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# Internet of Things and Employee Engagement Across the Business Model in the Business Park Companies in Jordan

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**ABSTRACT**

Businesses now function and engage with technology very differently as a result of the Internet of Things' (IoT) rapid growth. This study investigates the connection between IoT adoption, the business models used by businesses located in a Jordanian business park, and its effect on employee engagement (EE). This research intends to offer insights into how the incorporation of IoT technology affects EE levels through the moderating role of business model's mechanisms, in recognition of the critical role that engaged employees play in fostering organizational success. Data were gathered from 68 big companies a range of businesses inside a well-known commercial complex in Jordan using a quantitative approach, which also included questionnaires. Out 265 questionnaires were retrieved, 230 valid for analysis. PLS4 were employed to analyze the data. The results emphasize how closely intertwined IoT integration, components of business models, and employee engagement are. It has been discovered that the alignment of IoT-enabled processes with the business model's strategies improves operational effectiveness, streamline workflows, and enhance EE. Limitation and future research are also provided.

**Keywords:** Influence of Internet, Employee's Engagement, Business Model, UTAUT, TAM Model, Jordan
**JEL Classifications:** C21, L20, L84, M12

## 1. INTRODUCTION

The Internet of Things (IoT) is a technological paradigm shift that has completely changed how we interact with the world and the things around us on a daily basis (Sisinni et al., 2018). IoT is fundamentally a huge network of physically connected objects, ranging from commonplace items like wearable technology and home appliances to sophisticated industrial machinery and infrastructure (Vermesan and Friess, 2022). These devices have sensors, software, and communication features built in, allowing them to gather, exchange, and process data on their own (Al Kurdi, 2024; Sukkari, 2024). The seamless fusion of the digital and physical worlds is what is driving the IoT (Li et al., 2022). IoT gives devices greater intelligence and capability by connecting them to the internet and allowing them to communicate with one another and with central systems (Alshurideh, 2024; Ozturk, 2024). This connectivity makes it possible for real-time information to be exchanged, enabling data-driven decision-making, process automation, and the development of novel services and applications (Asad et al., 2021). The impact of the IoT extends across various sectors (Shim et al., 2020), including the business environment and organizations' competition in various markets (Al-Shibly et al., 2019; Rahi et al., 2023). How we use and interact with technology has undergone a fundamental change as a result of the IoT (Laghari et al., 2021). The term IoT refers to a network of physical objects that are networked and

outfitted with sensors, software, and network connectivity, such as furniture, machinery, automobiles, and buildings (Vermesan et al., 2022). The transformation of industries and customer experiences brought about by technology has also had a substantial impact on employee engagement (Turner, 2019). Employee emotional commitment to their separate firms is referred to as employee engagement, a concept crucial to corporate success (Obeidat, 2016). Being emotionally connected to and committed to one's employer, employee engagement is a key notion in the context of contemporary workplace relations (Guest, 2017), It involves a strong sense of commitment, dedication, and excitement for one's work and the objectives of the company. It goes beyond simple job satisfaction. Employee engagement is known to have a substantial impact on an organization's success by resulting in increased levels of output, innovation, and general job performance (Imran et al., 2022). The advantages of employee engagement go beyond individual loyalty and performance (Almeida and Coelho, 2019). By working well together, proposing creative solutions, and promoting a culture of continuous development, engaged employees frequently contribute to a great work environment. Additionally, they frequently have a favorable impact on their coworkers, which can benefit the entire team and business (Mone et al., 2018). Employee engagement results in higher productivity, more creative ideas, and overall organizational success because engaged workers are inspired, committed, and excited about their work (Turner, 2019). The IoT's integration into the workplace has the ability to change the dynamics of employee engagement as the workplace landscape changes (Balakrishnan and Das, 2020).

The goal of this study is to look into the many ways that the IoT has an impact on EE. By examining the ways in which IoT technologies affect numerous aspects of expected effort, facilitation of conditions, attitude toward, and reported enjoyment, we hope to provide a full knowledge of the relationship between IoT and employee engagement. By offering in-depth inputs for decision makers, this research initiative aims to add to the expanding body of knowledge on the junction of technology and employee engagement through a thorough review of the existing literature, case studies, and expert perspectives. Organizations may make educated choices regarding their technological investments and how they will affect the development of a more engaged and motivated workforce by casting light on the possible advantages and disadvantages of integrating IoT technologies into the workplace (Al Kurdi et al., 2024; Alshurideh et al., 2024). We will examine the precise ways in which IoT affects employee engagement in the following sections of this study, emphasizing examples from the real world and analyzing the consequences for organizational strategies, policies, and practices. Through this investigation, we seek to offer insightful information about how employee engagement dynamics are changing in a society that is becoming more technologically advanced and networked.

