SCIENTIFIC CULTURE
www.sci-cult.com

SCIENTIFIC CULTURE, Vol. 12, No. 2.1, (2026), pp. 9539-9554
Open Access. Online & Print

DOI: 10.5281/zenodo.19950599

INSTITUTIONAL POLICY AND ADOPTION OF INTERNET OF THINGS (IOT) IN ALBALQA APPLIED UNIVERSITY (BAU), JORDAN

Bilal Ahmad Ali Al-Khateeb, and Elsayed Sobhy Ahmed Mohamed

[1]Department of Business Administration, College of Business, Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh, Saudi Arabia
[2]Department of Business Administration, College of Business, Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh, Saudi Arabia

Received: 15/03/2026
Accepted: 18/04/2026

ABSTRACT

The Internet of Things (IoT), while appearing to be a recent technological innovation, reflects an idea that spans all aspects of human endeavour, including academic institutions. Despite its widespread use and discussion in many other disciplines of inquiry, academic institutions, particularly higher education, tend to be excluded. Despite its widespread applicability and acceptability in other fields of research and human endeavours, it appears to be underutilized in academic settings. Against this backdrop, the current study investigated the uptake and acceptance of IoT in academic institutions, focusing on Albalqa Applied University in Jordan. The study's goal is to determine if institutional policy encourages or discourages the deployment of IoT. The three hypotheses investigated showed a significant relationship between academic institution policy and perceived ease of use (p <.0001). Academic institutions' policies and flexibility significantly influence the perceived utility of IoT adoption (p <.0001). Furthermore, the findings revealed a statistically significant association between institutional policies and attitudes toward IoT deployment. As a result, the study indicates that academic institutions have an overall impact on IoT adoption in terms of perceived ease of use, perceived usefulness, and attitude toward use.

KEYWORDS: Institutional policy; Adoption; Internet of Things (IoT); Technology; Jordan.

1. INTRODUCTION

The Internet of Things (IoT) is generally regarded as a relatively new technology in the context of business. Nonetheless, a lot of academics think it can be used in almost every area of human activity, both inside and outside of the academic community. According to multiple researchers, like Kuaban et al. (2024) and Lindgren et al. (2025), there are several examples of how IoT is being used in various fields, including smart cities, healthcare, agriculture, industrial automation, home automation, etc. These applications have opportunities to boost economic growth, encourage creativity, and boost productivity. Notwithstanding having a relatively recent technological trend, research by several scholars, such as Ande et al. (2020) and Gao & Bai (2014), shows that interest in implementing IoT is growing more quickly than many other technologies in various industries. Furthermore, they contend that although the fast expansion of IoT applications has been most noticeable in affluent nations, it has also happened in less developed nations worldwide. Jordan is a part of this worldwide trend as well because it is a developing economy. According to numerous studies, the use of IoT is currently receiving media coverage and has become a popular buzzword worldwide, which is consistent with these findings. In addition, Indrakumari et al. (2020); Kao et al. (2019) and Philip et al. (2021) reported that the number of companies offering IoT-related products has increased dramatically in recent years, including health, wearables, smart homes, and other products.

Many IoT studies have been completed, each focusing on a distinct element. Some research is technical in nature, with a primary focus on conducting systematic literature reviews (SLRs) of earlier works. For example, Almugari et al. (2020a), Yu et al. (2015), and Busse et al. (2010) used SLRs to assess the current stage of IoT research. Other scholars investigated the conceptual and theoretical aspects of IoT. Nonetheless, research into IoT in academic institutions, primarily higher education, appears to be restricted, particularly in underdeveloped nations like Jordan. Studies that examine the adoption of IoT by academic institutions seem to be just emerging. Mircea et al. (2021) and Uggla & Soneryd (2023) agree that the investigation of IoT adoption in higher education within developing countries, including Jordan, remains significantly underdeveloped. Therefore, it can be concluded that there is a lack of research regarding the acceptability of IoT in educational settings, including the broader education sector. User acceptance of technology is the most significant determinant of how users utilize a given technology. Galib et al. (2018); Mun et al. (2006); and Venkatesh et al. (2003) confirm this assertion. Similarly, Bandyopadhyay and Bandyopadhyay (2010) and Venkyoesh et al. (2012), conclude that user acceptance of new technologies is a critical area that requires substantial consideration - especially in the context of education.

The expected benefit of IoT research is to comprehend the various factors that impact IoT adoption; yet many of these studies appear to restrict their scope to specific regions or industries. As a result, it appears difficult to connect the findings of such studies to the various realities that exist. The impact of institutional policy surrounding the deployment of IoT in academic institutions has not been taken into consideration, even though research about IoT has discovered numerous aspects. However, according to Lindgren et al. (2025) and Kuaban et al. (2024), there are critical factors that can influence on institution policy when adopting IoT such as: standards, financial resources, workforce shortages in the industry, knowledge and education gaps in the industry, market issues, public policies, security and data privacy risks, lack of electricity, willingness and capacity to adopt technology, pressure to implement technology, lack of data security, lack of IoT infrastructure and complexity related to integration, lack of IT infrastructure, lack of confidence in terms of privacy, lack of an organization's overall strategic plan, etc. They also added that each of the aforementioned factors affects how widely IoT is adopted and, as a result, can either favorably or unfavorably impact the growth of IoT in businesses. However, none of previous IoT studies asserted that adopting IoT in higher education institutions was impacted by the institutional policy. As a result, it is yet unknown how much of an impact institutional policy will have on the adoption of IoT in Jordanian higher education institutions.

One of the factors contributing to the continued expansion of IoT adoption at higher education institutions is thought to be institutional policies. Developing technology-based curriculum, financing faculty to create technology-enhanced courses, or putting in place a technology-based assessment program are a few examples of institutional policies. According to the literature, a number of obstacles stand in the way of the widespread use of IoT in Jordanian universities. Technical challenges, inadequate infrastructure, a lack of faculty training, security issues, and reliability issues were among the other restrictions mentioned by Derbas et al. (2025). However, as previously indicated, none of the variables listed above addressed institutional policy. As a result, earlier research has neglected to account for institutional policy as one of the key factors restricting IoT implementation at Jordanian universities such as BAU.

BAU is one of Jordan's state-supported technical universities, with roughly 40,000 students and 1,449 staff members. As previously stated, BAU is Jordan's largest university, with campuses in each of the country's 12 governorates. It focuses on applied research and innovation, as well as advancing Jordan's knowledge economy. Because of its huge size and national reach, BAU has developed itself by opening many college and branch campuses in practically every city in the country. BAU now runs 22 colleges in 13 different campus sites, offering 26 graduate degree programs, 124 undergraduate degree programs, and 78 diploma programs. Furthermore, BAU encourages student and faculty creativity and innovation, allowing the University to retain its high level of effective teaching and learning (Foundation, 2025). As a result, because of its huge scale and nationwide reach, BAU is an ideal area for IoT implementation.

As stated by Fernández-Batanero et al. (2024) as the "four pillars" of IoT, using IoT will enable BAU to have a fully integrated strategy for all parts of the institution (people, processes, data, and things). IoT makes it possible for a network of physically connected devices with built-in sensors, software, and communication capabilities to gather and exchange data. Additionally, the growing increase of IoT utilization in academic institutions' teaching methods justifies study on IoT adoption in BAU; however, very little research has been done on how an institution's policies affect IoT use. Additionally, IoT entails connecting a wide range of devices, including computers, smartphones, and tablets, which are widely utilized globally, especially in educational institutions in nations like Jordan. The study of IoT adoption is actually gaining traction, especially in higher education settings like universities, where IoT-enabled devices like computers, mobile phones, and tablets are regularly used (Lindgren et al., 2025). This is according to Fernández-Batanero et al. (2024). According to Lindgren et al. (2025), Fernández-Batanero et al. (2024) urged further research on IoT implementation in educational institutions. This study is therefore current and warranted since it offers a chance to look at institutional policy and IoT uptake in Jordanian academic institutions.

