of competence.
- Because the data were collected through a self-administered questionnaire, there may be concerns about response bias or social desirability bias, which happens when respondents submit responses they think are socially acceptable rather than reflecting their genuine thoughts or experiences. -Potential bias in outcomes or fear of penalties. Furthermore, our understanding of the factors influencing EHIS acceptance may be limited if we only use data from questionnaires.
- Cultural norm, political instability, or resource limits specific to the region may influence EHIS acceptance in ways that are not applicable to other situations. As a result, caution should be given when extending the findings to other healthcare settings.

4.7 Recommendations

1. Training and Support Programs investment: Create and implement strong training and support programs to help healthcare staff to improve their skills and understanding of best utilizing EHIS. These systems should be adapted to the specific needs of user groups (e.g., doctors, nurses, and medical secretaries) and provide continuous support to overcome any issues or obstacles experienced while using EHIS system.
2. Encourage Top Management Support: Encourage strong support from senior management for EHIS acceptance by actively Including hospital administrators in the planning, decision-making, and monitoring stages. This includes allocating resources, establishing clear goal and priorities, and establishing a corporate culture that appreciate and encourages the use of EHIS.
3. System Quality and stability Enhancement: In order to reduce complexity and improve system quality and usability, evaluate and streamline the EHIS's design and functionality. To improve user experience and pleasure, this could entail running usability tests, getting input from end users, and implementing design modifications or system improvements.
4. Enhance Interoperability: Encourage the smooth integration and data exchange of different EHIS components with external systems (such pharmaceutical and laboratory systems) to address interoperability obstacles. To ensure data quality, integrity, and security, this entails developing data formats and communication protocols as well as putting data governance structures in place.
5. Provide Continuous Feedback Mechanisms: Provide tools for obtaining and reacting to end users' input regarding their interactions with EHIS. This can entail doing regular user feedback sessions, focus groups, or surveys to find areas that need improvement and inform upcoming system upgrades or training initiatives.
6. Evaluate EHIS Implementation and monitor process: Install mechanisms to track and assess the effectiveness of EHIS adoption, use, and implementation. This involves tracking key performance indicators (KPIs) for clinical outcomes, user satisfaction, system utilization, and organizational effect and using the data to direct efforts for continuous improvement.

List of Abbreviations

Abbreviation	Meaning
E-Health	Electronic Health
TAM	Technology Acceptance Model
IT	Information Technology
BI	Behavioral Intention
EHIS	Hospital Information System
H	Hypothesis
PU	Perceived Usefulness
PEOU	Perceived Ease of Use
ATT	Attitude
WHO	World Health Organization
UNSCO	United Nations Special Coordinator Office
HIT	Health Information Technology
HIMS	Healthcare Information Management System
Std. Deviation	Standard Deviation
Sig.	Significant
SPSS	Statistical Package for the Social Sciences
ANOVA	Analysis of Variance
TOE	Technology-Organization-Environment
OCS	order communication system
LIS	Laboratory Information System
RIS	Radiology Information System
NGOs	Non-Governmental Organizations
EHIS	Electronic Health Information Systems
UNRWA	United Nations Relief and Works Agency

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Appendices

Appendix A

Tables

Table 11

Regression coefficients Analysis

Relative advantage	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	p	Tolerance	VIF
Gender	-.366	.418	-.058	-.875	.383	.850	1.176
Educational level	1.066	.384	.177	2.773	.006	.931	1.074
Job title	-.206	.118	-.112	-1.751	.081	.927	1.078
Age	-.268	.060	-.528	-4.446	.000	.269	3.720
Years of experience	.171	.080	.276	2.129	.034	.225	4.435
Duration of computer usage (years)	.051	.039	.098	1.297	.196	.663	1.507
Formal computer training	.979	.394	.157	2.481	.014	.950	1.053
COMPT							
Gender	-.158	.257	-.043	-.615	.539	.850	1.176
Educational level	.686	.236	.193	2.902	.004	.931	1.074
Job title	.028	.072	.026	.388	.698	.927	1.078
Age	-.131	.037	-.439	-3.551	.000	.269	3.720
Years of experience	.105	.049	.287	2.126	.035	.225	4.435
Duration of computer usage (years)	.046	.024	.151	1.918	.056	.663	1.507
Formal computer training	.258	.242	.070	1.064	.289	.950	1.053

Complexity							
Gender	-0.446	0.438	-0.069	-1.019	0.31	0.85	1.176
Educational level	0.058	0.402	0.009	0.145	0.885	0.931	1.074
Job title	-0.207	0.123	-0.108	-1.674	0.096	0.927	1.078
Age	-0.309	0.063	-0.588	-4.909	0	0.269	3.72
Years of experience	0.148	0.084	0.229	1.753	0.081	0.225	4.435
Duration of computer usage (years)	0.048	0.041	0.09	1.176	0.241	0.663	1.507
Formal computer training	-0.621	0.413	-0.096	-1.504	0.134	0.95	1.053
TOPS							
Gender	-.324	.301	-.074	-1.074	.284	.850	1.176
Educational level	.299	.277	.071	1.078	.282	.931	1.074
Job title	-.007	.085	-.006	-.087	.931	.927	1.078
Age	-.192	.043	-.543	-4.434	.000	.269	3.720
Years of experience	.160	.058	.369	2.764	.006	.225	4.435
Duration of computer usage (years)	.035	.028	.096	1.230	.220	.663	1.507
Formal computer training	.708	.284	.162	2.490	.014	.950	1.053
ITS							
Gender	-.299	.287	-.070	-1.042	.299	.850	1.176
Educational level	.415	.264	.101	1.571	.118	.931	1.074
Job title	-.251	.081	-.200	-3.097	.002	.927	1.078
Age	-.095	.041	-.275	-2.290	.023	.269	3.720
Years of experience	.107	.055	.253	1.930	.055	.225	4.435
Duration of computer usage (years)	.006	.027	.016	.215	.830	.663	1.507
Formal computer training	1.058	.271	.250	3.907	.000	.950	1.053
SQ							
Gender	.161	.282	.040	.572	.568	.850	1.176
Educational level	-.489	.260	-.125	-1.883	.061	.931	1.074
Job title	-.094	.080	-.078	-1.174	.242	.927	1.078