## 2. THEORETICAL BACKGROUND

The widely accepted theoretical framework known as the Technology Acceptance Model (TAM) describes how people embrace and accept new technology (Alghizzawi et al., 2019). TAM, which was created by Fred Davis in the late 1980s, is concentrated on the critical elements that affect consumers' intentions to utilize technology and their actual usage behavior (Salloum et al., 2019). Although the model has been expanded upon and modified throughout time, its fundamental ideas are still crucial to comprehending technology adoption (Rahi et al., 2019). In order to comprehend and forecast technology adoption in a variety of situations, including workplaces, education, healthcare, and more, TAM has been widely used in academic and practical contexts. It offers perceptions into the psychological aspects that influence consumers' decisions about the adoption and use of new technologies (Yaacob and Saad, 2020). Accordingly, the current study came to demonstrate the role of this model within the variables of the proposed study by linking it to the business model and employee's engagement. Figure 1 shows us the variables that this model reflects.

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a comprehensive model that builds upon the Technology Acceptance Model (TAM) by incorporating numerous theories and models pertinent to technology adoption, Venkatesh developed UTAUT in 2003 to provide a more thorough framework for understanding the factors that influence users' intentions and behaviors when embracing and utilizing new technology (Venkatesh et al., 2003). To predict and explain technology adoption behaviors in a variety of contexts, including consumer goods, workplace systems, healthcare technologies, and more, UTAUT has been widely employed in research and practical applications. The model is a useful tool for comprehending the complexity of technology acceptance because of its comprehensive breadth and incorporation of social elements (Khechine et al., 2016). The Figure 2, image below, which starts with performance expectation, illustrates how UTAUT identifies four fundamental characteristics that have a direct impact on users' behavioral intent and technology use: Similar to TAM, this construct denotes a user's expectation that the usage of technology would result in enhanced performance or outcomes. It captures the idea of technology's advantages. Hence, some effort is expected: This construct indicates the user's opinion of how simple the technology is to use, just like the TAM does. It captures the impression of technology's use (Uğur and Turan, 2019). Social Impact: This concept considers how societal norms and variables affect users' inclinations to use technology. It comprises both social support (others' support) and subjective norms (others' influences). The last element is facilitating conditions, which measures how much users believe they have access to the infrastructure, assistance, and resources required to use the technology effectively (Sangeetha et al., 2020).

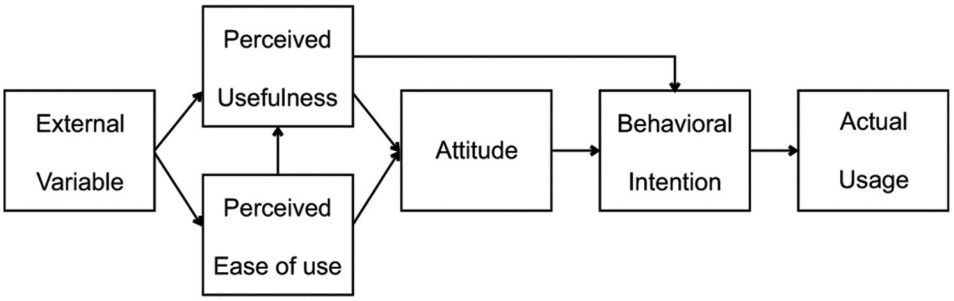
Through the development of the TAM model through the UTAUT, we can see the interaction of people with technology, which strengthened the currently proposed study model on the most important combinations that are commensurate with the business model and the of employees engagement by enhancing their behavior within the organization.

## 3. HYPOTHESES DEVELOPMENT

### 3.1. Performance Expectancy and Effort Expectancy

A key idea in the realm of user adoption and technology acceptance is performance expectancy (Venkatesh et al., 2000).

**Figure 1:** Tam model




Source: Davis, 1989

It refers to a person's perspective of how well a system or piece of technology will enable them to carry out their duties and realize their objectives (Davis, 1989). The impact of technology, such as the usage of digital tools or systems, on employees' capacity to effectively carry out their job obligations, is strongly entwined with the relationship between performance expectancy and engagement when it comes to employee engagement (Jeljeli et al., 2022). Employee engagement can be significantly impacted by the perceived performance-enhancing powers of technology, according to research (Sudrajat et al., 2021). Employees are more inclined to interact favorably with a technology or system when they think it will make their jobs simpler, more effective, and efficient (World Bank Group, 2016). This favorable perception may boost a person's excitement, motivation, and dedication to their task, which eventually raises levels of engagement (Bakker, 2015). Thus, integrating technology that is in line with employees' perceived performance standards can help to create a positive feedback loop in which improved engagement promotes increased technology adoption, which in turn results in more productive and contented workers (Sung et al., 2015).

Another essential element of the Technology Acceptance Model (TAM) that significantly influences the connection between employee engagement and technology adoption is effort expectancy (Venkatesh et al., 2000). The perceived ease of use and the little mental and physical effort needed to comprehend and use a technology or system are referred to as effort expectation (Salloum et al., 2021). The relationship between effort expectancy and engagement in the context of employee engagement is based on how employees' propensity to use technology is influenced by how simple they perceive it to be to use (Derks et al., 2015). Employee engagement and effort expectancy are related, which emphasizes the significance of creating and deploying user-friendly technologies in the workplace. Employee engagement may grow as a result of efforts to lower the perceived effort needed for technology adoption, as workers are more willing to use tools that improve rather than hinder their work experience (Supatn and Puapradit, 2019). Consequently, the following hypotheses is put forth.