The essence of this investigation also raises methodological issues such as: lack of depth in the methods and techniques used to evaluate and analyze IoT adoption in most of academic institutions. A conceptual framework using an SLR method has served as the foundation for the majority of IoT investigations. Despite employing a systematic literature review (SLR) methodology, many of these research (e.g., Afful (2025); Boateng et al. (2025); Ne'matov et al. (2025) and Fernández-Batanero et al. (2024)) were unable to use a mixed-methods strategy to explore IoT. Consequently, from an academic perspective, using the SLR technique to investigate IoT may not offer sufficient insight into the mechanisms or factors that drive IoT adoption; as a result, the SLR approach is non-evidence based. Furthermore, conclusions and suggestions from research done outside of Jordan cannot be used in Jordan due to the small number of IoT-related studies that have been done there as well as Jordan's distinct socioeconomic and political circumstances. Therefore, the current study concentrated on how institutional policies affected BAU's adoption of IoT as a Jordanian university.

2. LITERATURE REVIEW

2.1. Concept of IoT

Since the concept of IoT first emerged, it has been described in a few ways. There are numerous definitions of IoT because of the type of study that has been done to create definitions. In his research, Afful (2025) describes IoT as the Internet of Everything (IoE) or Web of Things. According to him, technology includes a range of digital platform learning approaches, including Federated Learning (F-Learning), Electronic Learning (E-Learning), Mobile Learning (M-Learning), and Ubiquitous Learning (U-Learning). Based on this explanation, Afful (2025) claims that IoT in the academic setting comprises machines, sensors, and electronic and mobile devices that are connected via international networks, such as the Internet, Intranet, and Extranet. Within the academic world, these networks generate vast amounts of educational data.

Similar to Afful (2025), Boateng et al. (2025) define IoT as a type of technology that involves a global network of "things" or physical objects, devices embedded with software, sensors, and/or advanced technologies like actuators that enable the collection, analysis, and sharing of data via the internet or another communication network ("things"). The word "things" can refer to a wide range of gadgets, including commonplace items like smartphones, smartwatches, home appliances, and industrial equipment, as well as specialized gadgets used in the fields of entertainment, health care, and agriculture

(Kumar et al., 2023; Primya et al., 2023; Tu, 2023). Thus, the linking of people and devices is at the core of the Internet of Things. According to Fernandez-Batanero et al. (2024), the foundation of IoT is the integration of what they call the "four pillars of IoT," which are people, processes, data, and things. They also show that IoT is related to the quantity of devices—such as computers, smartphones, tablets, and other gadgets—that are currently connected to the internet globally. Many of these gadgets can provide richly textured learning environments that are defined by immersion and connection to one another, as well as chances for increased sustainability and resource efficiency. These devices are commonly encountered in academic settings.

In keeping with this, Kuaban et al. (2024) describe the Internet of Things (IoT) as a networked system of interconnected devices that gather data and communicate with one another to enhance operational efficiencies and provide services in companies worldwide, including academic institutions. In a similar vein, Ne'Matov et al. (2025) propose that the Internet of Things (IoT) is a networked system of linked physical items with embedded sensors, software, and communication capabilities that enable them to gather and share data.

However, Lindgren et al. (2025) view IoT as a fundamental enabling technology driving digital transformation that is altering how firms function and interact with one another internationally, rather than just a straightforward technological innovation. According to a brief review of the definitions given above, IoT is an emerging technology that aims to connect people and devices worldwide to gather and share information, improving productivity, efficiency, and overall performance in almost every area of human endeavour, including academic institutions, which will be the subject of this study.

2.1.1. Institutional Policy (academic policy)

Academic and institutional policies are often characterized as the rules, regulations, and procedures that control how organizations function internally, the choices they make, and the conduct of their members. By establishing a framework for action across several facets of an institution's operations, such as academic, administrative, and/or financial, institutional policy/academic policy serves to create uniformity, equity, and compliance (Elshaer et al.,2026). Since academic and institutional policies are so unique to each institution, they are unrelated to public policy. Dishu (2021) defines institutional policy as a broad policy that may have an impact on all levels of an organization. As a result, it might be described as a policy or regulation that is exclusive to campus. According to Freeman (2018), institutional policy also includes institutional values, which are related to the governance control systems that offer consistency in the predictability and transparency of institutional operations and decision-making. This oversees controlling academic, administrative, and governance activities, operations, and actions and shows the degree of professionalism in an institution's operations. According to America (2023), institutional policies are institutions of expertise and resources in an academic setting that allow academics to engage in policy-based activities, such as advocacy and policy research. Organizations' operational actions are greatly influenced by institutional policies. Thus, there is a need to examine the influence of adopting IoT on the higher education institution policies.

2.2. Empirical Review

Several frameworks have been employed in the study that has been done thus far on the factors or determinants linked to the adoption of IoT in numerous businesses, including educational institutions. For instance, university studies have consistently stressed that IoT is much more than just a technological advancement; rather, it is a key force behind digital transformation that will drastically alter organizational models as well as how organizations communicate with one another (Lindgren et al., 2025). Furthermore, according to current research, it will be crucial to comprehend the variables influencing the rate of IoT adoption as it can promote innovative new goods and services as well as operational efficiencies and business expansion (Lindgren et al., 2025). For example, Kuaban et al. (2024) used a survey methodology within the Silicon Mountain tech ecosystem to examine the rate of IoT adoption in technology ecosystems in the Central African Region. They discovered that while there were several factors influencing the rate of IoT adoption in the Silicon Mountain ecosystem, such as educational and knowledge gaps, government policy issues, etc., the authors believed these issues could affect the rate of IoT adoption in all regions. They concluded that the use of IoT as an enabling technology was crucial because of its capacity to foster innovation, improve operational efficiencies, and support business expansion. As a result, they recommended that academic institutions support and promote the global adoption of IoT technologies.

Similar studies on IoT adoption in higher education was conducted by Fernández-Batanero et al. (2024), who mainly concentrated on finding potential and obstacles. This study's main objective was to determine how IoT has impacted higher education today and how academic institutions are using IoT in their curricula. Like earlier studies, Fernández-Batanero et al. (2024) found 237 scholarly publications through Web of Science, Scopus, ERIC, and Google Scholar by using a PICOS strategy and a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. Only eleven literary works were chosen by the authors to be included in their analysis. According to their study's findings, integrating IoT boosted teacher performance and increased student interest and engagement.

The attitudes of academics toward implementing this technology and their degree of digital literacy are the main causes of the numerous obstacles to IoT implementation in higher education. According to Afful's (2025) systematic literature analysis on the use of IoT and Big Data Analytics in Higher Education Institutions, the proliferation of digital devices in HEIs and IoE technologies have contributed to the global acceptance of IoT in HEIs. The authors identified and examined several BDA methodologies and benefits (e.g., personalized course offerings, individualized learning experiences, prospective career possibilities after graduation) using a Systematic Literature Review methodology. Nonetheless, the authors noted several difficulties in applying BDA (e.g., data collecting, data tracking, data storage, data analysis, data interpretation, weak relationship between Network Science and Data Science, ethics issues, etc.). In order to effectively apply a variety of advanced BDA tools and techniques when analyzing large educational databases to inform data-driven decisions in a highly competitive global marketplace, the review concludes that it is imperative to improve the analytical competencies of all stakeholders involved in educational systems, including policymakers, middle-level administrators, faculty members, and students. To create models for their study on IoT in industrial settings, Lindgren et al. (2025) used a mixed methodological approach that included surveys, literature reviews, and expert interviews. They concluded that IoT adoption was greatly impacted by preparedness or ability to adopt IoT, pressure to do so, and capacity to use IoT capabilities. They added that digital supply chain transformation has been made possible by IoT.