Age	-.085	.041	-.259	-2.100	.037	.269	3.720
Years of experience	.079	.054	.196	1.457	.147	.225	4.435
Duration of computer usage (years)	.033	.026	.096	1.229	.220	.663	1.507
Formal computer training	1.004	.267	.247	3.766	.000	.950	1.053
PU							
Gender	-.297	.461	-.043	-.643	.521	.850	1.176
Educational level	.077	.424	.012	.182	.856	.931	1.074
Job title	-.235	.130	-.117	-1.808	.072	.927	1.078
Age	-.280	.066	-.507	-4.211	.000	.269	3.720
Years of experience	.168	.089	.249	1.893	.060	.225	4.435
Duration of computer usage (years)	.083	.043	.147	1.916	.057	.663	1.507
Formal computer training	1.170	.436	.172	2.686	.008	.950	1.053
PEOU							
Gender	.051	.245	.014	.208	.835	.850	1.176
Educational level	.414	.226	.119	1.835	.068	.931	1.074
Job title	-.156	.069	-.146	-2.249	.026	.927	1.078
Age	-.160	.035	-.543	-4.515	.000	.269	3.720
Years of experience	.144	.047	.401	3.054	.003	.225	4.435
Duration of computer usage (years)	.045	.023	.150	1.954	.052	.663	1.507
Formal computer training	.287	.232	.079	1.238	.217	.950	1.053
BI							
Gender	.055	.253	.015	.218	.828	.850	1.176
Educational level	.267	.232	.076	1.147	.253	.931	1.074
Job title	-.074	.071	-.069	-1.036	.301	.927	1.078
Age	-.154	.036	-.520	-4.231	.000	.269	3.720
Years of experience	.147	.049	.406	3.026	.003	.225	4.435
Duration of computer usage (years)	.043	.024	.141	1.804	.073	.663	1.507
Formal computer training	.375	.239	.103	1.570	.118	.950	1.053

COMPPR							
Gender	-.172	.168	-.069	-1.020	.309	.850	1.176
Educational level	.327	.155	.137	2.111	.036	.931	1.074
Job title	-.058	.047	-.080	-1.227	.221	.927	1.078
Age	-.106	.024	-.529	-4.383	.000	.269	3.720
Years of experience	.083	.032	.338	2.563	.011	.225	4.435
Duration of computer usage (years)	.025	.016	.121	1.581	.115	.663	1.507
Formal computer training	.345	.159	.140	2.173	.031	.950	1.053
OVERALL							
Gender	-1.792	2.260	-.052	-.793	.429	.850	1.176
Educational level	3.119	2.079	.094	1.500	.135	.931	1.074
Job title	-1.260	.638	-.124	-1.975	.050	.927	1.078
Age	-1.781	.326	-.636	-5.468	.000	.269	3.720
Years of experience	1.313	.435	.383	3.016	.003	.225	4.435
Duration of computer usage (years)	.414	.212	.145	1.952	.052	.663	1.507
Formal computer training	5.562	2.134	.161	2.606	.010	.950	1.053

Table 12

Model Constructs and indicators with references

Construct	Indicator	Item	References
Relative Advantage	Enhance Services quality	ADV1	(Abdekhoda et al., 2019)
	Improve Efficiency	ADV2	(Abdekhoda et al., 2019)
	Improve Job performance	ADV3	(Abdekhoda et al., 2019)
	Improve Productivity	ADV4	(Otieno et al., 2007)
	Improve treatment procedures	ADV5	(Otieno et al., 2007)
	Enhance Communication	ADV6	(Otieno et al., 2007)
	Reduce Costs and time	ADV7	(Abdekhoda et al., 2019)
compatibility	IT Infrastructure	COMPT1	(Abdekhoda et al., 2019)
	Fit to work stile	COMPT2	
	Fit to job position	COMPT3	
complexity	Technical Expertise	COMPLX1	(Abdekhoda et al., 2019)
	Level of Familiarity	COMPLX2	
	Level of ease of use	COMPLX3	
Top management support	Level of Providing Resources	TOPS1	(Abdekhoda et al., 2019)
	Resource Allocation	TOPS2	
	Management decisions	TOPS3	
	Management goals and expectations	TOPS4	
Suuport IT and training(O)	Training	ITS1	(Aldosari et al., 2018)
	Technical support availability	ITS2	(Aldosari et al., 2018)
	Technological resources	ITS3	(Aldosari et al., 2018)
System Quality	Information accuracy	SQ1	(Aldosari et al., 2018)
	User friendly	SQ2	(Aldosari et al., 2018)
	Stability	SQ3	(Aldosari et al., 2018)
Competitive Pressure	Awareness of EHIS Adoption by Others	COMP1	(Abdekhoda et al., 2019)
	Competitive Advantage	COMP2	
PU		PU1	(Davis, 1989)
		PU2	
		PU3	
		PU4	
		PU5	
		PU6	
		PU7	
		PU8	
		PU9	
PEOU		PEOU1	(Davis, 1989)
		PEOU2	
		PEOU3	
BI		BI1	(Davis, 1989)
		BI2	
		BI3	