*$H_1$: Performance Expectancy (PEX) of IoT has a positive impact on EE.*

*$H_2$: Effort Expectancy (EFE) of IoT has a positive impact on EE.*

### 3.2. Facilitating Conditions

According to the UTAUT paradigm, a person's impression of the accessibility of the tools and support they require to use a technology effectively is referred to as their belief in enabling conditions (Abbad, 2021). The relationship between facilitating conditions and engagement in the context of employee engagement relates to how the accessibility of resources, training, and assistance for using technology effects employees' overall job satisfaction, motivation, and dedication to their work (Hanaysha, 2016). According to Albrecht et al., (2015) Employee engagement benefits from creating an environment where facilitating circumstances are met. Employee satisfaction, motivation, and engagement are more likely to grow when they have access to the tools, training, and support they need to use technology effectively in the workplace. This emphasizes how crucial it is for businesses to give their staff the tools and environment they need to make the most of technology (Elnaga and Imran, 2013). The role of technology acceptance from the perspective of facilitating conditions for employee participation and learning reflects a positive relationship (Maican et al., 2019). Consequently, the following hypothesis is put forth.

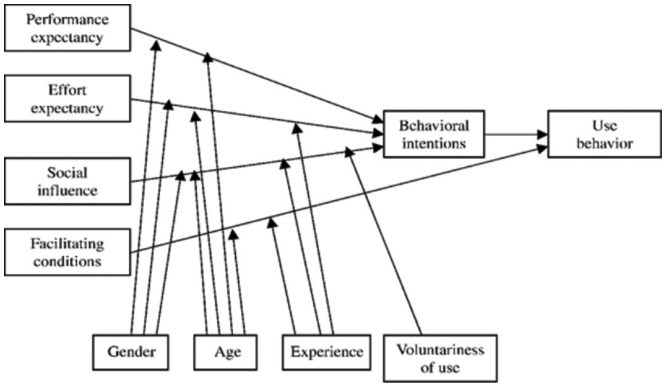
*$H_3$: Facilitating Conditions (FC) for IoT has a positive impact on EE.*

### 3.3. Attitude Towards

As a crucial element of the Technology Acceptance Model (TAM), attitude toward technology adoption refers to a person's overall view and assessment of a technology's utility and usability (Rad et al., 2022). When it comes to employee engagement, the connection between attitude toward technology and engagement is based on how employees' positive or negative perceptions of technology affect their willingness to adopt it, which in turn can affect their overall job satisfaction, motivation, and commitment to their work (Fujimoto et al., 2016). The link between employee engagement and attitude toward technology emphasizes the significance of taking into account employees' views and attitudes while introducing new technologies (Wünderlich et al., 2013). Organizations can encourage a culture of technological acceptance by creating positive perceptions of technology's value and use. This can have a good effect on employees' engagement, productivity, and general job satisfaction (Hanaysha, 2016). Consequently, the following hypothesis is put forth.

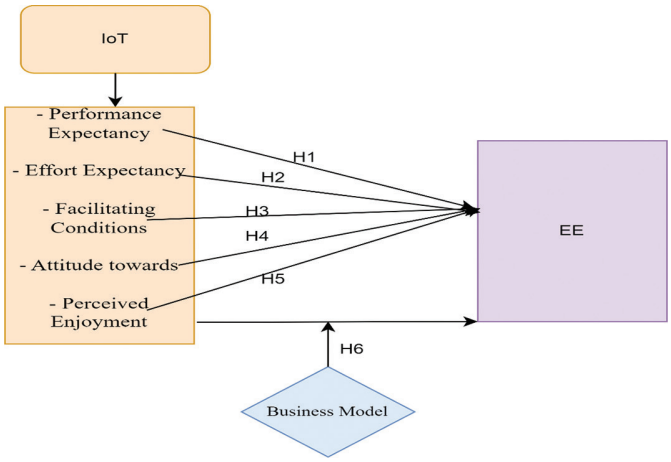
*$H_4$: Attitude towards (AT) using IoT has a positive impact on EE.*

**Figure 2:** UTAUT model




**Source:** Venkatesh et al., 2000

**Figure 3:** Research model




### 3.4. Perceived Enjoyment

The term "perceived enjoyment" describes how a person feels when using a technology or system, and is closely related to the concepts of "user experience" and "intrinsic motivation" (Li et al., 2013). The relationship between perceived enjoyment and engagement in the context of employee engagement is based on how employees' positive experiences and happiness with technology usage affect their general zeal, drive, and devotion to their work (Riyanto et al., 2021). Increasing perceived satisfaction in the use of technology is a tactic that can boost employee engagement (Nor et al., 2018). According to Kamel et al., (2017) Employees are more likely to approach their work with a good attitude, creativity, and a sense of fulfillment when they find joy and satisfaction in using technology, this underscores the significance of designing technologies and systems that prioritize user experience and contribute to employees' overall sense of enjoyment in their work tasks. Consequently, the following hypothesis is put forth.

