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Technology Readiness and Technology Acceptance in UAE E-Government Services: An Integrated TRI–TAM Perspective

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Abstract

This study examined the relationship between Technology Readiness Index (TRI) constructs and Technology Acceptance Model (TAM) constructs in the context of UAE e-government services. Specifically, the study investigated how optimism, innovativeness, insecurity, and discomfort were associated with perceived ease of use and perceived usefulness. A quantitative research approach was adopted, and data were collected from adult users of UAE e-government services, including Emirati citizens and expatriate residents. After data screening, 419 valid responses were used for analysis. The data were analysed using SPSS through ranking analysis based on mean and standard deviation values, followed by Pearson correlation analysis. The ranking results showed that innovativeness recorded the highest mean score among the TRI constructs, while perceived ease of use ranked slightly higher than perceived usefulness among the TAM constructs. The correlation results indicated that all TRI constructs were significantly associated with both TAM constructs at the 0.01 significance level. Optimism and innovativeness were positively related to perceived ease of use and perceived usefulness, indicating that users with stronger readiness toward technology were more likely to perceive UAE e-government services as easy to use and useful. Insecurity and discomfort also showed significant relationships with TAM constructs, although their interpretation required consideration of item wording and coding. Overall, the

findings supported the integration of TRI and TAM in explaining user acceptance of UAE e-government services. The study concluded that users' technology readiness played an important role in shaping acceptance beliefs toward digital government platforms in the UAE.

Keywords: Technology Readiness Index, Technology Acceptance Model, UAE e-government services, perceived ease of use, perceived usefulness, Pearson correlation

1. Introduction

E-government services have become an essential part of public service delivery in the United Arab Emirates. The UAE has made significant progress in digital transformation by expanding online and smart government platforms to improve service accessibility, efficiency, and responsiveness. Through national digital transformation initiatives, the UAE government has encouraged citizens and residents to use digital channels for completing government transactions, accessing public information, and interacting with government entities. These efforts reflect the country's broader aim to build a highly advanced digital government ecosystem and enhance the quality of public services (Government of the United Arab Emirates, 2024; TDRA, 2022).

Despite these developments, the successful implementation of UAE e-government services depends not only on the availability of digital platforms but also on users' willingness to accept and continue using them. Some users may perceive e-government services as useful and easy to use, while others may face difficulties related to digital skills, security concerns, lack of confidence, or discomfort with technology. These issues can affect users' perceptions and may reduce their acceptance of e-government services. Previous studies have shown that e-government adoption in the UAE is influenced by technological, organizational, and user-related factors, including knowledge management, service quality, trust, and acceptance beliefs (Jasimuddin et al., 2017; Al Sayegh et al., 2023; Salama & Farag, 2024).

One of the key challenges in UAE e-government services is ensuring that different groups of users feel ready and confident to use digital government platforms. Although the UAE has advanced digital infrastructure, users may differ in their level of technology readiness. Some users may be optimistic about technology and willing to try new digital services, while others may experience insecurity or discomfort when using online platforms. Such differences are important because technology readiness can shape how users evaluate e-government services. If users are not confident or comfortable with technology, they may be less likely to perceive e-government services as easy to use or useful.

Another challenge is related to user acceptance. The Technology Acceptance Model (TAM) explains that users are more likely to accept a technology when they perceive it as useful and easy to use (Davis, 1989). In the context of UAE e-government services, perceived ease of use may involve the simplicity of navigating government platforms, complete online forms, and accessing services without difficulty. Perceived usefulness may involve the extent to which users believe that e-government services save time, improve convenience, and help them complete government transactions efficiently. Therefore, understanding users' acceptance beliefs is important for improving the use of UAE e-government services.

However, while TAM explains users' acceptance beliefs, it does not fully explain users' personal readiness to engage with technology. For this reason, the Technology Readiness Index (TRI) is relevant. TRI explains users' readiness to use technology through four dimensions: optimism, innovativeness, insecurity, and discomfort (Parasuraman, 2000; Parasuraman & Colby, 2015). Optimism and innovativeness are usually viewed as positive drivers of technology use, while insecurity and discomfort are often considered barriers.