Table 13

5 Likert Scale Questionnaire Responses

	1	2	3	4	5
Adopting EMR, improved the quality of my work	1	15	17	109	78
Using EHIS increase my Job Performance	0	9	26	123	62
Using EHIS made Obtain information on investigation or treatment procedures quickly and easily.	0	8	25	110	77
Using electronic EHIS improved patient's safety	0	3	44	111	62
Using electronic EHIS reduced time and costs	0	3	36	112	69
IT infrastructure will support using electronic EHIS.	0	10	15	142	53
Using EMRs fits into my work style	0	5	24	132	59
Using EMRs is completely compatible with my current situation	0	8	30	130	52
I believe th1t EMRs is complic1ted to use	36	80	41	44	19
Using EMRs is often depressing	35	99	34	38	14
1dopting EMRs need 1 lot of ment1l effort	41	78	33	56	12
Top management support is important to adopt EMR	0	2	33	124	61
Related department support is important to adopt EMR	0	3	24	134	59
Management did a helpful job during the implementation of the EMR	0	4	24	138	54
Management expects me to use the EMR	0	3	20	140	57
IT staff provided an adequate support to EMR	0	15	50	97	58
enough workstations available for use by staff	3	30	40	98	49
The training gave us confidence in use ERMs	1	2	41	118	58
The information provided by EMR is always accurate	2	3	35	135	45
I find the EMR system interface to be user friendly	4	11	27	139	39
The system subject to be stable and not frequent problems and crashes	8	33	32	119	28
Electronic EHIS system is integrated in the daily work	1	6	24	143	46
The information is always updated	0	10	44	130	36
The data I register are important for the care of the patients	0	4	21	141	54
I am certain about the reliability of the data documented	0	6	24	142	48
Using the EHR will avoid duplication of examinations	0	11	30	130	49
Using the EHR will reduce the risk of error	0	9	31	133	47
It is easy to learn how to use EMR	0	9	28	138	45
It is easy to use EMR	0	10	28	127	55
It is easy to know how to do your intended task	0	4	30	134	52
When available in my clinical practice, I intend to use the EHR for all my clinical activities	0	4	40	133	43
When available in my community, I intend to adopt the EHR for all my clinical activities	0	4	40	133	43
When available in my community, I intend to adopt the EHR for all my clinical activities	0	8	39	129	44
The chances that I use the EHR for all my clinical activities when available in my organization are very high	0	7	35	141	37
We are aware of EMRs implementation in our hospital.	0	5	25	145	45
We understand the competitive advantages offered EMRs in our hospital	0	5	29	141	45

Table 14

Outer Loadings Results

	Outer loadings
ADV1 <- Relative Advantage	0.858
ADV4 <- Relative Advantage	0.855
ADV5 <- Relative Advantage	0.789
ADV6 <- Relative Advantage	0.764
ADV7 <- Relative Advantage	0.805
BI1 <- BI	0.894
BI2 <- BI	0.884
BI3 <- BI	0.863
COMOLX1 <- Complexity	0.953
COMOLX2 <- Complexity	0.831
COMOLX3 <- Complexity	0.900
COMPPR1 <- comp pressure	0.956
COMPPR2 <- comp pressure	0.955
COMPT1 <- Compatibility	0.816
COMPT2 <- Compatibility	0.928
COMPT3 <- Compatibility	0.899
ITS1 <- IT support	0.866
ITS2 <- IT support	0.797
ITS3 <- IT support	0.772
PEOU1 <- PEOU	0.789
PEOU2 <- PEOU	0.869
PEOU3 <- PEOU	0.899
PU1 <- PU	0.821
PU5 <- PU	0.818
PU6 <- PU	0.821
PU7 <- PU	0.788
PU8 <- PU	0.780
PU9 <- PU	0.854
SQ1 <- System Quality	0.849
SQ2 <- System Quality	0.793
SQ3 <- System Quality	0.762
TOPS1 <- Top management support	0.836
TOPS2 <- Top management support	0.896
TOPS3 <- Top management support	0.842
TOPS4 <- Top management support	0.794

Table 15

Cronbach Alpha values

	Cronbach's alpha
BI	0.855
Compatibility	0.857
Complexity	0.900
IT support	0.747
PEOU	0.813
PU	0.898
Relative Advantage	0.873
System Quality	0.723
Top management support	0.864
comp pressure	0.905

Table 16

Composite Reliability Values

	Composite reliability (rho_a)	Composite reliability (rho_c)
BI	0.857	0.912
Compatibility	0.869	0.913
Complexity	0.986	0.924
IT support	0.781	0.853
PEOU	0.824	0.889
PU	0.9	0.922
Relative Advantage	0.877	0.908
System Quality	0.734	0.844
Top management support	0.867	0.907
comp pressure	0.905	0.955

Table 17

AVE Valuses

	Average variance extracted (AVE)
BI	0.775
Compatibility	0.778
Complexity	0.803
IT support	0.660
PEOU	0.729
PU	0.663
Relative Advantage	0.664
System Quality	0.643
Top management support	0.711
comp pressure	0.913

Table 18

Fornell-Larcker Valuses

	BI	Compatibility	Complexity	IT support	PEOU	PU	Relative Advantage	System Quality	Top management support	comp pressure
BI	0.881									
Compatibility	0.618	0.882								
Complexity	0.228	0.252	0.896							
IT support	0.599	0.572	0.112	0.813						
PEOU	0.741	0.686	0.224	0.616	0.854					
PU	0.734	0.636	0.227	0.713	0.802	0.814				
Relative Advantage	0.580	0.750	0.211	0.609	0.673	0.689	0.815			
System Quality	0.582	0.588	0.145	0.681	0.664	0.763	0.522	0.802		
Top management support	0.683	0.705	0.273	0.557	0.679	0.725	0.748	0.606	0.843	
Comp pressure	0.834	0.638	0.238	0.665	0.738	0.769	0.627	0.585	0.667	0.956

