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IMPACT OF INTERNET OF THINGS ON SATISFACTION OF EMPLOYEE'S AT SAUDI PORTS AUTHORITY

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Abstract

The aims of this study is to examine the impact of the Internet of Things (IoT) on employee satisfaction at the Saudi Port's Authority, especially at cargo department. The implementation (IoT) could be applied through the Technology Acceptance Model (TAM) and The Unified Theory of Acceptance and Use of Technology (UTAUT) .These models present the practical application of IoT in the workplace. Despite the positive contributions made by the authority of Saudi Ports, the level of employees satisfaction decrease due to the lack and inappropriate IOT devices which result in cargo overstock. The questionnaire were sent to 367 workers. However, 285 employees completed the survey quest questionnaire. The IBM SPSS software will be used for data analysis. The existing study is limited to Saudi Port Authority especially cargo section, thus, further studies should be cover different part of public sectors such as healthcare , education field etc, within focus on generation x and applying Longitudinal sectional study.

Keywords: Employee's Satisfaction, Internet of Things (IoT), Saudi Ports Authority.

1. INTRODUCTION

1.1 Saudi Ports Authority (Mawani)

The authority of Saudi Ports (Mawani) was established in 1976 to assist as the primary hub for transporting shipments, both regional and non-regional, and for passengers seeking to visit holy places. Mawani relied on its extensive expertise in receiving and handling these shipments and passengers. Consequently, it assumes a crucial function in the regional economy (Al-Homeadan et al., 2001).

According to Alghaffari et al (2019), the authority of Saudi Ports experienced a significant rise in export volumes, with the proportion of overall cargo movement increasing from 10% to 70% within a few years. Despite the positive contributions made by the authority of Saudi Ports, employee satisfaction within their organizations was compromised due to inadequate utilization of (IoT), leading with cargo overstock (Al-Mazhoud et al., 2020).

In addition, there exists a scarcity of investigating the influence of (IoT) on employee's satisfaction, specifically in terms of the mediating role played by IoT adoption and use within the public sector, such as the Saudi Ports Authority (Elentably et al., 2020; Tsang et al, 2017).

Moreover, current study aims investigate the influence of IoT on satisfaction level of employees with mediating role adoption of IoT on job.

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2. LITERATURE REVIEW

2.1. Employee level of Satisfaction

The role of employees is important at organizations as they contribute significantly to achieving the organizational vision and missions. Therefore, the organizational environment must reduce the issues and discriminatory practices to enhance employee satisfaction.

The significance of job satisfaction considered as a main method to increase the outcome of the organisation. Researchers conducted (Raziq et al.,2015; Abuhashesh et al., 2019) support the belief that satisfied employees tend to achieve better results than their dissatisfied colleagues. Therefore, job satisfaction considered as a part of the organization's success.

2.2 Internet of Things

According to Gubbi et al (2013), the IoT is considered as contemporary Internet technology that provide range for advantages in the workplace, such as facilitating knowledge sharing and communication. Therefore, implementing IoT could influence an organization's satisfaction (Isaac et al., 2017).

3. RESEARCH QUESTIONS

Research questions would be addressed in this research:

- How does the IoT influence ES?
- What is the influence of the IoT on ES, with a focus on the mediating role of adoption of employees on IoT?

4. THEORITICAL FRAMEWORK

Factor types	Main Reasons
Expectancy level of Performance (UTAUT & TAM)	Indicate internet of things devices as a method to improve the Performances (Thong et al., 2012).
Expectancy types of Effort (UTAUT & TAM)	Indicate aspect IoT such as use easily and effortless (Wu et al, 2005)
Conditions Facilitating (UTAUT)	Resources should be usable among the workers to be accepted (Venkatesh, et al 2003)
Attitude towards using IoT (UTAUT)	Present the feeling of response regards the device in terms of use (Venkatesh et al., 2011).
Perceived Enjoyment (UTAUT)	Offer a positive environment at the workplace such as feeling enjoyment(Zhou,2011)
Employee's Satisfaction	Positive feelings such as happiness, and enjoyment at the workplace (Gupta,2014)
Acceptance, Adoption, and Use	Complete the work in a short time (Venkatesh, 2022).