IoT is consequently important for managers since it is a key facilitator of supply chain development (efficiency and innovation). Ne'Matov et al. (2025) investigated IoT in the service sector of the economy in a similar manner. The advantages and difficulties of IoT for service firms were evaluated in their study. The researchers concluded that IoT is changing the operational environment of service businesses worldwide, like Lindgren et al. (2025). Therefore, the main advantages of implementing IoT are increased operational efficiency, improved customer experience, and informed, data-driven decision making. The main obstacles to IoT adoption, according to research like Lindgren et al. (2025) and Ne'matov et al. (2025), are data security, infrastructure readiness, and integration issues. The researchers illustrated the strategic significance of IoT in the Digital Transformation of Service-Oriented Enterprises and offered helpful guidance for effectively integrating IoT into service-oriented businesses using a Mixed-Methods Research Design that employed both a Systematic Literature Review and Multiple Case Study methodologies. In a similar vein, Al-Fuqaha et al. (2015) discovered through a Systematic Literature Review that to increase the overall success of integrating IoT into service delivery, new "smart" self-managing data aggregation protocols and services will be needed.

Like many previous studies on the use of IoT by Indian banking customers, this one looked at how several factors, including convenience, social impact, privacy and safety, awareness, cost, and habits, affected customers' use of IoT devices. A sizable database (n=467) of Indian banking clients was used to examine these variables, and SEM was used for statistical analysis. The findings showed that all four factors—convenience, social influence, privacy, safety, and awareness—had a substantial impact on Indian customers' use of IOT, as did much earlier research on the subject. However, IOT utilization was unaffected by cost or habit. This study's goal was to examine IOT usage in the education sector, which set it apart from the present study. Hong carried out a comparable study in 2015. To ascertain the elements that will lead to the adoption of wearable fitness trackers based on the Internet of Things (IoT), he also combined EFA and CFA. His main objective was to create a model for examining the variables that would influence the uptake of IoT-based wearable fitness monitors. As a result, his research proved that this kind of analytical framework is feasible. Because of this, the approach he created may be used as a template for upcoming research on consumer behaviour and technology marketing.

The same factors have been shown to influence IoT adoption in Jordan's university sector in a few recent studies. The widespread use of IoT in Jordan's university sector is hampered by several factors, including technical difficulties, insufficient infrastructure, poor training, insecurity, and unreliability. Surveys of students at different Jordanian universities have demonstrated this. However, other potentially important factors like institutional regulations in connection with IoT adoption were not examined in these studies. Numerous researchers have also found that the same factors affect users' adoption of IoT; however, these studies have tended to refer to "users" in a broad sense rather than identifying groups inside a university setting. An IoT acceptance model based on TAM (technology model for acceptance) was presented by Al-Tall (2020), Al-Khateeb (2021), and Alkhwaldi & Abdulmuhsin (2022). It comprised seven essential components: two user-specific components (perceived behavioural control and perceived enjoyment), one social component (social influence), and four technology-based components (IT infrastructure, perceived usefulness, perceived ease of use, and protection). To validate the research model, data gathered from questionnaires filled out by 370 Jordanian users were analyzed using Structural Equation Modelling (SEM). The findings demonstrated a favorable relationship between protection and IT infrastructure and both IoT behaviour and the application of new technologies. Regretfully, neither study offered any details regarding the kinds of "users" that took part in their individual investigations, nor did they describe the kinds of users that were participating.

Similar research carried out in Jordan, including Abu-Taieh et al. (2022), Al-Momani, Mahmoud, & Ahmad (2018), Nusairat, Abdellatif, et al. (2021), and Nusairat, Al-Gasawneh, et al. (2021), discovered a relationship between behavioural intention and IoT service consumption. The study's findings showed that performance expectancy, effort expectancy, social influence, and facilitation variables all had a substantial impact on behavioural intent. In this sample of 176 Jordanian telecom customers, performance expectancy seems to have the biggest impact on behavioural intent. Al Nahar (2019), another significant study on the implications of IoT, looked at how IoT affected the caliber of financial services. The researcher gathered questionnaire data for descriptive analysis using a random sample of 367 respondents (top, middle, and staff) from five distinct commercial banks in Amman. The results showed that the quality of banking services is significantly impacted by IoT. In particular, the study found that all four aspects of performance anticipation, effort expectancy, social influence, and favorable environments have a significant impact. The study also discovered that social influence had the second largest impact on the quality of banking services, while effort expectancy provided the highest amount of impact.

While this study links IoT to bank performance, because it is primarily an analytical study, the data did not allow for the validation of the association. The Hashemite Kingdom of Jordan Telecommunications Regulatory Commission (2017) states that the acceptance of IoT in Jordan would be greatly impacted by the legislative or regulatory framework for IoT and machine-to-machine (M2M). While the majority of these studies (e.g., Afful, 2025; Boateng et al., 2025; Ne'Matov et al., 2025; Al-Khateeb, 2021; Fernandez-Batanero et al., 2024) focused on SLR, other studies (e.g., Almugari et al. (2020a); Bajaj, Almugari, Tabash, Alsyanyi, & Saleem (2021); and Bajaj, Anwar, Yahya, & Saleem, 2023) used CFA in addition to exploratory and confirmatory factor analyses). The only study conducted in Jordan that examined the elements impacting IoT adoption from an empirical approach was Derbas et al. (2025). However, this study left a gap that needed to be filled because it did not examine the direction of Jordan's academic institutions. There is a research void, according to the review of earlier studies. Apart from the conclusions about IoT research, most investigations have been carried out in a specific region or sector. Researchers may find it challenging to extrapolate these findings to other regions of the Middle East.

The types of institutional policies that could influence the adoption of IoT by Jordanian academic institutions have not been identified in any of the earlier IoT research. As a result, it is yet unknown what kind of institutional procedures Jordanian academic institutions might use to adopt IoT.

3. THEORETICAL BACKGROUND

Davis (1989) created the Technology Acceptance Model (TAM), which serves as the theoretical foundation for the target user population's acceptance of technology. According to several studies (Al-Momani et al., 2018; Abu-Taieh et al., 2022; Nusairat, Abdellatif, et al., 2021; Nusairat, Al-Gasawneh et al., 2021), it is a highly influential theoretical framework in this field of study. The degree to which elements affect the acceptability and adoption of technology or the Internet of Things (IoT) can be determined using the TAM model. Based on Davis (1989), the main determinants of IT adoption decisions at the individual and organizational levels are opinions about a system's utility and usability.

Additionally, Davis (1989) asserts that attitudes on the use of a system are based on beliefs about its perceived utility and usability. Intentions to use the system will be influenced by these attitudes, which will eventually result in real usage behaviour. The extensive use of TAM in many studies shows how useful it is for determining how widely new technologies are accepted. Thus, TAM is used in this study to accomplish two goals. First, it pinpoints the elements influencing the acceptability and implementation of technology. Second, it investigates the connections between such variables and the acceptance and use of IoT technologies in Jordanian higher education institutions.

The Unified Theory of Acceptance and Use of Technology (UTAUT), created by Venkatesh & Davis (2000), is the first significant theory that is also relevant to this study. This hypothesis combined numerous well-established hypotheses into a single, all-encompassing theory. Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions are the four primary factors in the UTAUT. These four factors were thought to have an impact on behavioural intentions and, eventually, behaviours. Variables including gender, age, experience, and voluntariness moderate the association between the variables (Venkatesh & Davis, 2000). Like TAM, UTAUT is interested in figuring out why people embrace new technology. Additionally, compared to earlier models like TAM, the UTAUT model is thought to have stronger explanatory power. As a result, it is clear from the discussion above that the UTAUT model is useful for comprehending how IoT is used and implemented in higher education institutions, especially in Jordan. UTAUT assumed that performance expectancy in UTAUT might be compared to perceived usefulness in TAM.