Table 19

VIF for Iniecators

Variables	VIF
ADV1	2.652
ADV4	2.565
ADV5	1.983
ADV6	1.651
ADV7	2.039
BI1	2.271
BI2	2.282
BI3	1.924
COMOLX1	2.951
COMOLX2	3.068
COMOLX3	2.526
COMPPR1	3.149
COMPPR2	3.149
COMPT1	1.762
COMPT2	3.105
COMPT3	2.612
ITS1	1.530
ITS2	1.567
ITS3	1.408
PEOU1	1.550
PEOU2	1.987
PEOU3	2.249
PU1	2.454
PU5	2.466
PU6	2.334
PU7	2.001
PU8	2.290
PU9	2.987
SQ1	1.532
SQ2	1.397
SQ3	1.378
TOPS1	2.679
TOPS2	3.283
TOPS3	2.050
TOPS4	1.651

Table 20

SRMR Value for Model Fit

	Saturated model	Estimated model
SRMR	0.075	0.079

Table 21

R square Values

	R-square	R-square adjusted
BI	0.604	0.600
PEOU	0.672	0.664
PU	0.809	0.802

Table 22

Hypotheses Testing Result

Hypotheses	P values	Path coefficients	Status
Compatibility -> PEOU	0.006	0.209	Supported
Compatibility -> PU	0.053	-0.140	Not Supported
Complexity -> PU	0.455	0.026	Not Supported
IT support -> PEOU	0.773	0.020	Not Supported
IT support -> PU	0.048	0.107	Supported
PEOU -> BI	0.000	0.425	Supported
PEOU -> PU	0.000	0.276	Supported
PU -> BI	0.000	0.393	Supported
Relative Advantage -> PU	0.012	0.143	Supported
System Quality -> PEOU	0.001	0.231	Supported
System Quality -> PU	0.000	0.300	Supported
Top management support -> PEOU	0.129	0.138	Not Supported
Top management support -> PU	0.049	0.131	Supported
comp pressure -> PEOU	0.000	0.365	Supported
comp pressure -> PU	0.004	0.225	Supported

Table 23

P-values

	P values
ADV1 <- Relative Advantage	0.000
ADV4 <- Relative Advantage	0.000
ADV5 <- Relative Advantage	0.000
ADV6 <- Relative Advantage	0.000
ADV7 <- Relative Advantage	0.000
BI1 <- BI	0.000
BI2 <- BI	0.000
BI3 <- BI	0.000
COMOLX1 <- Complexity	0.000
COMOLX2 <- Complexity	0.000
COMOLX3 <- Complexity	0.000
COMPPR1 <- comp pressure	0.000
COMPPR2 <- comp pressure	0.000
COMPT1 <- Compatibility	0.000
COMPT2 <- Compatibility	0.000
COMPT3 <- Compatibility	0.000
ITS1 <- IT support	0.000
ITS2 <- IT support	0.000
ITS3 <- IT support	0.000
PEOU1 <- PEOU	0.000
PEOU2 <- PEOU	0.000
PEOU3 <- PEOU	0.000
PU1 <- PU	0.000
PU5 <- PU	0.000
PU6 <- PU	0.000
PU7 <- PU	0.000
PU8 <- PU	0.000
PU9 <- PU	0.000
SQ1 <- System Quality	0.000
SQ2 <- System Quality	0.000
SQ3 <- System Quality	0.000
TOPS1 <- Top management support	0.000
TOPS2 <- Top management support	0.000
TOPS3 <- Top management support	0.000
TOPS4 <- Top management support	0.000

Table 24

Hypotheses status

Hypotheses	Hypotheses	P values	Path coefficients	Status
H1	Relative Advantage -> PU	0.012	0.143	Supported
H2	System Quality -> PU	0	0.3	Supported
H3	System Quality -> PEOU	0.001	0.231	Supported
H4	Complexity -> PU	0.455	0.026	Not Supported
H5	Compatibility -> PU	0.053	-0.14	Not Supported
H6	Compatibility -> PEOU	0.006	0.209	Supported
H7	Top management support -> PU	0.049	0.131	Supported
H8	Top management support -> PEOU	0.129	0.138	Not Supported
H9	IT support -> PU	0.048	0.107	Supported
H10	IT support -> PEOU	0.773	0.02	Not Supported
H11	comp pressure -> PU	0.004	0.225	Supported
H12	comp pressure -> PEOU	0	0.365	Supported
H13	PEOU -> PU	0	0.276	Supported
H14	PU -> BI	0	0.393	Supported
H15	PEOU -> BI	0	0.425	Supported

