

# An investigation of the Factors Affecting the Users' Adoption of Social Media Technologies in the Public Sector: Case of Egypt<sup>1</sup>

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## ABSTRACT

Social media has become largely utilized for business and commercial purposes. It has also provided the opportunity to deliver various services more effectively as an alternative to the conventional means of communication. This, however, has posed an issue in developing countries, as the implementation of e-government initiatives has proven difficult as they are still in their infancy and encounter numerous obstacles that prevent widespread use.

The research stream has explored social media technologies adoption in developing countries from the public organizational perspective. However, there is scant research investigating social media technologies adoption from a citizen's perspective, as citizen adoption is just as significant as the governments' initiatives. This paper seeks to address this gap through the exploration of the unique challenges and idiosyncrasies of public sector organizations as well as users.

This study adapted the UTAUT model to analyze social media adoption in Egypt, identifying key factors such as ease of use, usefulness, social influence, technological issues, lack of awareness, data privacy, and trust. The findings of this research are important for both businesses and policymakers, guiding strategies to improve user experience, address barriers, and promote responsible usage through regulations and education.

**Keywords:** Technologies Adoption, social media, Unified Theory of Acceptance and use of Technology (UTAUT), Public Sector, Egypt.

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#### I. INTRODUCTION

Individual and institutional use of social media is rapidly growing. Social media can be described as internet-based applications that allow the creation and exchange of User Generated Content (UGC) (Kaplan & Haenlein, 2010) when used efficiently, it can achieve far more than just enhanced government communication strategies. Community engagement and the promotion of both accountability and transparency could easily be enhanced through the appropriate use of social media technologies in the public sector.

The internet has raised the standard for service delivery in a variety of settings, including interacting with the government. By providing citizens with more efficient access to e-government services, the majority of governments across the globe are creating increasingly intricate plans to encourage citizens' active engagement in governmental activities. The paradigm evolved from traditional government to electronic government as a result of this transformation and the rapid advancement of ICT. Currently, 173 of 190 countries use modern information and communication technologies to provide services to their citizens, and 98% of governments worldwide have websites (UN, 2010).

The usage of social media technologies by Egyptian governmental authorities is a new technological development. Social media is now a primary means of communication where people share a wide range of information to express their opinions (Akram & Kumar 2017). As a result, public sector organizations all over the world are utilizing social media more frequently to interact with individuals after realizing its significance. Social media has numerous benefits, but drawbacks can extent to loss of time, money, effort, and even a compromise in trust and reputation.

Social media integration in the public sector is at an early stage in less developed nations, where similar obstacles are encountered during the execution of online services. The increased and efficient utilization of Information and Communication Technology (ICT) suggests that the majority of governmental bodies employ websites for the distribution of information to the public. Contrastingly, Egypt is witnessing a surge in the public sector's embrace of social media. A significant number of national organizations employ various social media platforms such as Facebook, Twitter, YouTube, Instagram, and LinkedIn. Despite this, limited efforts have been made to assess the factors influencing the adoption of these services.

The objective of this research is to examine the determinants affecting the incorporation of social media within the Egyptian public sector from users' perspectives. The examination will encompass the utilization of social media in the public sector, along with other emerging technologies and their consequential impact on society. To achieve the objectives of this research, a quantitative research approach based on surveys is employed, utilizing the modified Unified Theory of Acceptance and Use of Technology (UTAUT) model. Through the lens of UTAUT, the study delves into the factors influencing the adoption of social media by the public sector in Egypt, a country where e-government and social media services are still in the developmental phase. Gaining insights into these factors will assist decision-makers in ensuring citizen satisfaction. This research is poised to make a significant contribution to the understanding of technology adoption within public organizations, fostering a conducive environment for good governance in Egypt. The incorporation of social media and its prerequisites could prove to be a valuable tool for individuals in government institutions in Egypt, promoting broader participation of the population in decision-making processes.

The study's implications are relevant for other Arab nations facing similar challenges. The paper's structure is as follows: Section 2 provides the research context, discussing e-government and social media services in Egypt, the adoption of e-government within Middle Eastern developing countries using technology acceptance models, the theoretical model employed, and the empirical background. Section 3 details the methodology used to explore influential factors in social media service adoption. Section 4 presents results within the literature review framework. Section 5 examines research validity and reliability. Lastly, Section 6 summarizes research conclusions and examines their implications for future studies.

#### 2. LITERATURE REVIEW

Egypt, situated in the northern region of the African continent, is one of the Arab countries in the Middle East, sharing similarities with other nations in the Middle East in terms of geography, culture, IT infrastructure, literacy rates, and the development and adoption of e-government and social media services. As highlighted by Almakki (2009), Arab countries face challenges, including inadequate IT infrastructure and cultural issues. The inception of social media services in the developing world has encountered common challenges in implementation and adoption.