Fortunately both the TAM (Davis, 1989) and UTAUT (Venkatesh et al., 2003; Venkatesh, 2022) models offer basic frameworks for analyzing technology acceptance at the individual level, there has been increasing support in recent years for the claim that generative AI is a very different category of technology than what has been studied using intention-based models alone (Dwivedi et al., 2023; Susarla et al., 2023). For instance, the generative, probabilistic, and socially embedded aspects of generative AI complicate the legal, regulatory, and cultural aspects of its use that are not related to the function of the individual. As a result, we shall expand our theoretical underpinnings along two more dimensions: the cultural and institutional dimensions.

Generative AI-enabled digital platforms are defined as embedded within an institutional field that imposes normative, coercive, and imitating constraints on adoption and perceived value from an institutional approach that draws on institutional theory (DiMaggio & Powell, 1983; Scott, 2014). The Saudi Data & Artificial Intelligence Authority (SDAIA), the Personal Data Protection Law, and the National Strategy for Data and Artificial Intelligence, which originates from Vision 2030, establish regulatory frameworks that directly influence how businesses use and how users assess generative AI capabilities like intelligent automation and hyper personalization. In the Saudi context, coercive assimilation is primarily prevalent. While professional associations and academic institutions that support AI literacy and ethical norms are the source of normative pressures, emulating pressures take the form of digital platforms comparing their generative AI capabilities to those of regional leaders. This institutional entrenchment contributes to the explanation of why technological democratization and collaborative innovation are activities that are legitimized and have symbolic value inside Saudi Arabia's digital transformation strategy, rather than just technical traits.

Users' opinions of what generative AI may accomplish are influenced by their own unique, culturally driven conceptual frameworks. According to Hofstede's Cultural Dimensions Framework (Hofstede, 2011; Minkov & Kaasa, 2022), Saudi culture scores highly in the categories of Authority Distance, Collectivism, and Uncertainty Avoidance. The model has significant theoretical ramifications for cultural characteristics. High Uncertainty Avoidance, for instance, suggests that users would assess generative AI capabilities more favourably when they decrease ambiguity and boost predictability of outcomes; this supports the importance of Intelligent Automation and User Experience as factors that influence perceived value. In line with profoundly ingrained cultural inclinations for creating collective value based on consensus, collectivism also offers a comparable degree of support for the theoretically weighted significance of collaborative innovation. Moreover, Technical Expertise as a modifier is further theoretically supported by the combination of Power Distance and Uncertainty Avoidance: A person's specialized knowledge gives them credibility from a culturally cognitive perspective in situations where there is both a significant Power Distance and Uncertainty Avoidance (Scott, 2014). This increases the user's capacity to convert generative AI capabilities into perceived Platform Value. Our methodology, which moves beyond individual acceptance to a multilayer theorization of the utility of generative AI-enabled digital platforms, is based on the integration of an institutional/cultural perspective with both TAM and UTAUT. It addresses demands for contextualized IS research in developing digital economies (Davison & Martinsons, 2016; Hassan et al., 2022). The variables used in this study to explain the adoption and acceptability of the Internet of Things (IoT), particularly in Jordanian higher institutions, are perceived ease of use, perceived utility, and usage behaviour. Following the above argument and descriptions, the hypothesis is therefore formulated as:

Hypothesis 1(H01) Institutional policy is not positively related to perceived ease of use of IoT adoption in academic institutions.

Hypothesis 2(H02: Institutional policy has no significant impact on perceived usefulness of IoT adoption in academic institutions.

Hypothesis 3(H03: Institutional policy has no significant impact on attitude towards usage of IoT adoption in academic institutions.

3.1. Methods

This study adopted a cross-sectional survey design with a particular interest in the survey questionnaire. The population of the study covers all the academic staff of Albalqa Applied University in Jordan. This study covers 1,483 respondents who are academic staff. A simple random sampling technique was used to select 306 staff according to Sekaran & Bougies (2009) from the population who participated in the study. Sekaran & Bougies (2009) state that a population of 1500 requires a sample size of 306. Based on this, the study sample of this study is 306. A simple random sampling technique was therefore employed to select 306 respondents from the population of 1,483. The study data was collected through a survey questionnaire prepared with the aid of Google Form, using the email procedure. However, only 167 responses were returned: properly filled and usable. We gathered information through a survey that was distributed throughout the academic staff of Albalqa Applied University in Jordan. The variables were operationalized as follows: academic institutions (policy, flexibility, feeling, perception, etc., about IoT), and adoption of IoT (perceived ease of use, perceived usefulness, and attitude towards usage). Thus, only those with academic staff of Albalqa Applied University in Jordan were included in the university as a criterion. It is indicated on the questionnaire that only those with academic staff of Albalqa Applied University in Jordan should complete the questionnaire. At last, only 1483 respondents were qualified to finally participate in the study. This survey was conducted from July 2023 to February 2024. We employed the back-translation procedure, which involved writing the original survey instrument in English and translating it from English to Arabic. To ensure that the use of language is accurate and compatible and to preserve the exact meanings of all items during the translation phase, Brislin (1980) used this process. In addition, SPSS Version 26 and Stata Version 13 were used to analyze collected questionnaire data through the use of both descriptive analysis methods and regression/ordinary least squares (OLS) methods.

4. ANALYSIS RESULT

The analysis was used to summarize the demographic particulars (such as gender, age, marital status, etc.) of the respondents who participated in the study.

4.1. Descriptive Analysis Result

As indicated in Table 4.1 below, the descriptive analysis of respondents' gender demonstrates that 85 of the respondents who participated in the study were females (accounting for 50.9%), while the remaining 82 respondents were males (accounting for 49.1%) with a mean score of 1.51 and a standard deviation of .501. Also, their age bracket revealed that 44 of them were within 30-35 years, 42 of them were within 36-40 years, 41 of them were within 41 years and above, while the remaining 40 of the respondents were less than 30 years thus accounting for 26.3%, 25.1%, 24.6% and 24% respectively with a mean score of 2.50 and standard deviation of 1.12. Furthermore, the marital status shows that many of the participants, numbering 119 (representing 71.3%), were married, while the remaining 48 (accounting for 28.7%) were single, with a total mean score of 1.71 and a standard deviation of .454. Concerning their years of experience, it indicates that 71 of them (accounting for 42.5%) had 4-6 years of experience, 67 of them (representing 40.1%) had 1-3 years of experience, while the rest 29 (accounting for 17.4%) had 7 years and above work experience; with a mean score of 1.77 and standard deviation of .725.

Table 1: Descriptive Analysis Result.

Variables	Frequency	Percent	Mean Scores	Std. Deviation
GENDER:				
Male	82	49.1	1.51	.501
Female	85	50.9		
AGE:				

Less Than 30	40	24.0	2.50	1.119
Years	44	26.3		
30-35 Years	42	25.1		
36-40 Years	41	24.6		
41 Years and				
Above	48	28.7	1.71	.454
MARITAL	119	71.3		
STATUS:				
Single	67	40.1	1.77	.725
Married	71	42.5		
YEARS OF	29	17.4		
EXPERIENCE:	167	100		
1-3 Years				
4-6 Years				
7 Years and				
Above				
TOTAL				

4.2 Testing of Hypotheses

To test its three hypotheses, the study used the standard regression analysis technique through the STATA version 13 statistical tool. The regression analysis was to help the study establish the nature of the relationship between the independent and dependent variables in this study.

4.2.1 Hypothesis One

This hypothesis demonstrates the relationship between institutional policy and perceived ease of use Adoption of IoT. For this hypothesis, the result in Table 4.2 shows that R2 = 0.3251 with the Adjusted R2 = 0.3210, suggesting that the independent variable (institutional policy) explains 32.5% of the variability in the dependent variable (perceived ease of use). Also, the Adjusted R2, which is an estimate of the size, at 0.3210 (32.1%), is indicative of a medium effect size; according to Cohen (2013) classification. The result equally revealed that the regression model is statistically significant and fit; F (1, 165) = 79.47, p< .0001. This indicates that, overall, the model applied can statistically and significantly predict the dependent variable, which is perceived ease of use.