Table 25

Statistical Data

			Relative advantage			Compatibility			Complexicty			p management suppo			IT support			System quality			Perceived usefulness			Perceived ease of use			BI			COMPPR			Overall score		
Variable	**n**	**%**	**Mean**	**SD**	**p**	**Mean**	**SD**	**p**	**Mean**	**SD**	**p**	**Mean**	**SD**	**p**	**Mean**	**SD**	**p**	**Mean**	**SD**	**p**	**Mean**	**SD**	**p**	**Mean**	**SD**	**p**	**Mean**	**SD**	**p**	**Mean**	**SD**	**p**	**Mean**	**SD**	**p**
Sex																																		
Male	121	55.0	20.8	3.3	0.234	12.4	1.9	0.239	7.9	3.3	0.766	16.6	2.3	0.273	11.9	2.1	0.050	11.4	2.1	0.545	24.2	3.6	0.553	12.2	1.9	0.550	11.9	1.9	0.745	8.2	1.3	0.148	137.4	18.2	0.306
Female	99	45.0	20.3	2.9		12.1	1.8		7.8	3.2		16.3	2.0		11.4	2.1		11.6	1.9		23.9	3.2		12.0	1.7		11.8	1.7		7.9	1.1		135.0	16.0	
Training																																		
No	118	53.6	20.0	3.5	**0.007**	12.1	2.0	0.181	8.1	3.2	0.304	16.1	2.4	**0.003**	11.1	2.1	**0.000**	10.9	2.2	**0.000**	23.4	3.8	**0.002**	11.9	2.0	0.054	11.6	2.1	**0.026**	7.9	1.4	**0.010**	133.0	19.1	**0.002**
Yes	102	46.4	21.2	2.4		12.4	1.6		7.6	3.3		16.9	1.8		12.3	1.9		12.1	1.6		24.8	2.7		12.3	1.6		12.2	1.5		8.3	1.0		140.1	13.9	
Educational level																																		
Diploma	15	6.8	20.2	0.6	**0.016**	12.1	0.4	**0.001**	7.3	1.0	0.701	16.3	0.4	0.467	11.9	0.6	**0.050**	12.5	0.4	0.067	24.0	0.7	0.996	12.1	0.4	0.053	11.8	0.4	0.354	7.9	0.3	0.053	136.1	3.9	0.224
Undergraduate	156	70.9	20.2	0.2		12.0	0.1		7.9	0.3		16.4	0.2		11.5	0.2		11.5	0.2		24.0	0.3		11.9	0.2		11.8	0.2		8.0	0.1		135.2	1.5	
Postgraduate	49	22.3	21.7	0.4		13.1	0.2		7.7	0.3		16.8	0.3		12.3	0.3		11.1	0.3		24.1	0.4		12.6	0.2		12.2	0.2		8.4	0.1		140.1	1.9	
Job title																																		
Nurse	89	40.5	21.6	0.3	**0.000**	12.7	0.2	**0.000**	9.1	0.3	**0.000**	17.0	0.2	**0.000**	12.5	0.2	**0.000**	12.1	0.2	**0.000**	25.3	0.3	**0.000**	12.9	0.2	**0.000**	12.4	0.2	**0.000**	8.5	0.1	**0.000**	143.9	1.6	**0.000**
Medical secretary	11	5.0	21.0	0.6		10.7	0.9		4.9	0.8		16.9	0.5		12.9	0.4		10.8	0.7		24.9	0.8		11.3	0.6		11.9	0.5		8.4	0.2		133.7	5.5	
Physician	56	25.5	19.0	0.5		11.6	0.3		6.5	0.4		15.3	0.3		10.6	0.3		10.5	0.3		21.9	0.5		11.0	0.3		11.0	0.3		7.3	0.2		124.6	2.6	
Radiology technician	19	8.6	20.2	0.6		12.4	0.3		8.8	0.7		17.8	0.2		11.1	0.4		10.8	0.4		24.6	0.6		12.4	0.3		12.5	0.4		8.1	0.2		138.6	2.2	
Laboratory technician	29	13.2	20.6	0.3		12.1	0.2		6.4	0.3		16.1	0.3		11.3	0.3		11.9	0.2		24.2	0.4		12.0	0.2		11.6	0.2		8.1	0.1		134.5	1.5	
Pharmacist	16	7.3	20.1	1.0		13.1	0.3		8.9	0.8		16.8	0.4		11.4	0.6		11.6	0.3		23.3	0.9		11.9	0.6		12.0	0.4		8.3	0.4		137.4	4.0	
	Mean	**SD**	**Pearson's r**		**p**	**Pearson's r**		**p**	**Pearson's r**		**p**	**Pearson's r**		**p**	**Pearson's r**		**p**	**Pearson's r**		**p**	**Pearson's r**		**p**	**Pearson's r**		**p**	**Pearson's r**		**p**	**Pearson's r**		**p**	**Pearson's r**		**p**
Age (years)	32.8	6.2	-0.22		**0.001**	-0.09		0.172	-0.35		**0.000**	-0.16		**0.020**	-0.04		0.587	-0.08		0.252	-0.23		**0.001**	-0.14		**0.034**	-0.12		0.087	-0.16		**0.017**	-0.23		**0.000**
Years of experience	8.6	5.0	-0.06		0.403	0.05		0.441	-0.22		**0.001**	0.02		0.815	0.09		0.193	0.03		0.651	-0.07		0.324	0.05		0.508	0.06		0.064	0.01		0.846	-0.03		0.664
Years of using computer	10.4	6.0	0.09		0.190	0.17		**0.012**	-0.02		0.825	0.12		0.084	0.11		0.117	0.10		0.146	0.11		0.115	0.17		**0.010**	0.17		**0.011**	0.14		**0.038**	0.14		**0.041**