*$H_5$: Perceived Enjoyment (PE) towards IoT has a positive impact on EE.*

### 3.5. Business Model

A company's business model outlines its value creation, delivery, and capture processes (Bilgeri et al., 2015). Because a company's operations, how it treats its people, and how it develops its processes can have a big impact on how motivated, satisfied, and committed its employees are, there is a complicated relationship between a business model and employee engagement (Lu et al., 2016). A business strategy that puts employee engagement first can result in a more successful, creative, and long-lasting company (Veleva et al., 2017). A company strategy that places a high priority on employee engagement not only improves employee satisfaction but also helps the firm succeed (Guest, 2017). The connection between the two emphasizes how crucial it is for businesses to coordinate their goals, policies, and practices in order to cultivate a highly engaged and motivated workforce (Liu et al., 2021). Consequently, the following hypothesis is put forth.

*$H_6$: Business model moderate the relationship between IoT and EE.*

Figure 3 below show the study model.

## 4. RESEARCH METHODOLOGY

The researchers collect data from different positioning employees in several companies located in Business Park in Amman, Jordan. The companies located in Business Park are approximately 68 company, with around 4000 workers (Businesspark, 2023). The researcher designs an e-questionnaire. The researcher visit several companies in business park and send the e-questionnaire link to the employees by email, WhatsApp, and get assistant from friends work in the business park companies. A convenience sample was applied, out of 265 questionnaires were retrieved, 230 valid for analysis. The study measured performance expectancy by 4 items adapted from (Al-Gahtani et al., 2007), and 5 items to measure effort expectancy adapted from (Hew et al., 2015), facilitating conditions measured by 6 items adapted from (Park et al., 2011). Also, the study adapted 6 items to measure attitude towards adapted from (Ardies et al., 2013), perceived enjoyment also measured by 6 items adapted from (Hussain et al., 2016). Also, the study measured EE by 5 items adapted from (Albloush et al., 2022), as well as business model measured by 6 items adapted from (Ferreras-Méndez et al., 2021). Moreover, all items measured in 5 point Likert scale. The current study employed PLS4 to analyze data and test the hypotheses, therefore, factor loading with value ≥0.50, Composite reliability (CR) with value ≥0.60, and average variance extracted (AVE) with value ≥0.50 as recommended by (Hair et al., 2012). Also, the current study apply discriminant validity to confirm the measurement model. As well as, the bootstrapping were employed to test the hypotheses.

## 5. RESULTS AND DISCUSSION

### 5.1. Sample Profile

As shown in Table 1, the majority of respondents are male 65% and female are 35%, in term of education level, 82% of respondents hold bachelor degree, and 10% hold postgraduate degree, and the rest have diploma and less. Also, 30% of respondents their age between 30 to <40 years, follow by the group age between 18 and <30 years with 26%, and 24% of respondents their age between 40 to <50 years, and the rest their age more than 50 years. In term of experience, 35% of respondents their experience 10 to <15 years,

**Table 1: Respondents' profile**

| Variable | Category | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 150 | 65 |
| | Female | 80 | 35 |
| Education level | Diploma and less | 18 | 8 |
| | Bachelor | 190 | 82 |
| | Postgraduate | 22 | 10 |
| Age | 18–<30 years | 60 | 26 |
| | 30–<40 years | 68 | 30 |
| | 40–<50 years | 55 | 24 |
| | More than 50 years | 47 | 20 |
| Experience | <5 years | 42 | 18 |
| | 5–<10 years | 70 | 30 |
| | 10–<5 years | 80 | 35 |
| | More than 15 years | 38 | 17 |

and those who their experience 5 to <10 years shape 30% of respondents, 18% of respondents their experience <5 years, and the rest their experience shape 17% of respondents.

## 5.2. Measurement Model Results

As shown in Table 2 and Figure 4, all the measurement model values are achieved (factor loading more than 0.60, CR more than 0.80, and AVE more than 0.50.

Also the study test the discriminant validity of the constructs, which the correlation of each construct with itself is higher than its correlation with another constructs. Table 3 show the results of discriminant validity.

## 5.3. Structural Model Results

After employed PLS bootstrapping, Figure 5 show the $R^2$ value for the structural model is 0.785. This result indicated that performance expectancy, effort expectancy, facilitating conditions, attitude towards, perceived enjoyment, and business model explain 78.5% of the variance on employee engagement.