Table 2. The relationship between academic institutions and perceived ease of use.

. regress PERCEIVEDEASEOFUSE ACADEMICINSTITUTIONS

Source	SS	df	MS		
				Number of obs =	167
				F(1, 165) =	79.47
Model	30.9900218	1	30.9900218	Prob > F =	0.0000
Residual	64.3465112	165	.389978856	R-squared =	0.3251
				Adj R-squared =	0.3210
Total	95.3365329	166	.574316463	Root MSE =	.62448

PERCEIVEDEASEOFUSE	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ACADEMICINSTITUTIONS	.8089444	.0907462	8.91	0.000	.629771	.9881177
_cons	1.748728	.2722631	6.42	0.000	1.21116	2.286297

4.2.2 Hypothesis Two

The relationship between institutional policy and perceived usefulness of IoT adoption was equally subjected to the regression analysis through STATA version 13. The result shows that R2 = 0.5794 with the Adjusted R2 = 0.5768, suggesting that the independent variable (institutional policy) explains 57.9% of the variability of the dependent variable (perceived usefulness). Also, the Adjusted R2 as an estimate of the size, which is 0.5768 (57.7%), is an indication of a medium effect size, according to Cohen (2013) classification. The result equally revealed that the regression model is statistically significant, F (1, 165) = 227.26, p< .0001. This indicates that, overall, the model applied can statistically and significantly predict the dependent variable (perceived usefulness of adoption of IoT.

Table 3. The relationship between academic institution policy and perceived usefulness of IoT.

. regress PERCEIVEDUSEFULNESS ACADEMICINSTITUTIONS

Source	SS	df	MS		
				Number of obs =	167
				F(1, 165) =	227.26
Model	50.58632	1	50.58632	Prob > F =	0.0000
Residual	36.7280369	165	.222594163	R-squared =	0.5794
				Adj R-squared =	0.5768
Total	87.3143569	166	.525990102	Root MSE =	.4718

PERCEIVEDUSEFULNESS	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ACADEMICINSTITUTIONS	1.033533	.068559	15.08	0.000	.8981667	1.168899
_cons	1.073684	.2056957	5.22	0.000	.6675496	1.479819

4.2.3 Hypothesis Three

The relationship between institutional policy and attitude towards usage of IoT adoption was also subjected to the regression analysis through STATA version 13. The result shows that R2 = 0.7826 with the Adjusted R2 = 0.7813, suggesting that the independent variable, institutional policy, explains 78.26% of the variability of the dependent variable, attitude towards usage, in the population. Also, the Adjusted R2 is estimated to be of size which is 0.7813 (78.13%), indicative of a medium effect size, according to Cohen (2013) classification. The result revealed that the regression model is statistically significant, F (1, 165) = 594.01, p< .0001, suggesting that overall, the model applied statistically significantly predicts the dependent variable attitude towards usage of adoption of IoT.

Table 4. The relationship between academic institution policy and attitude towards usage.

. regress ATTITUDETOWARDSUSEAGE ACADEMICINSTITUTIONS

Source	SS	df	MS		
Model	84.1687391	1	84.1687391	Number of obs =	167
Residual	23.3797124	165	.141695227	F(1, 165) =	594.01
Total	107.548451	166	.647882238	Prob > F =	0.0000
				R-squared =	0.7826
				Adj R-squared =	0.7813
				Root MSE =	.37642

ATTITUDETOWARDSUSE~E	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ACADEMICINSTITUTIONS	1.333163	.0546997	24.37	0.000	1.225161	1.441164
_cons	.1731188	.1641141	1.05	0.293	-.1509155	.4971531

4.3. Discussion of Findings

The objective of this research was to investigate whether educational institutions' policy and flexibility are conducive to or obstructive to the implementation of Internet of Things (IoT). Our findings revealed a strong relationship between academic institution policy and adoption of IoT, which is represented as Perceived Ease of Use (PEU) at $p<0.001$. It shows that academic institutions, through their policy and flexibility, can statistically and significantly predict the dependent variable, perceived ease of use. What it implies is that the adoption of IoT in institutional policy can be hindered by their policies, including their inability to be flexible about adopting new technology such as IoT. Wingo, Ivankova, and Moss (2017) asserted that academic staff were dissatisfied and unwilling to accept new technology as soon as they found that using a system would take more time or increase their workload. Academic staff show their desires for new and clearer institutional goals and policies concerning IoT adoption and their concern in playing a major part in the development and formulation of these goals and policies. Similarly, the academic staff recommended additional institutional support, such as enrolment camps, instructional design support, etc. Allen and Seaman (2012) also found that academic staff were afraid to accept and adopt new technologies since they did not know how it would affect their quality of teaching, including their promotion and tenure process.

Furthermore, the finding revealed that academic institution policy, including their flexibility, affects the adoption of IoT at $p<0.001$. In other words, it is revealed that academic institutions can statistically significantly predict the perceived usefulness. It shows that academic institutions affect PU, which in turn affects job relevance, including the extent to which users perceive the importance of the system to their jobs in achieving significant goals. The degree to which the policy of the academic institutions supports IoT would go a long way in supporting the adoption of IoT. Hence, IoT would be adopted by the academic institutions if they perceived that it is useful for their academic operations. For example, academic institutions are more likely to adopt IoT once they find that the technology will enhance or improve the general academic performance of the students and academic staff. (Wingo et al., 2017) found a relationship between engaging students with technology with job relevance, which enables the measurement of student progression as an indicator of measurement of success. Thus, academic institution policies towards new technology, such as IoT, should be favorable and flexible to encourage its acceptance and adoption. Overall, academic institutions that view IoT as useful would adopt and accept IoT perceive their own role as evolving into guiding more academic staff to accept it. This finding is comparable with (Ma, Andersson, & Streith, 2005), which reported a relationship between teachers' views about new technology and their acceptance of the technology.

Finally, the study also found that academic institution policy is statistically significantly related to attitude towards usage of IoT at $p<0.001$. It implies that academic institution policy promotes the attitude towards usage of IoT adoption. For example, if the institutional policy is flexible to accommodate new technologies, then the staff within the institution would have positive views and feelings about new technologies, such as IoT adoption. This goes on to show that people's attitude towards using new things like technology matters a lot. For example, a bad or negative attitude towards anything no doubt hinders the adoption of such new technology. Therefore, institutional police should be geared towards welcoming new ideas that are directed towards the effective and efficient achievement of the overall goals and objectives of the organisation.

5.CONCLUSION

In the setting of Albalqa Applied University in Jordan, the aim of this study was to examine the relationship between Institutional Policy and the (PEU), (PU), and (ATU) regarding (IoT). It also investigated whether institutional policy would help or impede the adoption of (IoT). Institutional policies were generally statistically significant to (IoT) adoption in academic institutions, according to the findings of this study's hypothesis testing. Additionally, it showed that institutional policy is a statistical predictor of the perceived utility of IoT adoption, meaning that institutional policy encourages IoT adoption if the institution believes it to be beneficial. Additionally, the study shows that sentiments regarding the implementation of IoT in academic institutions are statistically impacted by institutional policy. An example would be that institutional policy is positively related to a favorable attitude toward usage of (IoT) within an institution.