Initially, interactions between governments and citizens on the internet were categorized as e-government or Web 1.0 platforms, mainly consisting of government websites enabling one-way communication with limited citizen feedback (Fan, 2011). However, the transition to Web 2.0 platforms allows both administrators and citizens to collaboratively create and share data and information online (Bryer & Zavattaro, 2011; Chun, et al., 2010). This change enables citizens to engage in online public communities, where they can collectively contribute to finding solutions and producing outcomes.

Heightened adoption of social media transpires when the platform is thoroughly employed for interactive purposes, although accomplishing complete collaborative interaction can be problematic. Interactions become less formal, and the government plays a key role in determining the extent of engagement via social media. For instance, a citizen might make a post on a Facebook page expecting responses, yet if the administrator fails to reply, the interaction remains unfinished (Baud et al., 2013).

The integration of social media into the public sector appears to be a relatively new trend in numerous developing countries, representing a significant intersection of technological capabilities with the characteristics of public administration. Its primary objectives include improving customer service in the 'front office' and streamlining organizational structure in the 'back office.' Social media adoption entails leveraging information technology resources, predominantly through websites, intranets, and databases, to facilitate selfservice via IT platforms (Bigdeli & Cesare, 2011; Budd & Harris, 2004).

Budd and Harris (2004) noted a distinctive approach to e-government in the U.K., emphasizing a shift in government technology without an immediate emphasis on altering the business culture of Whitehall, unlike the U.S. The Office of e-Envoy (OeE) played a coordinating role for standards rather than acting as a catalyst for change. Electronic transactions and interactions in e-

government have been categorized into four main blocks: citizens, businesses, employees, and government-to-government and public bodies. Similarly, Norris and Fletcher (2003) analyzed the successful implementation of social media in the U.S., identifying phases such as cataloging, transactions, vertical integration, horizontal integration, and modeling/methodologies. They recommended the adoption and testing of social media policies by other industrialized and developing countries based on this analysis.

Obayelu and Ogunlade (2006), as well as Alao and Brink (2020), highlighted the utility of Information Communication Technology Systems (ICTS) in enhancing the economic livelihood of the poor in less developed countries. Both conventional media and emerging information and communication technologies (ICTs) have been instrumental in spreading information, particularly to rural populations. Poverty alleviation initiatives in these nations frequently utilize television and radio broadcasts for communication purposes.

The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh et al. (2003), Venkatesh and Zhang (2010), Venkatesh, Thong, and Xu (2016), Dwivedi et al. (2019), and Hussein & Abdelhameed (2021), presents a comprehensive framework for understanding user acceptance of information technology. Illustrated in Figure 1, UTAUT aims to explain user intentions to utilize an information system and subsequent usage behavior. The theory revolves around four key constructs: (1) performance expectancy, (2) effort expectancy, (3) social influence, and (4) facilitating conditions. Venkatesh, Thong, and Xu (2016) contend that these constructs significantly shape user acceptance and usage patterns.

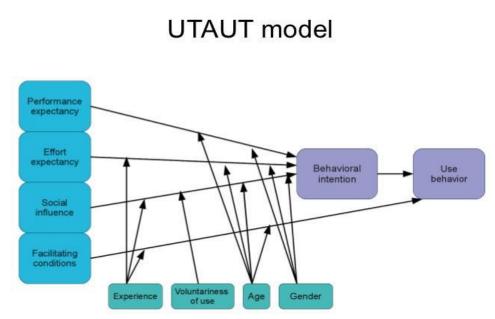


Figure 1: Utaut Model

The Unified Theory of Acceptance and Use of Technology (UTAUT) consolidates seven engineering acknowledgment models: the Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), the Motivational Model (MM), Theory of Planned Behavior (TPB), the Model of PC use (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT) (Venkatesh et al., 2003; Venkatesh et al., 2016).

UTAUT contributed significantly by explaining 70 percent of the variance in technology utilization, surpassing the explanatory power of previously established models. Numerous studies have re-evaluated UTAUT against various theoretical frameworks, highlighting distinct elements, from the endorsement of e-government services to aspects conceptually integrated under UTAUT.

The UTAUT model introduces four constructs to determine the level of technology acceptance:

Performance Expectancy: This entails the conviction that adopting the new system will enhance job performance. UTAUT highlights this aspect as the most impactful factor influencing individual behavior.