Integrating TRI with TAM is therefore useful because TRI explains users' technology readiness, while TAM explains their acceptance beliefs. This creates a strong theoretical connection between users' personal attitudes toward technology and their perceptions of e-government services.

Although previous studies have examined e-government adoption and digital service acceptance in the UAE, several research gaps remain. First, many studies have focused on general adoption factors, service quality, trust, or organizational issues, while less attention has been given to the direct relationship between technology readiness and technology acceptance in UAE e-government services. Second, although TRI and TAM have been integrated in previous technology studies, there is still a need to examine how TRI constructs are associated with TAM constructs in the specific context of UAE e-government services. Third, limited attention has been given to how both positive readiness factors, such as optimism and innovativeness, and negative readiness factors, such as insecurity and discomfort, relate to perceived ease of use and perceived usefulness.

Therefore, the intention of this paper is to examine the relationship between Technology Readiness Index constructs and Technology Acceptance Model constructs in UAE e-government services. Specifically, the paper investigates the correlations between optimism, innovativeness, insecurity, and discomfort with perceived ease of use and perceived usefulness. By doing so, the study aims to provide a clearer understanding of how users' readiness toward technology is associated with their acceptance beliefs regarding UAE e-government services.

This paper contributes to the literature by applying an integrated TRI–TAM perspective to the UAE e-government context. The findings are expected to help researchers and policymakers better understand the role of user readiness in shaping acceptance of digital government services. Practically, the study may assist UAE government entities in designing more user-friendly, trusted, and inclusive digital services that address both users' positive expectations and their concerns about technology.

2. Literature Review

2.1 Technology Readiness and Technology Acceptance in UAE E-Government Services

The development of e-government services has become an important part of public sector digital transformation in the United Arab Emirates. The UAE has placed strong emphasis on digital government transformation through national strategies aimed at improving public service delivery, enhancing efficiency, and increasing citizens' access to government services through digital platforms (Government of the United Arab Emirates, 2024; TDRA, 2022). In this context, understanding how users accept and continue using e-government services is important for improving digital public service outcomes.

Previous studies in the UAE have shown that the adoption of e-government services is influenced by several technological, organizational, and user-related factors. For example, Jasimuddin et al. (2017) examined factors influencing the acceptance of digital technologies in UAE e-government services, while Al Sayegh et al. (2023) highlighted factors affecting

e-government adoption in UAE public sector organizations. More recent evidence also shows that citizen adoption of digital government services in the UAE remains an important research issue as digital transformation continues to expand (Salama & Farag, 2024).

In this study, the integration of the Technology Readiness Index (TRI) and the Technology Acceptance Model (TAM) is suitable because e-government acceptance depends not only on the technical availability of digital services, but also on users' readiness and beliefs about the system. TRI explains users' technology readiness, while TAM explains acceptance beliefs. This creates a strong theoretical connection because users' optimism, innovativeness, insecurity, and discomfort may shape whether they perceive UAE e-government services as easy to use and useful.

2.2 Technology Acceptance Model

The Technology Acceptance Model was introduced by Davis (1989) to explain user acceptance of information technology. TAM proposes that two main beliefs determine technology acceptance: perceived ease of use and perceived usefulness. Perceived ease of use refers to the extent to which users believe that using a system will be free of effort, while perceived usefulness refers to the extent to which users believe that using a system will improve their performance or task completion.

TAM has been widely extended and applied in different information systems contexts. Venkatesh and Davis (2000) extended TAM by explaining additional determinants of perceived usefulness, while Venkatesh and Bala (2008) further developed TAM3 to explain technology acceptance through system characteristics, individual differences, and social influence. In the context of UAE e-government services, TAM is relevant because users are more likely to accept digital government platforms when they perceive them as simple, accessible, and beneficial for completing government-related transactions.

2.3 Technology Readiness Index

The Technology Readiness Index was developed by Parasuraman (2000) to measure individuals' readiness to embrace and use new technologies. TRI consists of four main dimensions: optimism, innovativeness, insecurity, and discomfort. Optimism and innovativeness are generally considered positive drivers of technology readiness, while insecurity and discomfort are viewed as inhibiting factors that may reduce users' confidence or willingness to use technology.