5.1. Implications For Research and Practice

This study has several clear ramifications. These consequences are crucial, to put it simply. Research implications have to do with how academia can use research findings to help the creation of evidence-based policy. To put it another way, the findings of this study can aid in creating the best IoT laws and policies for educational institutions worldwide. Additionally, it will give institutions a better grasp of the advantages and difficulties of implementing IoT technology, enabling them to create more effective strategic plans for its successful deployment. The study's findings highlight the necessity for organizations (academic institutions) to guarantee sufficient control over their IoT systems, which has practical implications. This holds true for organizations everywhere, not just in Jordan. Organizations must also specify who has access to their IoT devices and data in their IoT rules. Accountability for data security and IoT device management can now be established by organizations.

The findings of this study also have the potential to help firms develop and implement strategies that would maximize the advantages of IoT use while lowering risks and adhering to legal requirements. Finally, for optimal operational efficiency, the demands and experiences of users must be given top importance when deploying IoT solutions.

5.2. Contribution to knowledge

In addition to adding to the body of knowledge already available in the field of IoT, which is still in its early stages and has little literature, the study has offered a useful understanding of how institutional policy influences IoT adoption, especially in academic institutions. According to Afful (2025), Boateng et al. (2025), Ne'Matov et al. (2025), Fernández-Batanero et al. (2024), Kuaban et al. (2024), Reulke and Thorsen (2025), and others, IoT is still relatively new and hence needs further research. Additionally, the research of institutional policy in connection with IoT adoption is thought to be innovative because, at the time this study was undertaken, no such studies had been done.

5.3. Limitations and Recommendations for Future Research

There are a few constraints to consider while evaluating the findings of this investigation. The study's subjects are the first drawback. Academic staff members served as the study's subjects. Therefore, it would be very helpful to emphasize that non-academic staff, such as support staff who also handle student records and filing, would use IoT in addition to academic staff. Nonetheless, the academic staff is perhaps the best representative of the university's overall perspective on IoT adoption. Future research may therefore consider including more employees, particularly non-academic personnel. Additionally, sample size is one of the study's primary drawbacks, where there were 167 responses from 306 participants in the study (Pallant, 2020). For trustworthy results, Pallant and others recommend a sample size of at least 200. As a result, the current study recommends expanding the sample size beyond 200. Lastly, the organizational context has a significant impact on the adoption and acceptance of technology. To compare the disparities in empirical findings, future research may wish to gather data in other circumstances.

Author Contributions: All authors made an equal contribution to the development and planning of the study.
Conflicts of Interest: The authors declared no potential conflicts of interest with respect to the research, authorship, and/ or publication of this article.
Data Availability Statement: Anonymised data can be made available on request to the corresponding author.

REFERENCES

Abbasi, M. A., Memon, Z. A., Durrani, N. M., Haider, W., Laeeq, K., & Mallah, G. A. (2021). A multi-layer trust-based middleware framework for handling interoperability issues in heterogeneous IoTs. Cluster Computing, 24, 2133-2160. doi:https://doi.org/10.1007/s10586-021-03243-1

Abu-Taieh, E. M., AlHadid, I., Abu-Tayeh, S., Masa'deh, R. e., Alkhawaldeh, R. S., Khwaldeh, S., & Alrowwad, A. a. (2022). Continued Intention to Use of M-Banking in Jordan by integrating UTAUT, TPB, TAM and Service Quality with ML. Journal of Open Innovation: Technology, Market, and Complexity, 8(3), 120. doi:https://doi.org/10.3390/joitmc8030120

Afful, E. (2025). Preliminary Study of Internet of Educational Things and Big Data Analytics Adoption in Higher Education Institutions. International journal of Technology in Education Science, 2(1), 32-52. https://doi.org/https://ijoftes.net/index.php/ijoftes/article/view/270

Al-Fuqaha, A., Guizani, M., Mohammadi, M., Aledhari, M., & Ayyash, M. (2015). Internet of things: A survey on enabling technologies, protocols, and applications. IEEE communications surveys tutorials, 17(4), 2347-2376. doi:http://doi.org/10.1109/COMST.2015.2444095

Al-Khateeb, B. A. A. (2021). Determinants of electronic library resources access in Saudi Arabia Higher Institutions. International Journal of E-Business Research (IJEBR), 17(1), 1-10.doi:http://doi.org/10.4018/IJEBR.2021010103

Al-khateeb, B. A. A. (2021). User's perceptions and online education acceptance in the new normal at Imam Mohammad ibn Saud Islamic University (IMSIU), Saudi Arabia. Journal of Theoretical and Applied Information Technology, 99(20).

Alkhwaldi, A. F., & Abdulmuhsin, A. A. (2022). Understanding User Acceptance of IoT Based Healthcare in Jordan: Integration of the TTF and TAM. In Digital Economy, Business Analytics, and Big Data Analytics Applications (pp. 191-213): Springer.

Allen, I. E., & Seaman, J. (2012). Conflicted: Faculty and Online Education, 2012. Babson Survey Research Group.

Allen, I. E., & Seaman, J. (2012). Digital Faculty: Professors, Teaching and Technology, 2012. Babson Survey Research Group.

Al-Momani, A. M., Mahmoud, M. A., & Ahmad, M. S. (2018). Factors that influence the acceptance of internet of things services by customers of telecommunication companies in Jordan. Journal of Organizational End User Computing, 30(4), 51-63. doi:https://doi.org/10.4018/JOEUC.2018100104

Almugari, F., Bajaj, P., Tabash, M. I., Khan, A., & Ali, M. A. (2020a). An examination of consumers' adoption of internet of things (IoT) in Indian banks. Cogent Business Management, 7(1), 1809071. doi:https://doi.org/10.1080/23311975.2020.1809071

Almugari, F., Bajaj, P., Tabash, M. I., Khan, A., & Ali, M. A. (2020b). An examination of consumers' adoption of internet of things (IoT) in Indian banks. Cogent Business & Management, 7(1), 1809071. doi:https://doi.org/10.1080/23311975.2020.1809071

Al-Tall, R. M. (2020). IMPACT FACTORS IN INTERNET OF THINGS TECHNOLOGY ADOPTION BY USERS: AN EMPIRICAL STUDY. International Journal of Management, 11(12). doi:https://doi.org/10.34218/IJM.11.12.2020.209

America, P. C. o. N. (2023). Institution Policy. https://www.sciencedirect.com/topics/social-sciences/institution-policy

Ande, R., Adebisi, B., Hammoudeh, M., & Saleem, J. (2020). Internet of Things: Evolution and technologies from a security perspective. Sustainable Cities and Society, 54, 101728. doi:https://doi.org/10.1016/j.scs.2019.101728

Aryal, A., Liao, Y., Nattuthurai, P., & Li, B. (2020). The emerging big data analytics and IoT in supply chain management: a systematic review. Supply Chain Management: An International Journal, 25(2), 141-156. doi:https://doi.org/10.1108/SCM-03-2018-0149

Bajaj, P., Almugari, F., Tabash, M. I., Alsyani, M., & Saleem, I. (2021). Factors influencing consumer's adoption of internet of things: an empirical study from Indian context. International Journal of Business Innovation and Research, 24(3), 315-338. doi:https://doi.org/10.1504/IJBIR.2021.113517

Bajaj, P., Anwar, I., Yahya, A. T., & Saleem, I. (2023). Factors Influencing Adoption of IoT and Its Impact on CRM in Banks: Examining the Moderating Role of Gender, Age, and Bank Ownership Type. Human Behavior and Emerging Technologies, 2023. doi:https://doi.org/10.1155/2023/5571508

Bandyopadhyay, K., & Bandyopadhyay, S. (2010). User acceptance of information technology across cultures. International Journal of Intercultural Information Management, 2(3), 218-231. doi:https://doi.org/10.1504/IJIIM.2010.037862

Boateng, F., Aroba, O. J., & PATEL, S. S. (2025). Sustainable Strategies and Factors Influencing IoT Adoption Frameworks in Library Management in Educational Institutions: A Systematic Literature Review. Routledge Open Research, 4, 5. https://doi.org/https://doi.org/10.12688/routledgeopenres.19102.2

Brislin, R. W. (1980). Translation and content analysis of oral and written materials. Methodology, 389-444.