Table 26

Cross loading

	`	Compatibility	Competitive pressure	Complexity	IT support	Organizationa l Readiness	PEOU	Relative Advantage	System Quality	Top management support
ADV1	0.284	0.560	0.343	0.006	0.492	0.470	0.419	0.859	0.381	0.462
ADV2	0.316	0.584	0.370	0.025	0.458	0.499	0.419	0.880	0.363	0.543
ADV3	0.356	0.557	0.440	0.021	0.456	0.535	0.457	0.865	0.382	0.566
ADV4	0.377	0.594	0.462	0.002	0.491	0.500	0.512	0.867	0.380	0.549
ADV5	0.357	0.541	0.307	-0.130	0.389	0.398	0.445	0.676	0.338	0.458
ADV6	0.407	0.497	0.398	0.198	0.393	0.448	0.393	0.668	0.284	0.545
ADV7	0.392	0.600	0.419	0.014	0.346	0.485	0.357	0.714	0.265	0.543
BI1	0.879	0.510	0.680	0.039	0.516	0.475	0.659	0.427	0.421	0.615
BI2	0.863	0.481	0.636	-0.002	0.471	0.359	0.560	0.326	0.461	0.494
BI3	0.814	0.448	0.663	0.035	0.407	0.439	0.557	0.394	0.456	0.438
COMOLX1	0.032	0.055	0.067	0.921	-0.008	0.106	0.094	0.056	0.061	0.149
COMOLX2	-0.076	-0.103	-0.104	0.847	-0.160	0.051	0.034	-0.082	-0.042	0.058
COMOLX3	0.033	0.005	0.059	0.913	-0.023	0.114	0.100	0.008	0.001	0.137
COMPPR1	0.736	0.590	0.940	-0.007	0.594	0.422	0.651	0.489	0.525	0.536
COMPPR2	0.715	0.553	0.936	0.116	0.545	0.450	0.634	0.442	0.472	0.489
COMPT1	0.439	0.784	0.431	-0.026	0.473	0.530	0.444	0.561	0.401	0.544
COMPT2	0.502	0.907	0.568	-0.023	0.517	0.543	0.529	0.601	0.453	0.578
COMPT3	0.501	0.869	0.557	0.106	0.524	0.526	0.500	0.655	0.507	0.625
ITS1	0.573	0.620	0.623	-0.058	0.852	0.526	0.592	0.501	0.638	0.588
ITS2	0.438	0.403	0.445	-0.016	0.783	0.336	0.404	0.465	0.470	0.335
ITS3	0.265	0.347	0.349	0.021	0.764	0.196	0.469	0.340	0.549	0.218
ORGR1	0.421	0.477	0.301	0.016	0.299	0.726	0.445	0.456	0.320	0.567
ORGR2	0.390	0.490	0.386	0.163	0.394	0.828	0.458	0.490	0.518	0.590
ORGR3	0.404	0.541	0.425	0.086	0.410	0.857	0.450	0.511	0.447	0.583
PEOU1	0.450	0.348	0.417	-0.076	0.447	0.384	0.696	0.388	0.469	0.316
PEOU2	0.546	0.585	0.575	0.030	0.530	0.530	0.812	0.544	0.539	0.578
PEOU3	0.654	0.499	0.651	0.043	0.533	0.470	0.886	0.439	0.500	0.530
PEOU4	0.308	0.092	0.241	0.517	0.234	0.121	0.420	0.078	0.270	0.211
PU1	0.506	0.518	0.487	0.010	0.553	0.410	0.575	0.445	0.684	0.464
PU2	0.665	0.632	0.633	-0.030	0.613	0.554	0.656	0.462	0.680	0.579
PU3	0.444	0.461	0.443	-0.105	0.540	0.379	0.510	0.333	0.544	0.373
PU4	0.470	0.405	0.453	0.021	0.451	0.368	0.516	0.232	0.493	0.377
PU5	0.489	0.539	0.510	0.085	0.563	0.496	0.543	0.438	0.706	0.447
PU6	0.474	0.526	0.504	0.036	0.560	0.528	0.564	0.526	0.551	0.564
PU7	0.528	0.371	0.539	0.044	0.490	0.342	0.559	0.246	0.518	0.371
PU8	0.506	0.418	0.496	0.066	0.532	0.333	0.585	0.418	0.453	0.472
PU9	0.658	0.489	0.642	0.043	0.612	0.445	0.681	0.509	0.562	0.495
SQ1	0.477	0.541	0.531	0.013	0.657	0.456	0.559	0.382	0.863	0.492
SQ2	0.433	0.330	0.392	0.001	0.427	0.473	0.502	0.260	0.761	0.371
SQ3	0.332	0.382	0.329	0.061	0.582	0.366	0.435	0.392	0.775	0.319
TOPS1	0.472	0.528	0.394	0.145	0.335	0.531	0.454	0.427	0.275	0.810
TOPS2	0.544	0.567	0.469	0.146	0.429	0.634	0.521	0.542	0.380	0.880
TOPS3	0.546	0.588	0.482	0.090	0.466	0.540	0.489	0.514	0.522	0.819
TOPS4	0.388	0.507	0.405	0.109	0.370	0.596	0.457	0.634	0.412	0.707

Table 27

F-square

	BI	Compatibility	Competitive pressure	Complexity	IT support	Organizational Readiness	PEOU	PU	Relative Advantage	System Quality	Top management support
BI											
Compatibility							0.001	0.035			
Competitive pressure							0.177				
Complexity							0.006	0.005			
IT support							0.088	0.061			
Organizational Readiness								0.000			
PEOU	0.113							0.257			
PU	0.172										
Relative Advantage								0.005			
System Quality								0.219			
Top management support							0.063	0.017			

Appendix B

Questionnaire Questions and Related Constructs

عزيزي المشارك:

بداية أتقدم بالشكر الجزيل على تخصيص جزء من وقتك لتعبئة هذا الاستبيان الذي يهدف الى تقيم الرضا والقبول عن النظام المحوسب EHIS ومدى تأثيره على جودة العمل في المستشفيات الفلسطينية، وذلك لاستكمال متطلبات الحصول على درجة الماجستير في الإدارة الهندسية والحصول على أفضل
النتائج لتطوير العمل في القطاع الصحي الخاص والحكومي والأهلي في دولة فلسطين.