Parasuraman and Colby (2015) later introduced TRI 2.0 as an updated and streamlined measure of technology readiness. In addition, Blut and Wang (2020) confirmed the importance of technology readiness by showing that readiness influences technology usage across different contexts. In UAE e-government services, TRI is useful because users may differ in their confidence, openness, concerns, and comfort when using digital public services. Some users may be optimistic and willing to try new platforms, while others may feel insecure or uncomfortable when using online government services.

2.4 Integration of TRI and TAM

The integration of TRI and TAM provides a strong theoretical basis for examining technology acceptance in UAE e-government services. TAM explains users' acceptance beliefs through perceived ease of use and perceived usefulness, while TRI explains users' psychological readiness to engage with technology. Therefore, users' readiness toward technology may influence how they evaluate the ease and usefulness of e-government platforms.

Lin et al. (2007) proposed the Technology Readiness and Acceptance Model by integrating TRI into TAM, showing that technology readiness can influence users' perceptions of ease of use and usefulness. Similarly, Buyle et al. (2018) applied a technology readiness and acceptance model to predict intention to use data standards in smart cities, supporting the relevance of combining readiness and acceptance perspectives in digital public service contexts. This integrated approach is appropriate for UAE e-government services because citizens and residents may evaluate digital services differently depending on their level of technological optimism, innovativeness, insecurity, and discomfort.

2.5 Relationship Between TRI Constructs and TAM Constructs

The relationship between TRI and TAM suggests that users' personal readiness toward technology is associated with their acceptance of e-government services. Optimism is expected to be positively related to perceived ease of use and perceived usefulness because optimistic users usually believe that technology provides greater efficiency, control, and convenience. Innovativeness is also expected to be positively related to TAM constructs because innovative users are more likely to try new technologies and perceive digital platforms as useful.

Insecurity and discomfort are also relevant to technology acceptance. Insecurity refers to users' concerns about technology, including issues of trust, privacy, and reliability, while discomfort reflects feelings of being overwhelmed or lacking control when using technology (Parasuraman, 2000; Parasuraman & Colby, 2015). These factors may affect how users perceive UAE e-government services. Prior e-government studies have also emphasized that trust, innovation, and acceptance beliefs are important in explaining citizens' use of e-government services (Carter & Bélanger, 2005; Belanche et al., 2012).

2.6 Summary

Overall, the literature supports the integration of TRI and TAM to examine user acceptance of UAE e-government services. TAM explains users' beliefs about perceived ease of use and perceived usefulness, while TRI explains users' readiness to engage with technology through optimism, innovativeness, insecurity, and discomfort. The integration of these two models is especially suitable for the UAE context, where digital government transformation continues to expand and where users' acceptance of e-government platforms is shaped by both system-related perceptions and individual technology readiness (Jasimuddin et al., 2017; Al Sayegh et al., 2023; Salama & Farag, 2024).

3. Methodology

A quantitative research design was adopted using a cross-sectional survey. Data were collected from 419 usable respondents in the UAE who had prior experience using selected e-government services. The data were analysed using Statistical Package for the Social Sciences

3.1 Data Collection

The study targeted adult users of UAE e-government services, including Emirati citizens and expatriate residents. The unit of analysis was the individual user. To participate, respondents had to be 18 years or older, reside in the UAE, and have used at least one UAE e-government service.

A stratified purposive sampling approach was adopted because a complete list of all UAE e-government users was not available. The sample was structured to reflect key demographic groups, including gender, age, nationality, education level, and digital literacy. This approach helped ensure broader representation among different categories of e-government users in the UAE.

Each respondent was asked to select one focal e-government service, such as UAE PASS, TAMM, DubaiNow, MOHRE, ICP Smart Services, or RTA Dubai. They then answered the questionnaire based on their experience with the selected service. This procedure helped maintain consistency in the responses by ensuring that participants evaluated a specific e-government platform. After data screening and cleaning, the study obtained **419 valid responses**, which were used for the final analysis.

3.2 Demographic Profile of Respondents

The final dataset consisted of 419 respondents who had experience using UAE e-government services. The sample was male-dominant, with 67.3% male and 32.7% female respondents. In terms of age, the largest group was 25–34 years *(30.8%)*, followed by respondents aged 55 years and above *(19.8%)* and 35–44 years *(19.6%)*, indicating that the study included users from a broad age range.