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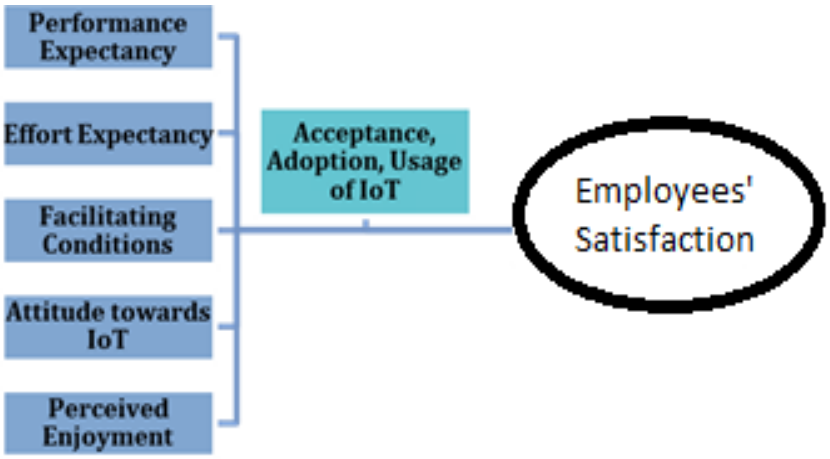

Figure 1.1: Conceptual Framework

5. HYPOTHESES DEVELOPMENT

According to Wu et al (2005), technology can be regarded as a means of guaranteeing the effective accomplishment of tasks. Therefore, the implementing of (IoT) enhance workers' satisfaction and improve organizational performance (Thong et al., 2012; Al-hawari & Mouakket, 2010).Thus the following hypothesis will be:

H1. There is significant correlation between Performance Expectancy of IoT and employees' satisfaction

Implementing (IoT) establish to mitigate challenges experienced by staff members, resulting in increased job satisfaction and higher levels of work engagement (Wu & Wang, 2005; Al-hawari & Mouakket, 2010). Consequently, the hypothesis is suggested:

H2. There is significant correlation between Expectancy Effort of IoT and employees' satisfaction

The (IoT) widely recognized as valuable approach who can provide readily available resources to improve skills, thereby increasing employee satisfaction (Ahmed et al., 2022). Thus the following hypothesis will be:

H3. There is significant correlation between Conditions Facilitating of IoT and employees' satisfaction

Users' sentiment toward (IoT) device is crucial for determining whether they will continue or discontinue its application (Ahmed et al., 2022). Thus the following hypothesis will be:

H4. There is significant correlation between Attitude toward using IoT and employee s' satisfaction

To enhance the satisfaction level among workers, employees need to experience enjoyment at the workplace. Therefore, it is considered a factor in using IoT (Alti & Almuhirat, 2021). Thus the following hypothesis will be:

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H5. There is significant correlation between Perceived Enjoyment towards IoT and employees' satisfaction

Implementing Internet of Things (IoT) technology in the workplace can enhance employee satisfaction by reducing their workload (Baudier et al., 2019). Thus the following hypothesis will be:

H6. There is a significant correlation between adoption of IoT as a mediator among Expectancy Performance, Expectancy Effort, IoT Attitude, Facilitating conditions, and IoT Enjoyment Perceived

6. METHODOLOGY SECTION

6.1 Data Collection

This research we use a quantitative types of approach, utilizing questionnaires as the primary data collection instrument. Quantitative methods can efficiently encompass a substantial quantity of participants within a limited timeframe (Pandey et al., 2021). The data collected and will be analyzed through IBM SPSS Software).

6.2 Sampling Procedure

Convenience sampling will be used as it is cost-effective, efficient, and easy to use (Howell et al., 2012).

6.3 Questionnaire Construct

The questionnaires utilized in this study are designed using five Likert measuring scale to assess the various constructs. The survey consists mainly two sections "demographic section and the construct items section". Survey utilized in this study has been derived and incorporated from previous studies (Pinochet et al., 2018), (Rad & Yarmohammadian, 2006) (Gao et al., 2014), and (Dutot et al., 2015).

6.4 Sample Size

The potential range of sample sizes includes small, medium, or large (Hulland et al., 1996) and (Hair et al., 1988) have established that 100 sample size is classified as small, a range of one hundred to two hundred is classified as medium and bove then two hundred is deemed significant. It is imperative to acknowledge various guidelines that should be considered, including the specification of an appropriate number of participants for social science studies, wherein the participant range should exceed 30 and fall below 500.

Size of sample can be decided by employing a straightforward method based on the population (Krejcie et al., 1970). The cargo section employs a total of 8000 workers. Hence, employing the methodology proposed (Krejcie et al., 1970), the determined sample size would amount to 367. The following table (Table 1.1) presents the relevant data.

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Table 3.1

Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

7. CONCLUSION

The present study aims to determine how the IoT directly or indirectly affects the satisfaction of employees.

8. LIMITATIONS

This research is limited to individuals who are citizens of Saudi Arabia. Consequently, future investigations could be conducted within various public sector entities, other than the Saudi Port Authority, with a specific focus on the generational cohorts of Generation X. In addition, instead of employing a cross-sectional research design, it may be more appropriate to utilise a longitudinal approach.

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