الجزء الأول: البيانات الشخصية والوظيفية

الرقم	السؤال	الاجابات
1	الجنس	o ذكر o أنثى
2	المؤهل العلمي	o دبلوم o بكالوريوس o دارسات عليا
3	العمر	
4	سنوات من الخبرة في الممارسة السريرية	
5	مدة استخدام الكمبيوتر (بالسنوات)	
6	تلقيت تدريب في استخدام الحاسوب	o نعم o لا
7	المسمى الوظيفي	o طبيب o ممرض o سكرتارية طبية o صيدلي o فني مختبر o فني اشعة

الجزء الثاني: أسئلة الاستبانة

المتغير	السؤال	الاجابة				
		موافق بشدة	موافق	محايد	معارض	معارض بشدة
المزايا النسبية	أدى اعتماد EHIS الالكتروني إلى تحسين جودة عملي					
	من خلال اعتماد نظامEHIS الالكتروني ازدادت إنتاجية عملي.					
	اعتماد نظام EHIS الالكتروني في المستشفى تسبب في تعزيز الفعالية في وظيفتي					
	أدي استخدام EHIS الالكتروني إلى زيادة أدائي الوظيف					
	باستخدام EHIS نحصل على معلومات حول الإجراءات الطبية و تقديم وتوثيق العلاج بسرعة وسهولة.					
	أدى استخدام نظام المعلومات الصحية الإلكتروني إلى تحسين سلامة المريض					
	استخدام نظام المعلومات الصحية الالكتروني يقلل الوقت والمال					
التوافق	ستدعم البنية التحتية لتكنولوجيا المعلومات استخدام نظام المعلومات الصحية الإلكتروني.					
	استخدام نظام المعلومات الصحية الإلكتروني يتناسب مع أسلوب عملي					
	استخدام نظام المعلومات الصحية الإلكتروني متوافق تماما مع وضعي الحالي					
الصعوبة	أعتقد أن EHIS معقد للاستخدام					
	من الصعب بالنسبة لي أن أتذكر كيفية أداء المهام باستخدام نظام المعلومات الصحية الالكتروني					
	غالبا ما يكون استخدام EHIS محبطا					
	اعتماد EHIS يحتاج إلى الكثير من الجهد العقلي					
دعم الإدارة العليا	دعم الإدارة العليا مهم لاعتماد نظام المعلومات الصحة الالكتروني					
	دعم القسم ذي الصلة مهم لاعتماد نظام المعلومات الصحة الالكتروني					
	قامت الإدارة بعمل مفيد أثناء تنفيذ نظام المعلومات الصحية الالكتروني					
	تتوقع الإدارة مني استخدام نظام المعلومات الصحية الالكتروني بشكل دقيق					
التدريب ودعم تكنولوجيا المعلومات	تلقيت تدريب ودعم مستمر على النظام المحوسب					
	فريق تكنولوجيا المعلومات يقدم الدعم المستمر والتدريب اللازم على الأنظمة.					
	سأستخدم النظام طالما اتلقى التدريب الكافي					
	سأبقى استخدم النظام طالما اتلقى الدعم الكافي					

	توفر دائرة تكنولوجيا المعلومات العدد الكافي من الاجهزه لاستخدامها للوصول الى النظام					
	التدريب والدعم من دائرة تكنولوجيا المعلومات يزيد من ثقتنا في استخدام النظام					
جودة النظام	المعلومات المقدمة من النظام الطبي المحوسب دقيقة دائما					
	المعلومات المقدمة من النظام الطبي المحوسب لا تتأثر بمرور الوقت					
	أجد واجهة النظام المحوسب سهلة الاستخدام					
	النظام المحوسب مستقر ونادراً ما يتعطل					
ادراك الاهمية	نظام EHIS الإلكتروني مدمج في العمل اليومي					
	المعلومات المقدمة من النظام المحوسب تجعل عملي أسهل					
	لدي صلاحية الوصول إلى المعلومات حيث أحتاجها					
	لدي صلاحية الوصول إلى المعلومات متى أحتاجها					
	المعلومات المقدمة من النظام المحوسب دائماً محدثة					
	البيانات التي أسجلها على النظام مهمة لرعاية المرضى					
	أنا متأكد من موثوقية البيانات الموثقة					
	سيؤدي استخدام السجلات الصحية الإلكترونية إلى تجنب ازدواجية وتكرار الفحوصات الطبية					
	سيؤدي استخدام النظام المحوسب إلى تقليل مخاطر الخطأ					
ادراك السهولة	من السهل تعلم كيفية استخدام النظام المحوسب					
	سيسمح لي استخدام السجلات الصحية الإلكترونية بالوصول السريع إلى بيانات المرضى					
	من السهل استخدام النظام المحوسب					
	من السهل معرفة كيفية القيام بالمهمة الخاصة بي.					
	سيتطلب تعلم استخدام النظام المحوسب الكثير من الوقت (عكسي)					
نية التطبيق	عندما يكون متاحا في عملي ، أعتزم استخدام النظام المحوسب الإلكتروني لجميع أنشطتي السريرية					
	في حال كان النظام المحوسب متاح في بلدي اعتزم اعتماده لجميع انشطتي الخاصة.					
	الغيير الذي يحدثه النظام المحوسب كبيرجداً					
الضغط التنافسي	نحن على دراية بتنفيذ EHIS في مستشفانا.					
	نتفهم الإضافة التنافسية التي يضيفها النظام المحوسب لمستشفانا.					

Part1: Personal information

NO.	Questions	Responses
1	Gende	o Male o Female
2	Educational qualification	o Diploma o Bachelor o Master o PhD
3	Age	
4	Years of Experience at studied hospital	
5	Duration of computer usage (years)	
6	Formal computer training	o No o Yes
7	Job(satisfaction1)	o Physicians o Nurses o Medical Secretaries o Pharmacist o Radiologists o laboratory technicians