The respondents were generally highly educated. The largest group held a PhD qualification *(34.1%)*, followed by those with a bachelor's degree *(30.1%)* and a master's degree *(28.9%)*. Geographically, most respondents were from Abu Dhabi *(28.9%)* and Dubai *(25.8%)*, followed by Sharjah, Ajman, Ras Al Khaimah, and Fujairah.

Regarding service use, the most frequently selected UAE e-government services were DubaiNow *(23.2%)*, TAMM *(22.4%)*, and UAE PASS *(18.1%)*. Most respondents used their selected service monthly *(28.6%)*, followed by weekly use *(20.0%)* and use every few months *(19.3%)*. In terms of recency, 38.7% had used the service within the previous seven days, while 24.8% had used it within the previous 30 days. This indicates that most respondents had recent experience with UAE e-government services.

Finally, 57.3% of respondents had not used help or support channels, while 42.7% had used

them. Overall, the sample reflected active and relatively recent users of UAE e-government services, with strong representation from major emirates and commonly used digital government platforms.

3.3 Analysis Method

The data were analysed using SPSS software. Before conducting the main analysis, the dataset was screened to ensure that only valid and complete responses were included. Descriptive statistics were first used to summarise the respondents' demographic and usage profiles.

To examine respondents' perceptions of the study constructs, ranking analysis was conducted using mean and standard deviation values. The mean scores were used to determine the relative level of agreement with each construct, while the standard deviation values were used to assess the variation in respondents' responses. Constructs with higher mean values were interpreted as having stronger agreement among respondents.

In addition, Pearson correlation analysis was conducted to examine the relationships between the Technology Readiness Index (TRI) constructs and the Technology Acceptance Model (TAM) constructs. The TRI constructs included optimism, innovativeness, insecurity, and discomfort, as proposed in technology readiness literature (Parasuraman, 2000; Parasuraman & Colby, 2015; Blut & Wang, 2020). The TAM constructs included perceived ease of use and perceived usefulness, which are central beliefs in technology acceptance research (Davis, 1989; Venkatesh & Davis, 2000; Venkatesh & Bala, 2008).

Pearson correlation was used to determine the strength and direction of the associations between TRI and TAM constructs. This was appropriate because the study aimed to examine whether users' technology readiness was significantly related to their acceptance beliefs toward UAE e-government services. The integration of TRI and TAM has been supported in previous studies, which show that technology readiness can shape perceived usefulness and perceived ease of use (Lin et al., 2007; Buyle et al., 2018). In the context of UAE e-government services, this approach is also consistent with prior studies examining technology acceptance and digital government adoption (Jasimuddin et al., 2017; Al Sayegh et al., 2023; Salama & Farag, 2024).

The significance of the relationships was assessed at the 0.01 level. Thus, the analysis focused on identifying whether the TRI dimensions were significantly associated with users' perceptions of perceived ease of use and perceived usefulness in UAE e-government services.

4. Results and Analysis

This section presents the results of the ranking analysis and Pearson correlation analysis. The ranking analysis was conducted using mean scores and standard deviation values to identify the relative position of each construct within the Technology Readiness Index (TRI) and Technology Acceptance Model (TAM) dimensions. TRI was used to explain users' readiness to use technology, while TAM was used to explain users' acceptance beliefs through perceived ease of use and perceived usefulness (Davis, 1989; Parasuraman, 2000;

Parasuraman & Colby, 2015). Pearson correlation analysis was then conducted to examine the relationships between TRI and TAM constructs in the context of UAE e-government services. This approach is consistent with previous studies that integrated technology readiness and technology acceptance perspectives (Lin et al., 2007; Buyle et al., 2018).

4.1 Results of Ranking

The ranking analysis was used to determine how respondents evaluated the TRI and TAM constructs. Constructs with higher mean scores were ranked higher, indicating stronger respondent agreement. Standard deviation values were used to assess the level of variation in respondents' responses. Since TRI measures users' readiness to embrace technology, the ranking of optimism, innovativeness, insecurity, and discomfort provides insight into users' technology-related characteristics in UAE e-government service use (Parasuraman, 2000; Blut & Wang, 2020).