The study apply bootstrapping to test the study hypothesis as shown in Figure 6 and Table 4. As shown in Table 4, the study found that the Performance expectancy of IoT ($\beta = 0.21$, $t = 3.73$, and $P = 0.000$) has a positive impact on EE. Therefore, H1 is supported. The IoT is a field that allows physical objects to interact with each other and their surrounding environment by connecting to the Internet. Performance expectancy of IoT can positively impact EE by increasing efficiency, as IoT can make daily operations more efficient. For example, IoT devices can be used to automatically monitor and maintain industrial equipment, reducing unplanned downtime and increasing employee productivity. The IoT also saves time and effort by reducing routine burdens on employees. For example, IoT devices can control the lighting and air conditioning of rooms in buildings based on environmental sensing, which saves employees' time and effort. In addition, IoT can improve the work environment by monitoring air quality, temperature, or lighting in the workplace. This can positively affect the comfort and health of employees and thus increase their participation and productivity. The IoT can also enable employees to work remotely. Internet-connected devices can enable employees to work remotely better and more effectively. For example, IoT devices such as cameras, microphones, and online meeting devices can facilitate communication and collaboration between distributed teams. This positive effect of Performance expectancy of IoT make enhance and increase employee engagement in the companies located in Business Park.

The study found that the effort expectancy of IoT ($\beta = 0.113$, $t = 1.39$.,and $P = 0.162$) has no impact on EE. Therefore, H2 is not supported. If an IoT system is implemented effectively, it can

**Table 2: Outer loading, CR and AVE of the constructs**

| Construct | Outer loading | CR | AVE |
|---|---|---|---|
| PEX | 0.88 | 0.90 | 0.698 |
| | 0.891 | | |
| | 0.896 | | |
| | 0.649 | | |
| EFE | 0.668 | 0.90 | 0.648 |
| | 0.778 | | |
| | 0.836 | | |
| | 0.861 | | |
| | 0.865 | | |
| FC | 0.888 | 0.92 | 0.686 |
| | 0.772 | | |
| | 0.812 | | |
| | 0.889 | | |
| | 0.78 | | |
| | 0.82 | | |
| AT | 0.79 | 0.91 | 0.638 |
| | 0.857 | | |
| | 0.814 | | |
| | 0.755 | | |
| | 0.804 | | |
| | 0.748 | | |
| PE | 0.617 | 0.89 | 0.595 |
| | 0.624 | | |
| | 0.78 | | |
| | 0.871 | | |
| | 0.884 | | |
| | 0.805 | | |
| BM | 0.821 | 0.93 | 0.719 |
| | 0.857 | | |
| | 0.836 | | |
| | 0.864 | | |
| | 0.842 | | |
| | 0.867 | | |
| EE | 0.908 | 0.92 | 0.715 |
| | 0.688 | | |
| | 0.866 | | |
| | 0.87 | | |
| | 0.877 | | |

PEX: Performance expectancy, EFE: Effort expectancy, FC: Facilitating conditions, AT: Attitude towards, PE: Perceived enjoyment, EE: Employee engagement, BM: Business model

**Table 3: Discriminant validity**

| | AT | BM | EE | EFE | FC | PE | PEX |
|---|---|---|---|---|---|---|---|
| AT | 0.799 | | | | | | |
| BM | 0.729 | 0.848 | | | | | |
| EE | 0.698 | 0.845 | 0.869 | | | | |
| EFE | 0.401 | 0.442 | 0.475 | 0.805 | | | |
| FC | 0.475 | 0.486 | 0.476 | 0.828 | 0.896 | | |
| PE | 0.774 | 0.878 | 0.771 | 0.552 | 0.617 | 0.888 | |
| PEX | 0.385 | 0.492 | 0.513 | 0.847 | 0.775 | 0.537 | 0.855 |

PEX: Performance expectancy, EFE: Effort expectancy, FC: Facilitating conditions, AT: Attitude towards, PE: Perceived enjoyment, EE: Employee engagement, BM: Business model