Brous, P., Janssen, M., & Herder, P. (2020). The dual effects of the Internet of Things (IoT): A systematic review of the benefits and risks of IoT adoption by organizations. International Journal of Information Management, 51, 101952. doi:https://doi.org/10.1016/j.ijinfomgt.2019.05.008

Busse, R., Elliott, S. N., & Kratochwill, T. R. (2010). Convergent evidence scaling for multiple assessment indicators: Conceptual issues, applications, and technical challenges. Journal of Applied School Psychology, 26(2), 149-161. doi:https://doi.org/10.1080/15377901003712728

Chatterjee, S. (2020a). Factors impacting behavioral intention of users to adopt IoT in India: from security and privacy perspective. International Journal of Information Security and Privacy (IJISP), 14(4), 92-112. doi:https://doi.org/10.4018/IJISP.2020100106

Chatterjee, S. (2020b). Internet of Things and social platforms: an empirical analysis from Indian consumer behavioural perspective. Behaviour & Information Technology, 39(2), 133-149. doi:https://doi.org/10.1080/0144929X.2019.1587001

Čolaković, A., & Hadžialić, M. (2018). Internet of Things (IoT): A review of enabling technologies, challenges, and open research issues. Computer networks, 144, 17-39. doi:https://doi.org/10.1016/j.comnet.2018.07.017

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS quarterly, 319-340. doi:https://doi.org/10.2307/249008

De Vass, T., Shee, H., & Miah, S. J. (2021). Iot in supply chain management: a narrative on retail sector sustainability. International Journal of Logistics Research and Applications, 24(6), 605-624. doi:https://doi.org/10.1080/13675567.2020.1787970

Derbas, A., Hnaif, A., Saleh, S. A., Zyoud, I. A., & Al-khawaja, H. (2025). Challenges of IoT integration in education: A case study of students at Al-Zaytoonah University of Jordan. International Journal of ADVANCED AND APPLIED SCIENCES. https://doi.org/ https://doi.org/10.21833/ijaas.2025.01.012

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. American Sociological Review, 48(2), 147–160. https://doi.org/10.2307/2095101

Din, I. U., Guizani, M., Hassan, S., Kim, B.-S., Khan, M. K., Atiquzzaman, M., & Ahmed, S. H. (2018). The Internet of Things: A review of enabled technologies and future challenges. Ieee Access, 7, 7606-7640. doi:https://doi.org/10.1109/ACCESS.2018.2886601

Dishu. (2021). Institutional policy. https://www.scribd.com/document/508715770/insitutional-policy

Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., … Williams, M. D. (2023). "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI. International Journal of Information Management, 71, 102642. https://doi.org/10.1016/j.ijinfomgt.2023.102642

Elshaer, I., Jaoua, F., Alaa, A., Zayed, M., Zouari, S.& Mohamed, E. (2026). Workplace Spirituality, Employee Well-Being, and Individual Work Performance in Public Universities: A Gender-Integrated Model," International Journal of Customer Relationship Marketing and Management (IJCRMM), IGI Global Scientific Publishing, 17(1), 1-19. https://doi.org/ 10.4018/IJCRMM.402191.

Fernández-Batanero, J. M., Montenegro-Rueda, M., Fernández-Cerero, J., & López Menéses, E. (2024). Adoption of the Internet of Things in higher education: opportunities and challenges. Interactive Technology and Smart Education, 21(2), 292-307. https://doi.org/https://doi.org/10.1108/ITSE-01-2023-0025

Foundation, A. L. (2025). Al Balqa Applied University. https://alf.website/en/?members=al-balqa-applied-university#:~:text=Al%2DBalqa%20Applied%20University%20(BAU,widely%20spread%20university%20in%20Jordan.

Freeman, B. (2018). Institutional Policy 101: Recapping the Essential Features of Institutional Policy Conference: ATEM Institutional Policy Seminar, Australian Catholic University, Sydney Australia,

Galib, M. H., Hammou, K. A., & Steiger, J. (2018). Predicting consumer behavior: An extension of technology acceptance model. International Journal of Marketing Studies, 10(3), 73-90. doi:https://doi.org/10.5539/ijms.v10n3p73

Gao, L., & Bai, X. (2014). A unified perspective on the factors influencing consumer acceptance of internet of things technology. Asia Pacific Journal of Marketing Logistics. doi:https://doi.org/10.1108/APJML-06-2013-0061

Ghaffari, K., Lagzian, M., Kazemi, M., & Malekzadeh, G. (2019). A comprehensive framework for Internet of Things development: A grounded theory study of requirements. Journal of Enterprise Information Management. doi:https://doi.org/10.1108/JEIM-02-2019-0060

Gubbi, J., Buyya, R., Marusic, S., & Palaniswami, M. (2013). Internet of Things (IoT): A vision, architectural elements, and future directions. Future generation computer systems, 29(7), 1645-1660. doi:https://doi.org/10.1016/j.future.2013.01.010

Haddud, A., DeSouza, A., Khare, A., & Lee, H. (2017). Examining potential benefits and challenges associated with the Internet of Things integration in supply chains. Journal of Manufacturing Technology Management. doi:https://doi.org/10.1108/JMTM-05-2017-0094

Haller, S., Karnouskos, S., & Schroth, C. (2008). The internet of things in an enterprise context. Paper presented at the Future internet symposium.

Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. Online Readings in Psychology and Culture, 2(1), Article 8. https://doi.org/10.9707/2307-0919.1014

Hong, S.-K. (2015). An Explorative Study on the Features of Activity Trackers as IoT based Wearable Devices. Journal Of Korean Society For Internet Information, 16(5). doi:https://doi.org/10.7472/jksii.2015.16.5.93

Hsu, C.-L., & Lin, J. C.-C. (2016). An empirical examination of consumer adoption of Internet of Things services: Network externalities and concern for information privacy perspectives. Computers in human behavior, 62, 516-527. doi:https://doi.org/10.1016/j.chb.2016.04.023\

Indrakumari, R., Poongodi, T., Suresh, P., & Balamurugan, B. (2020). The growing role of Internet of Things in healthcare wearables. In Emergence of Pharmaceutical Industry Growth with Industrial IoT Approach (pp. 163-194): Elsevier.

Jordan. (2017). The Hashemite Kingdom of Jordan Telecommunications Regulatory Commission (2017). Retrieved from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://trc.gov.jo/EchoBusV3.0/SystemAssets/TRC%20images/%D8%A7%D9%84%D8%A7%D8%B3%D8%B9%D8%A7%D8%B1%20%D9%88%D8%A7%D9%84%D8%A7%D8%AC%D9%88%D8%B1/%D8%AE%D8%AF%D9%85%D8%A7%D8%AA%20%D8%A7%D9%84%D9%87%D9%88%D8%A7%D8%AA%D9%81%20%D8%A7%D9%84%D9%85%D8%AA%D9%86%D9%82%D9%84%D8%A9/%D8%A7%D9%84%D9%82%D8%B1%D8%A7%D8%B1%20%D8%A7%D9%84%D8%AA%D9%86%D8%B8%D9%8A%D9%85%D9%8A.pdf

Kao, Y.-S., Nawata, K., & Huang, C.-Y. (2019). An exploration and confirmation of the factors influencing adoption of IoT-based wearable fitness trackers. International journal of environmental research public health, 16(18), 3227. doi:https://doi.org/10.3390/ijerph16183227

Kiel, D., Arnold, C., & Voigt, K.-I. (2017). The influence of the Industrial Internet of Things on business models of established manufacturing companies–A business level perspective. Technovation, 68, 4-19. doi:https://doi.org/10.1016/j.technovation.2017.09.003