Table 1. Rank of constructs in the TRI dimension

Construct	Code	Mean Score	Standard Deviation	Rank
Optimism	OPT	4.559	0.837	2
Innovativeness	INN	4.898	0.935	1
Insecurity	INS	4.536	0.727	3
Discomfort	DIS	3.897	0.934	4

Table 1 indicates that **innovativeness** recorded the highest mean score among the TRI constructs, with a mean of **4.898**. This suggests that respondents showed a strong tendency to accept and try new digital technologies when using UAE e-government services. **Optimism** ranked second, with a mean score of **4.559**, indicating that respondents generally held positive views about the benefits of technology. These findings are consistent with TRI literature, which identifies innovativeness and optimism as positive contributors to technology readiness (Parasuraman, 2000; Parasuraman & Colby, 2015).

Insecurity ranked third, with a mean score of **4.536**, while **discomfort** ranked fourth, with a mean score of **3.897**. Although discomfort had the lowest ranking, its mean score still suggests a moderate to high level of agreement. In terms of consistency, insecurity recorded the lowest standard deviation **(SD = 0.727)**, indicating more consistent responses compared with the other TRI constructs. Since insecurity and discomfort are usually treated as inhibiting dimensions of technology readiness, their interpretation should consider the wording and coding of the questionnaire items (Parasuraman, 2000; Blut & Wang, 2020).

Table 2. Rank of constructs in the TAM dimension

Construct	Code	Mean Score	Standard Deviation	Rank
Perceived Ease of Use	PEOU	4.508	0.900	1
Perceived Usefulness	PU	4.486	0.846	2

Table 2 indicates that both TAM constructs recorded high mean scores. **Perceived ease of use** ranked first, with a mean score of **4.508**, suggesting that respondents generally perceived UAE e-government services as easy to access, understand, and use. **Perceived usefulness** ranked second, with a mean score of **4.486**, indicating that respondents also viewed UAE e-government services as useful for completing government-related tasks. These findings align with TAM, which argues that users' acceptance of technology is strongly shaped by their perceptions of ease of use and usefulness (Davis, 1989; Venkatesh & Davis, 2000; Venkatesh & Bala, 2008).

4.2 Results of Correlation

Pearson correlation analysis was conducted to examine the relationship between **Technology Readiness Index (TRI)** constructs and **Technology Acceptance Model (TAM)** constructs in the context of UAE e-government services. The purpose of this analysis was to determine whether users' technology readiness characteristics, namely **optimism, innovativeness, insecurity, and discomfort**, were associated with their perceptions of **ease of use** and **usefulness** when using UAE e-government platforms.

This analysis was relevant because UAE e-government services depend not only on digital infrastructure and platform availability, but also on users' readiness and acceptance of digital public services. Previous UAE-based studies have highlighted the importance of examining user-related factors in e-government adoption and digital service acceptance (Jasimuddin et al., 2017; Al Sayegh et al., 2023; Salama & Farag, 2024). In addition, the integration of TRI and TAM has been supported in previous research because technology readiness can shape users' perceptions of ease of use and usefulness (Lin et al., 2007; Buyle et al., 2018).

In this study, perceived ease of use refers to the extent to which users believed that UAE e-government services were easy to access, understand, and operate. Perceived usefulness refers to the extent to which users believed that these services helped them complete government-related tasks more efficiently. The results are presented in Table 3.

Table 3. Pearson correlations among the constructs

TRI Construct	Code	Perceived Ease of Use PEOU	Perceived Usefulness PU
Optimism	OPT	0.576**	0.594**
Innovativeness	INN	0.572**	0.583**
Insecurity	INS	0.518**	0.601**
Discomfort	DIS	0.418**	0.413**

Note. $p < 0.01$.

Results in Table 3 indicate that all TRI constructs were significantly correlated with the TAM constructs at the **0.01 significance level**. This means that users' technology readiness was significantly associated with how they evaluated the ease of use and usefulness of UAE e-government services. This finding supports the theoretical connection between TRI and TAM, where readiness characteristics help explain users' acceptance beliefs (Davis, 1989; Parasuraman, 2000; Lin et al., 2007).