Effort Expectancy: This evaluates the perceived simplicity linked with utilizing the system, encompassing elements from established models such as perceived ease of use and complexity. UTAUT suggests that effort expectancy plays a role in influencing user utilization of the system.

Social Influence: This assesses the extent to which a user feels compelled to adopt the new system. Drawing from established models to encompass social influence aspects such as subjective norm, social factors, and image, it holds significant role in the adoption of any technology. In this research, social influence is examined particularly in relation to peer influence.

Facilitating Conditions: This indicates the extent to which a user believes that organizational and technical infrastructure supports the use of the system. It is a significant factor as the availability of equipment and technical assistance is seen as a direct predictor of actual technology usage.

## 2.1 Technology Adoption Theory

Governments worldwide, whether in developed or less developed countries, allocate significant financial resources to implement new information and communication technologies, aiming to streamline business operations and enhance connections with relevant entities. The success of these investments is contingent upon the acceptance and adoption of these technologies by citizens. Various technology acceptance models have been employed by researchers to understand this phenomenon. Agarwal (2000) notes an extensive body of research focused on the adoption of information technologies, defined as the utilization or acceptance of new technologies or products.

To address limitations inherent in individual models, the UTAUT model integrates constructs from several of them. UTAUT comprises four direct constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions, collectively explaining 70 percent of technology acceptance and usage behavior. Venkatesh et al. (2003) emphasized the pivotal role of these four constructs as direct determinants of user acceptance and usage.

The UTAUT model, despite being relatively new, has demonstrated validity and reliability in diverse technology adoption studies, making it suitable for various contexts. Rosen (2005) suggests that the UTAUT model should serve as a

benchmark in acceptance literature, providing a more comprehensive and realistic understanding compared to previous models. Given its appropriateness and the incorporation of strengths from prior models, the UTAUT model is chosen for this study.

### 2.2 E-government adoption

E-government represents a form of governmental administration heavily reliant on Information and Communication Technologies (ICT) services. At its core, egovernment utilizes information technology to transcend the boundaries of administrative organizations, establishing a virtual electronic government. Governments worldwide increasingly leverage ICT to provide services conveniently to their citizens. In the case of Egypt, a developing country undergoing economic transition, investments in communication and information technology infrastructure began in 1985 as a crucial tool for development. However, Egypt encounters numerous challenges in the successful implementation of e-government initiatives, primarily stemming from conventional problems and obstacles inherent in governmental growth.

Akman, Yazici, Mishra, and Arifoglu (2005) emphasized that the success of egovernment adoption relies on the active participation of the local population. Similar to other technological advancements, the introduction of e-government poses various challenges for both the public and governmental bodies (Zakareya & Irani, 2005). The United Nations (2010) highlighted that, while most developed countries benefit from e-government services, there is still considerable room for comprehensive transformation.

Many scholars have highlighted the need for further investigation into egovernment adoption. The preceding discussions suggest that governments worldwide still encounter challenges from the citizen's standpoint, emphasizing the significance of research exploring e-government service adoption rates.

## 2.3 Obstacles to e-government in Egypt's public sector

In recent times, discussions have become a prominent and ongoing debate in less developed countries, particularly in Egypt, where the government is making significant investments in Information and Communication Technology (ICT) infrastructure. However, these efforts are encountering various challenges and obstacles.

One primary obstacle facing e-governance in the Egyptian public sector is the scarcity of adequately trained and qualified personnel to manage and operate ICT infrastructures. The substantial expenses linked to procuring and training public servants with ICT expertise can sometimes dissuade the government from adopting e-governance initiatives in the public service.

Moreover, the deficiency of skilled personnel to oversee diverse ICT services and applications poses a challenge to the successful rollout of e-governance in the public sector. The absence of a regulatory policy from the government represents a significant concern that must be addressed to ensure the effective implementation of e-governance across government organizations.

Irregular and epileptic power supply, especially in border cities like Sinai, Al Arish, Halaib, and Shalatin, poses a considerable challenge to realizing egovernance objectives. Adequate power supply is crucial for the successful adoption of e-governance, and reliance on generators in certain areas may hinder ICT facilities' proper functioning.

In Egypt, the digital divide poses a challenge, representing the disparity between individuals who have consistent access to digital and information technology and those who do not. This divide extends beyond ICT knowledge to linguistic differences, separating those proficient in English from those who are not.

The citizens' attitude or resistance to change is a significant challenge to the adoption of e-government activities. Many individuals are accustomed to traditional ways of government activities, leading to resistance to the adoption and implementation of e-governance. This is compounded by the fact that some public employees lack computer literacy and proper training in ICT infrastructure installation, maintenance, and implementation.