**Figure 4:** Measurement model

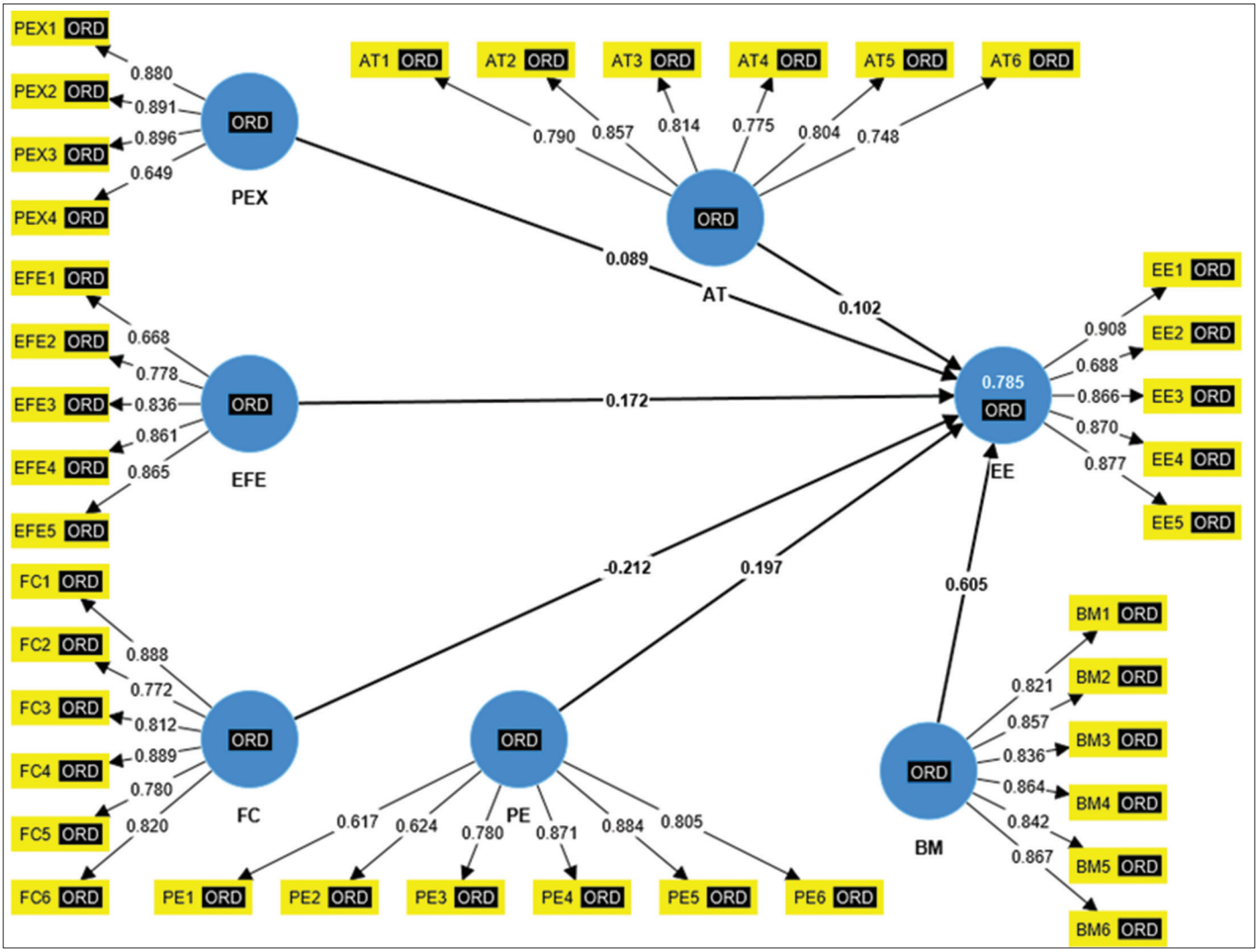



**Table 4: Hypothesis results**

| Path | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T statistics (\|O/STDEV\|) | P values | Decision |
|---|---|---|---|---|---|---|
| H1. PEX -> EE | 0.21 | 0.21 | 0.056 | 3.737 | 0.000 | Supported |
| H2. EFE -> EE | 0.113 | 0.116 | 0.081 | 1.399 | 0.162 | Not supported |
| H3. FC -> EE | 0.297 | 0.296 | 0.082 | 3.631 | 0.000 | Supported |
| H4. AT -> EE | 0.187 | 0.186 | 0.071 | 2.619 | 0.009 | Supported |
| H5. PE -> EE | 0.684 | 0.685 | 0.061 | 11.273 | 0.000 | Supported |

PEX: Performance expectancy, EFE: Effort expectancy, FC: Facilitating conditions, AT: Attitude towards, PE: Perceived enjoyment, EE: Employee engagement, BM: Business model

reduce the routine burden on employees. When an IoT system allows employees to access accurate and effective data around them, it can increase the possibility of making better and faster decisions. This contributes to improving personal productivity and quality of work.

The study found that the facilitating conditions for IoT ($\beta = 0.297$, $t = 3.63$., and $P = 0.000$) has a positive impact on EE. Therefore, H3 is supported. To make a positive impact on EE by facilitating the terms of the IoT, the companies should follow certain strategies to ensure they adopt this technology and improve their performance. This can happen through: awareness and training, educating employees about the benefits and uses of IoT in the work environment. Training courses and workshops can be provided to explain how to use this technology effectively and easily, which helps increase confidence and comfort in using IoT devices. It is also possible to provide simple user interfaces for IoT devices in a simple and easy-to-use manner. This makes it quickly understood and reduces the need for long exercises. User interfaces must also be compatible with a variety of devices. We must also work to protect privacy and security, by explaining to employees that IoT means collecting and sharing data. The company must take strong measures to protect data and ensure the confidentiality of personal information. This increases employees' confidence in using that technology. In addition to encouraging employees to participate in improving the IoT system and proposing ideas to improve its