Optimism was positively and significantly correlated with perceived ease of use **($r = 0.576$, $p < 0.01$)** and perceived usefulness **($r = 0.594$, $p < 0.01$)**. This suggests that users with a more positive attitude toward technology were more likely to perceive UAE e-government services as easy to use and useful. This is consistent with TRI, which views optimism as a positive technology-readiness factor (Parasuraman & Colby, 2015; Blut & Wang, 2020).

Innovativeness was also positively and significantly correlated with perceived ease of use **($r = 0.572$, $p < 0.01$)** and perceived usefulness **($r = 0.583$, $p < 0.01$)**. This indicates that users who were more willing to try new digital technologies tended to evaluate UAE e-government services more favourably in terms of ease of use and usefulness. This result is aligned with previous e-government acceptance studies that identified innovation-related characteristics as important in citizens' use of e-government services (Carter & Bélanger, 2005; Jasimuddin et al., 2017).

Insecurity showed a positive and significant correlation with perceived ease of use **($r = 0.518$, $p < 0.01$)** and perceived usefulness **($r = 0.601$, $p < 0.01$)**. The strongest correlation in the table was between insecurity and perceived usefulness. However, because insecurity is usually treated as an inhibiting factor in TRI, this result should be interpreted carefully. If the insecurity items were reverse-coded, the positive relationship would suggest that lower insecurity was associated with stronger perceived usefulness. If the items were not reverse-coded, the finding may indicate that even users with some technology-related concerns still recognised the usefulness of UAE e-government services. This interpretation is important because trust, risk, and security concerns are often relevant in e-government acceptance research (Carter & Bélanger, 2005; Belanche et al., 2012).

Discomfort was also positively and significantly correlated with perceived ease of use **($r = 0.418$, $p < 0.01$)** and perceived usefulness **($r = 0.413$, $p < 0.01$)**. Although these correlations were weaker than those of optimism, innovativeness, and insecurity, they remained

statistically significant. This suggests that discomfort was still meaningfully associated with users' perceptions of UAE e-government services. Since discomfort reflects users' perceived lack of control or uneasiness when using technology, this result should also be interpreted in light of item wording and coding (Parasuraman, 2000; Parasuraman & Colby, 2015).

Overall, the findings support the integration of **TRI and TAM** in the study of UAE e-government services. The results show that users' technology readiness was significantly related to their acceptance beliefs. In particular, users who were more innovative and optimistic toward technology tended to perceive UAE e-government services as easier to use and more useful. These findings confirm that individual technology-related characteristics play an important role in shaping user acceptance of digital government services in the UAE, supporting previous work on technology readiness, technology acceptance, and e-government adoption (Davis, 1989; Lin et al., 2007; Buyle et al., 2018; Al Sayegh et al., 2023; Salama & Farag, 2024).

5. Discussion of Results

The findings of this study showed that users' technology readiness was strongly associated with their technology acceptance beliefs in the context of UAE e-government services. The results supported the integration of the Technology Readiness Index (TRI) and the Technology Acceptance Model (TAM), as TRI explained users' readiness to engage with technology, while TAM explained users' perceptions of ease of use and usefulness (Davis, 1989; Parasuraman, 2000; Lin et al., 2007).

The ranking results indicated that **innovativeness** recorded the highest mean score among the TRI constructs. This suggested that respondents were generally willing to try and use new digital government services. This result was consistent with TRI theory, which identifies innovativeness as a key positive driver of technology readiness (Parasuraman, 2000; Parasuraman & Colby, 2015). It also aligned with e-government studies showing that innovation-related characteristics can influence citizens' acceptance and use of digital public services (Carter & Bélanger, 2005; Jasimuddin et al., 2017).

Optimism also recorded a high mean score, indicating that respondents generally believed that technology could improve convenience, efficiency, and service access. This finding supported previous research suggesting that optimistic users are more likely to perceive technology positively and accept digital services (Blut & Wang, 2020; Buyle et al., 2018). In the UAE context, this result was also consistent with the country's strong digital transformation agenda and continuous investment in digital government platforms (Government of the United Arab Emirates, 2024; TDRA, 2022).