Köksal, Ö., & Tekinerdogan, B. (2019). Architecture design approach for IoT-based farm management information systems. Precision Agriculture, 20, 926-958. doi:https://doi.org/10.1007/s11119-018-09624-8

Kuaban, G. S., Nkemeni, V., Nwobodo, O. J., Czekalski, P., & Mieyeville, F. (2024). Internet of things adoption in technology ecosystems within the central African region: The case of silicon mountain. Future Internet, 16(10), 376. https://doi.org/https://doi.org/10.3390/fi16100376

Kumar, M. R., Devi, B. R., Rangaswamy, K., Sangeetha, M., & Kumar, K. V. R. (2023). IoT-edge computing for efficient and effective information process on industrial automation. 2023 International Conference on Networking and Communications (ICNWC)

Lindgren, M., Reulke, H., & Thorsen, E. (2025). Adoption of Internet of Things (IoT) Technologies in Supply Chain-Oriented Digital Business Models. Journal of Electronic Commerce Management, 1, 33-53

Lu, Y., Papagiannidis, S., & Alamanos, E. (2018). Internet of Things: A systematic review of the business literature from the user and organisational perspectives. Technological Forecasting and Social Change, 136, 285-297. doi:https://doi.org/10.1016/j.techfore.2018.01.022

Ma, W. W. k., Andersson, R., & Streith, K. O. (2005). Examining user acceptance of computer technology: An empirical study of student teachers. Journal of computer assisted learning, 21(6), 387-395.

Manavalan, E., & Jayakrishna, K. (2019). A review of Internet of Things (IoT) embedded sustainable supply chain for industry 4.0 requirements. Computers & industrial engineering, 127, 925-953. doi:https://doi.org/10.1016/j.cie.2018.11.030

Minkov, M., & Kaasa, A. (2022). Do dimensions of culture exist objectively? A validation of the revised Minkov–Hofstede model. International Business Review, 31(1), 101971. https://doi.org/10.1016/j.ibusrev.2021.101971

Mun, Y. Y., Jackson, J. D., Park, J. S., & Probst, J. C. (2006). Understanding information technology acceptance by individual professionals: Toward an integrative view. Information management, 43(3), 350-363.

Ne'Matov, N., Kamalova, K., O'Telbayev, R., & Yuldashev, U. (2025). The Adoption of Internet of Things (IOT) In Service Organizations: Benefits And Challenges. Экономика и социум(5-1 (132)), 532-535

Noura, M., Atiquzzaman, M., & Gaedke, M. (2019). Interoperability in internet of things: Taxonomies and open challenges. Mobile networks and applications, 24, 796-809. doi:https://doi.org/10.1007/s11036-018-1089-9

Nusairat, N., Abdellatif, H., Al-Gasawneh, J., Akhorshaideh, A., Aloqool, A., Rabah, S., & Ahmad, A. (2021). Determinants of behavioral intentions to use mobile healthcare applications in Jordan. International Journal of Data and Network Science, 5(4), 547-556. doi:https://doi.org/10.5267/j.ijdns.2021.8.013

Nusairat, N., Al-Gasawneh, J., Aloqool, A., Alzubi, K., Akhorshaideh, A., Joudeh, J., & Ibrahim, H. (2021). The relationship between Internet of things and search engine optimization in Jordanian Tele-Communication Companies: The mediating role of user behavior. International Journal of Data and Network Science, 5(3), 163-172. doi:https://doi.org/10.5267/j.ijdns.2021.6.016

Pallant, J. (2020). SPSS survival manual: A step by step guide to data analysis using IBM SPSS: Routledge.

Pancar, T., & Ozkan Yildirim, S. (2023). Exploring factors affecting consumers' adoption of wearable devices to track health data. Universal Access in the Information Society, 22(2), 331-349. doi:https://doi.org/10.1007/s10209-021-00848-6

Papert, M., & Pflaum, A. (2017). Development of an ecosystem model for the realization of internet of things (IoT) services in supply chain management. Electronic Markets, 27, 175-189. doi:https://doi.org/10.1007/s12525-017-0251-8

Peoples, C., Parr, G., McClean, S., Scotney, B., & Morrow, P. (2013). Performance evaluation of green data centre management supporting sustainable growth of the internet of things. Simulation Modelling Practice Theory, 34, 221-242.

Philip, N. Y., Rodrigues, J. J., Wang, H., Fong, S. J., & Chen, J. (2021). Internet of Things for in-home health monitoring systems: Current advances, challenges and future directions. IEEE Journal on Selected Areas in Communications, 39(2), 300-310. doi:https://doi.org/10.1109/JSAC.2020.3042421

Primya, T., M, S., Ramya, V., Taanusri, S. R., Ridhanya, G., & Sekar, R. A. (2023). Data sharing in cloud-assisted IoT. International Conference on Science Technology Engineering and Management (ICONSTEM)

Scott, W. R. (2014). Institutions and organizations: Ideas, interests, and identities (4th ed.). SAGE Publications.

Sekaran, U., & Bougies, R. (2009). Research Method for Business. 5th John Wiley and Sons. Inc: United Kingdom.

Shin, D.-H., & Park, Y. J. (2017). Understanding the Internet of Things ecosystem: multi-level analysis of users, society, and ecology. Digital Policy, Regulation Governance. doi:https://doi.org/10.1108/DPRG-07-2016-0035

Sundmaeker, H., Guillemin, P., Friess, P., & Woelfflé, S. (2010). Vision and challenges for realising the Internet of Things. Cluster of European research projects on the internet of things, European Commision, 3(3), 34-36.

Tan, L., & Wang, N. (2010). Future internet: The internet of things. Paper presented at the 2010 3rd international conference on advanced computer theory and engineering (ICACTE).

Tiwari, V. K., & Singh, V. (2016). Study of Internet of Things (IoT): A Vision, Architectural Elements, and Future Directions. International Journal of Advanced Research in Computer Science, 7(7).

Tu, T. A. (2023). The relationship between Big Data and IoT. Journal of Computing and Electronic Information Management 10. https://doi.org/https://doi.org/10.54097/jceim.v10i3.8768

Uckelmann, D., Harrison, M., & Michahelles, F. (2011). An architectural approach towards the future internet of things. In Architecting the internet of things (pp. 1-24): Springer.

Venkatesh, V. (2022). Adoption and use of AI tools: A research agenda grounded in UTAUT. Annals of Operations Research, 308(1), 641–652. https://doi.org/10.1007/s10479-020-03918-9

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. Management science, 46(2), 186-204. doi:https://doi.org/10.1287/mnsc.46.2.186.11926

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS quarterly, 425-478. doi:https://doi.org/10.2307/30036540

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. MIS quarterly, 157-178.

doi:https://doi.org/10.2307/41410412

Weber, R. H. (2010). Internet of Things–New security and privacy challenges. Computer law security review, 26(1), 23-30.

Wingo, N. P., Ivankova, N. V., & Moss, J. A. (2017). Faculty perceptions about teaching online: Exploring the literature using the technology acceptance model as an organizing framework. 21(1), 15-35. doi:https://doi.org/10.24059/olj.v21i1.761

Yu, K.-C., Lin, K.-Y., & Fan, S.-C. (2015). An exploratory study on the application of conceptual knowledge and critical thinking to technological issues. International Journal of Technology and Design Education, 25, 339-361. doi:https://doi.org/10.1007/s10798-014-9289-5

Zhao, J., Zheng, X., Dong, R., & Shao, G. (2013). The planning, construction, and management toward sustainable cities in China needs the Environmental Internet of Things. International Journal of Sustainable Development World Ecology, 20(3), 195-198.

النهار, & مشعل, د. (2019). The Impact of Internet of Things (IoT) on Financial Services Quality: Field Study in Jordanian Commercial Banks. أثر انترنت الاشياء علي جودة الخدمات المالية: دراسة ميدانية علي البنوك الاردنية التجارية. جامعة الشرق الاوسط,