**Figure 5:** $R^2$ result

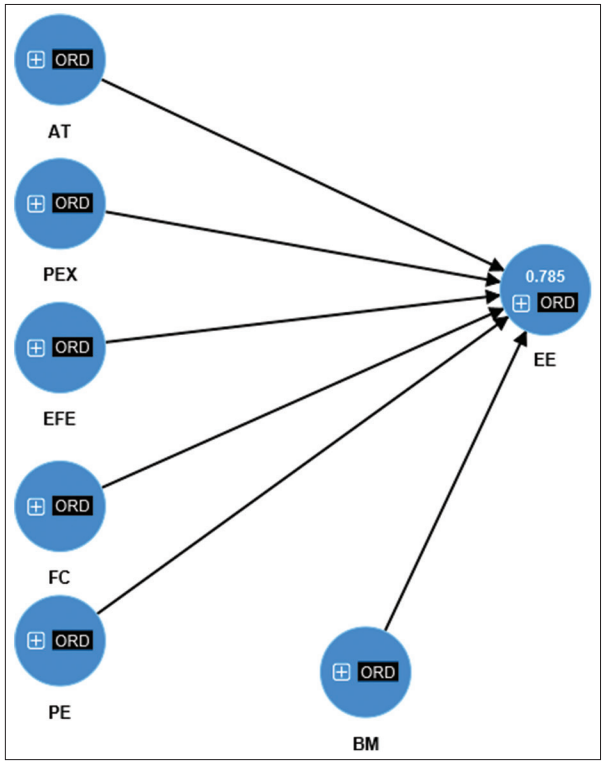
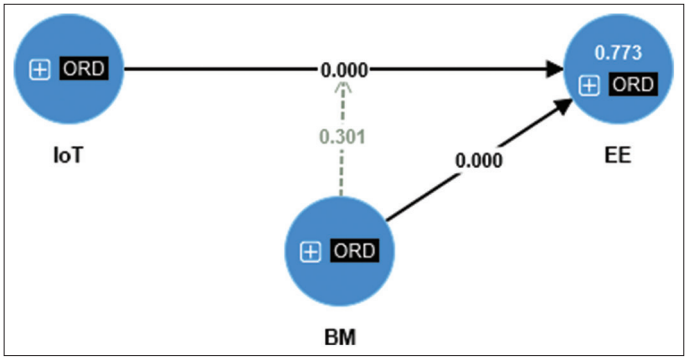



**Figure 6:** The moderating role of BM



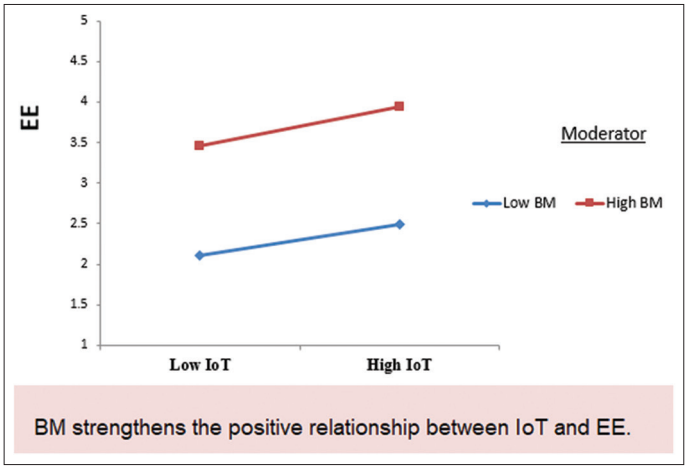

performance. Social sessions or online forums can be organized to exchange information and ideas. Moreover, the performance of IoT use and its benefits for employees must be measured. Compensation or rewards may be provided to employees who contribute to improving the performance of the system or making the most of it.

The study found that the Attitude towards using IoT ($\beta = 0.187$, $t = 2.619$, and $P = 0.009$) has a positive impact on EE. Therefore, H4 is supported. The attitudes and initiatives a company takes towards the use of the IoT can greatly impact EE. Encouraging employees to learn more about IoT and how to use it effectively by offering training courses and workshops. Online educational resources and awareness materials can also be provided that help employees understand the benefits of IoT and its applications in their field of work. Employees can also be encouraged to submit new ideas and projects that use IoT technologies to improve operations or develop new products or services. In addition, employees can be encouraged to participate in decision-making processes related to the implementation of IoT in the company. The company must also be transparent about the goals of IoT projects and how they will affect the work environment and employees. Good communication can be used to explain the expected benefits to employees and how they can play an important role in achieving these benefits. Moreover, the company can provide the necessary technical support to employees regarding IoT technology, whether through internal or external technical support teams. This helps reduce stress and increase employees' willingness to use this technology. In short, companies need to take a range of initiatives to make using IoT technologies a positive experience for employees, which increases and improves their engagement.