For the TAM constructs, both **perceived ease of use** and **perceived usefulness** received high mean scores. This indicated that respondents generally viewed UAE e-government services as easy to use and beneficial for completing government-related transactions. These findings were consistent with TAM, which argues that users are more likely to accept technology when they perceive it as useful and easy to use (Davis, 1989; Venkatesh & Davis, 2000; Venkatesh & Bala, 2008). This also supported previous UAE-based studies that emphasized

the importance of user acceptance factors in e-government adoption (Jasimuddin et al., 2017; Al Sayegh et al., 2023; Salama & Farag, 2024).

The correlation results showed that all TRI constructs were significantly related to the TAM constructs at the **0.01 significance level**. Optimism was positively correlated with perceived ease of use and perceived usefulness. This indicated that users with a positive attitude toward technology were more likely to perceive UAE e-government services as simple and useful. Similarly, innovativeness was positively associated with both TAM constructs, suggesting that users who were more open to trying new technologies were more likely to accept e-government platforms. These findings were consistent with the Technology Readiness and Acceptance Model, which proposes that technology readiness influences acceptance beliefs (Lin et al., 2007; Buyle et al., 2018).

Insecurity also showed significant positive correlations with perceived ease of use and perceived usefulness. The strongest correlation was between insecurity and perceived usefulness. This finding required careful interpretation because insecurity is usually considered an inhibiting factor in TRI (Parasuraman, 2000; Parasuraman & Colby, 2015). If the insecurity items were reverse-coded, the result would suggest that lower insecurity was associated with stronger perceptions of usefulness. However, if the items were not reverse-coded, the finding may indicate that even users with technology-related concerns still recognised the usefulness of UAE e-government services. This interpretation is relevant because trust, risk, and security concerns have been widely discussed in e-government acceptance research (Carter & Bélanger, 2005; Belanche et al., 2012).

Discomfort was also significantly correlated with perceived ease of use and perceived usefulness, although the correlations were weaker compared with the other TRI constructs. This suggested that discomfort was still related to users' acceptance beliefs, but its role was less dominant. Since discomfort reflects users' feelings of uneasiness or lack of control when using technology, this result suggested that some users may still experience difficulty or hesitation when using digital government platforms. This finding was important for UAE e-government service providers because user-friendly design, clear navigation, and accessible support channels may help reduce discomfort and improve acceptance.

Overall, the results confirmed that technology readiness was an important factor associated with technology acceptance in UAE e-government services. The findings supported earlier studies showing that individual readiness, acceptance beliefs, trust, and service experience are important in explaining e-government adoption and use (Carter & Bélanger, 2005; Belanche et al., 2012; Jasimuddin et al., 2017; Al Sayegh et al., 2023). The findings also reflected the importance of aligning digital government transformation with user needs, skills, confidence, and expectations (Government of the United Arab Emirates, 2024; TDRA, 2022).

6. Conclusion

This study examined the relationship between Technology Readiness Index constructs and Technology Acceptance Model constructs in the context of UAE e-government services. Specifically, it analysed how optimism, innovativeness, insecurity, and discomfort were

associated with perceived ease of use and perceived usefulness. The results showed that respondents generally had positive perceptions of UAE e-government services. Innovativeness ranked highest among the TRI constructs, while perceived ease of use ranked slightly higher than perceived usefulness among the TAM constructs. These findings suggested that users were open to digital government services and generally perceived them as easy to use and useful.

The Pearson correlation results showed that all TRI constructs were significantly associated with both TAM constructs. This confirmed that users' technology readiness was closely related to their acceptance beliefs. In particular, optimism and innovativeness were important positive readiness factors, while insecurity and discomfort also showed significant relationships that required careful interpretation based on item coding. The study contributed to the literature by supporting the integration of TRI and TAM in UAE e-government research. It showed that user acceptance of e-government services was not only influenced by perceptions of usefulness and ease of use, but also by users' readiness, confidence, openness, concerns, and comfort with technology.

Practically, the findings suggested that UAE government entities should continue improving the usability and usefulness of digital services while also addressing users' technology-related concerns. Clear instructions, simple interfaces, reliable support channels, privacy protection, and user education may help improve acceptance and encourage continued use of UAE e-government platforms.

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