Construct	Statement	Answer				
		Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
Relative Advantages(T)	Adopting EMR, improved the quality of my work					
	By adopting EMR, my work productivity increased					
	Adopting EMR caused enhance effectiveness in my job					
	Using EHIS increase my Job Performance					
	Using EHIS made Obtain information on investigation or treatment procedures quickly and easily.					
	Using electronic EHIS improved patient's safety					
	Using electronic EHIS reduced time and costs					
Compatibility(T)	IT infrastructure will support using electronic EHIS.					
	Using EMRs fits into my work style					
	Using EMRs is completely compatible with my current situation					
Complexity(T)	I believe that EMRs is complicated to use					
	It is difficult for me to remember how to perform tasks using EMRs					
	Adopting EMRs need a lot of mental effort					
	Using EMRs is often depressing					
Top management support(O)	Top management support is important to adopt EMR					
	Related department support is important to adopt EMR					
	Management did a helpful job during the implementation of the EMR					
	Management expects me to use the EMR					
IT Suuport and training(O)	I have enough formal training to use EMR					
	IT staff provided an adequate support to EMR					
	I will use the EHR if I get training					
	I will use the EHR if I can get technical support					
	enough workstations available for use by staff					
	The training gave us confidence in use ERMs					

ystem Quality(T)	The information provided by EMR is always accurate					
	The information provided by EMR is always timeless					
	I find the EMR system interface to be user friendly					
	The system subject to be stable and not frequent problems and crashes					
J	Electronic EHIS system is integrated in the daily work					
	Information provided by EMR system makes my work easier					
	I have access to the information where I need it					
	I have access to the information when I need it					
	The information is always updated					
	The data I register are important for the care of the patients					
	I am certain about the reliability of the data documented					
	Using the EHR will avoid duplication of examinations					
	Using the EHR will reduce the risk of error					
EOU	It is easy to learn how to use EMR					
	It is easy to use EMR					
	It is easy to know how to do your intended task					
	Learning to use the EHR will require much time (inverted)					
	When available in my clinical practice, I intend to use the EHR for all my clinical activities					
	When available in my community, I intend to adopt the EHR for all my clinical activities					
	The chances that I use the EHR for all my clinical activities when available in my organization are very high					
Competitive Pressure	We are aware of EMRs implementation in our hospital.					
	We understand the competitive advantages offered EMRs in our hospital					

Appendix C

IRB Approval Letter

An-Najah National University
Faculty of Medicine & Health Sciences
Institutional Review Board

جامعة النجاح الوطنية
كلية الطب وعلوم الصحة
لجنة اخلاقيات البحث العلمي

Ref : Mas. Dec. 2023/12

IRB Approval Letter

Title of Research:

Assessing acceptance and satisfaction with electronic health information system by healthcare providers in Palestinian hospitals.

Submitted by:
Ahmad Sabri Dweikat

Supervisor:
Ramzi Shawahna, Nidal Dwaikat

Approved:
12th Dec. 2023

Your Study Title**" Assessing acceptance and satisfaction with electronic health information system by healthcare providers in Palestinian hospitals."**..reviewed by An-Najah National University IRB committee and was approved on 12th Dec. 2023

Hasan Fitian, MD

IRB Committee Chairman

IRB Institutional Review Board

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جـامعـــة النجاح الوطنية
كليـــة الدراســـات العليـــا

القبول والرضا عن نظام المعلومات الصحية الإلكتروني من قبل مقدمي الرعاية الصحية في المستشفيات الفلسطينية

إعداد
أحمد صبري دويكات

إشراف
د. نضال دويكات
أ. د. رمزي شواهنة

قدمت هذه الرسالة استكمالا لمتطلبات الحصول على درجه الماجستير في ماجستير الادارة الهندسية، من كلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس– فلسطين.

2024

القبول والرضا عن نظام المعلومات الصحية الإلكتروني
من قبل مقدمي الرعاية الصحية في المستشفيات الفلسطينية

إعداد

أحمد صبري دويكات

إشراف

د. نضال دويكات

أ. د. رمزي شواهنة

الملخص

الخلفية: تناولت هذه الدراسة العوامل المؤثرة على قبول ورضا الموظفين تجاه أنظمة المعلومات الصحية الإلكترونية (EHIS) في مستشفى جامعة النجاح الوطنية ومستشفى رفيديا الجراحي.

المنهجية: شملت الدراسة العاملين في مجال الرعاية الصحية، بما في ذلك الأطباء والممرضين والسكرتارية الطبية والصيادلة وفنيي المختبرات والأشعة. بحثت الدراسة في خمس عشرة فرضية تتعلق بالمزايا النسبية وجودة النظام ودعم الإدارة العليا ودعم قسم تكنولوجيا المعلومات والضغط التنافسي.

النتائج: شملت الدراسة (n = 220) مشاركاً. ولم تجد الدراسة فروقاً ذات دلالة إحصائية بين الذكور والإناث في قبول EHIS (55% ذكور، 45% إناث). وتنوعت الخلفيات التعليمية، حيث حصل 71% على درجة البكالوريوس، و22% على درجة الماجستير، و7% على دبلوم. كما أظهرت النتائج أن المشاركين الأصغر سناً وأقل خبرة أبدوا وجهات نظر مختلفة حولEHIS ، في حين أظهر المشاركون الحاصلون على دراسات عليا وعياً أكبر بالمزايا النسبية. وكشفت الدراسة أيضاً أن العوامل الخارجية مثل المزايا النسبية وجودة النظام ودعم الإدارة العليا والضغط التنافسي أثرت بشكل كبير على الفائدة المتصورة (PU) وسهولة الاستخدام المتصورة (PEOU).

الخاتمة: نظرت الدراسة في العوامل المؤثرة على قبول EHIS من قبل موظفي المستشفيات الفلسطينية ووجدت أن الفائدة المتصورة (PU) تأثرت بشكل كبير بجودة النظام والمزايا النسبية والضغط التنافسي ودعم الإدارة العليا ودعم قسم تكنولوجيا المعلومات، في حين أن الدعم التنظيمي والتوافق وتعقيد النظام كان لها تأثير ضئيل على سهولة الاستخدام المتصورة (PEOU).

الكلمات المفتاحية: أنظمة المعلومات الصحية؛ نموذج قبول التكنولوجيا؛ الفائدة المتصورة؛ سهولة الاستخدام المتصورة؛ قبول المستخدم؛ المتغيرات الديموغرافية؛ التوافق، تعقيد النظام؛ دعم الإدارة العليا.