The study found that the perceived enjoyment towards IoT ($\beta = 0.684$, $t = 11.273$, and $P = 0.000$) has a positive impact on EE. Therefore, H5 is supported. Employees' perceived enjoyment of IoT can have a significant positive impact on their engagement and interaction with this new technology. Management and technology teams must clearly explain the expected benefits of implementing IoT to employees. These benefits can include increased efficiency, improved work environment, increased productivity, and time savings. Customized training and education programs can also be provided to employees on how to use IoT technology effectively and safely, which helps employees feel confident in using this technology. In addition, employees can be encouraged to interact with IoT technology by providing opportunities for experimentation. For example, experimental platforms can be provided to interact with IoT devices and experience their utilization in a simulated environment. Success experiences in the field of IoT can also be shared within the organization. When employees see examples of how they have achieved success using this technology, they can feel inspired and want to get involved. In addition to strengthening the innovative culture within the organization, employees feel encouraged to present new ideas and use innovative technology, so they can feel comfortable and willing to experiment. In general, the company must demonstrate its willingness to support employees in using IoT technology and achieving benefits from it. By enhancing this perception and providing the necessary support, employee engagement can be enhanced and motivated to make the most of that technology.

On the other hand, the results in Figures 6 and 7, show that business model moderate the relationship between IoT and EE. Therefore, H6 is supported. The business model can have a significant impact on how the relationship between IoT and EE in a company is enhanced and improved. The main business model goal should be to improve operations and enhance efficiency using IoT. For example, IoT devices can be introduced to improve inventory management or improve equipment maintenance. When employees see that the main goal is to improve operations and make work more effective, they tend to react positively. The goal of the business model should be to achieve shared value for the company and employees. Employees should feel that they are part of the success and that the use of IoT technologies will contribute to improving their situation and increasing their productivity. The business model must include directing goals towards achieving leadership and excellence in the field of business. When employees know that the company strives for success and innovation, they can feel part of an exciting adventure and are better motivated to participate. The business model provides

**Figure 7:** The effect of moderating variable




opportunities for employee development and learning new skills. This can include providing training programs, workshops, and career advancement opportunities. When employees feel they are growing professionally, they are more willing to engage and perform better. The business model should encourage recognition and appreciation for employees when they achieve success and deliver outstanding performance. Financial or non-financial rewards may be offered, employees may be honored in front of colleagues, and their efforts may be publicly praised. This can increase the spirit of engagement and satisfaction. Furthermore, the business model supports work-life balance. This can increase employee satisfaction and engagement if they feel they have enough time to enjoy their lives outside of work. In short, the success of implementing IoT in the workplace depends on the business model and how it is geared toward achieving the goals of improving operations and increasing employee engagement. Providing support, training and ongoing communication are essential factors in achieving this goal.

## 6. CONCLUSION AND IMPLICATION

The current study found that the components of IoT (performance expectancy, facilitating conditions, attitude towards, and perceived enjoyment) has a positive impact on EE. Also, the study found that business model moderate and enhance the relationship between IoT and EE. The theoretical implication for this study, as it is the first study merge all its variable with each other in the context of business park companies. The decision makers in business park companies can enhance and increase EE by, monitoring and analyzing data by installing IoT devices in corporate buildings and facilities to collect data about the environment and performance. This data is used to understand employees' interaction with the place, improve the design of spaces, and provide services based on their needs. Comfort and productivity can also be increased using IoT devices, as the work environment can be improved to provide employees with comfort and productivity. For example, intelligent control of lighting and air conditioning can help improve employee comfort and increase their productivity and engagement. IoT can be used to increase social interaction between employees. For example, online reservation systems can be created for use of meeting rooms or breakout areas. This helps improve communication and encourage cooperation among employees. IoT devices can also be used to enhance the health and fitness of employees. For example, fitness activity meters can be installed in the office to encourage employees to exercise and stay healthy. In addition, IoT can be used to provide personal services to employees. For example, employees can use smart apps to order coffee, meals, or office cleaning services. Using IoT, technological systems can be provided that facilitate the lives of employees with special needs and make the work environment more responsive to their needs. Therefore, the aforementioned recommendations can benefit business park companies, as employees can feel a kind of satisfaction and loyalty, thus increasing and improving their engagement.

The relationship between business model and EE is highly reciprocal and interconnected, as the business model can directly impact the level of EE in the company. If the business model of a business park companies encourages transparency and participation, and gives employees a role in making decisions and shaping company strategies, then employees become more engaged and feel that they are part of the process and that their voices matter. Also, when a business model offers opportunities to develop employees' skills and professional growth, it increases EE as employees will feel that the company invests in them and cares about their development. If the work environment motivates employees and provides them with the support and resources needed to do their work well, this greatly affects their engagement and they will feel that they are in an environment that makes it easier for them to achieve goals. On the other hand, when employees are highly engaged in their work, they increase their productivity and efficiency. This can lead to improving the business model by achieving more profits and reducing costs. Employees who feel encouraged to think and innovate can contribute to developing the business model positively, and high job engagement can lead to presenting new ideas and creative solutions.

The current study applies convenience sample due to the large number of the business park companies, therefore, this may affect data, because the searchers cannot confirm if they reach to the right responds. Therefore, the opportunities open for future researches to apply another kind of sample to collect data. The study collect data from sample of 68 companies in business park, and thus companies work in different sector, therefore, future studies may focus on the company that have the work in the same sector or job. The current study use business model as moderate variable between IoT and EE, future studies can use another moderator or mediator variable such as, IT infrastructure or AI.

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