Moreover, there is a substantial need for a comprehensive framework throughout Egypt to facilitate various services, including healthcare, salary distribution, e-learning, paperwork reduction, transportation, and increased access to ATM machines. Such widespread implementation would enhance overall e-government activities and operations in the country.

### 2.4 Social media in the public sector

In recent years, the widespread adoption of social media and online platforms has expanded globally. Social media platforms offer individuals various opportunities such as staying updated on current events, sharing digital content instantly, fostering social connections and virtual communities, engaging in conversations, expressing opinions and ideas, and accessing information about products or services. While there are multiple definitions of social media in literature, the most comprehensive and commonly accepted one describes it as "a set of Internet-based applications rooted in the principles and technology of Web 2.0, enabling the creation and exchange of User Generated Content" (Kaplan & Haenlein, 2010).

The utilization of social media platforms by various state and non-state actors across different countries has underscored their significant potential for advocacy and awareness raising. In Egypt, the uploading of videos depicting police corruption and violations against citizens and activists on social media prior to the January 2011 revolution played a pivotal role in exposing the misconduct of police officers (Abdulla, 2013). In the aftermath of the January 2011 revolution, numerous ministries and government agencies in Egypt sought to harness social media platforms as part of their communication strategies.

During the rule of the Supreme Council of Armed Forces (SCAF), which governed Egypt for approximately one and a half years post the revolution, even this body had its own Facebook page. Several ministries established Facebook pages, and a smaller number ventured into creating Twitter accounts. Notably, in the wake of the revolution, the Ministry of Foreign Affairs initiated its Facebook page to connect with the public, and the Ministry of Interior affairs followed suit in 2012.

The adoption of social media by the Egyptian government for public communication appears to have contributed, to some extent, to increased access to government information and services. However, a lingering question persists regarding whether this adoption has actively facilitated the uptake of governmental online services. This question underscores the ongoing exploration of the impact and efficacy of social media integration in governmental communication efforts, particularly in influencing the broader adoption of digital services by the public.

### 2.5 Social Media Adoption in Public Sector

Social media encompasses a collection of economic, technological, and social developments that enable widespread user engagement and networking (Kaplan & Haenlein, 2012). The advent of mobile applications has notably boosted social networking. Social networking serves as a vital platform for individuals and organizations, both private and public, to establish connections. Unlike traditional media, social networking facilitates two-way communication among individuals and organizations (AlAwadhi, Parycek, & Kesan, 2013).

Social media represents a significant avenue for governments to rebuild connections with their citizens (Song & Lee, 2015). Governments worldwide have increasingly turned to social media for communication, outreach, and sharing information with their populations (Khan, Swar, & Lee, 2014). A key distinction between social media communication and traditional modes lies in its ability to facilitate global interaction (Carr & Hayes, 2014). Public organizations are exhibiting a growing awareness of social media, with varying objectives for its usage across different countries. The adoption of social media by public organizations has transformed communication practices from conventional methods of information dissemination to engagement on new social media platforms.

Embracing social media within public organizations strengthens the relationship with citizens by enhancing responsiveness to public. It is a phenomenon that garners considerable attention from local governments, facilitating effective and efficient interaction with citizens (Sharfi, Troshani, & Davidson, 2015). Governments are increasingly drawn to popular social media platforms like Facebook, Twitter, and LinkedIn, which offer a common ground for interaction between citizens and government entities. Social media empowers government agencies to engage in transparent, interactive, participatory, and collaborative interactions with the public, fostering information exchange and enhancing governance (Al Riyami & Ashrafi, 2016). The public sector utilizes social media as a tool for disseminating valuable information, promoting mass collaboration, and enforcing laws and regulations (Khan, Swar, & Kon Lee, 2014). Adopting social media within government entities enhances responsiveness and interactivity with citizens (Mergel, 2013). Social media serves as an effective communication channel between governments and the public. Emerging countries such as the UAE and South Korea are striving to establish social media cohesion to enhance service delivery, implementing strategies based on public feedback. In developed nations like the USA and UK, social media adoption is widespread, with strategies crafted in response to citizen input. The overarching goal is to enhance service delivery and ensure the fulfillment of citizens' needs (Hidayat, Rafiki, & Al Khalifa, 2018).

Social media has emerged as a potent instrument for governments to engage citizens in their affairs and enhance the government-citizen relationship. These networks serve as two-way communication platforms, enabling users from diverse locations to interact and generate valuable information resources. The adoption of social media policies and guidelines is a crucial step for effectively implementing social media within government agencies and strengthening connections with the public (Kenawy, 2014). The adoption of social media by the public sector serves as a robust mechanism for fostering government responsiveness, transparency, and openness. US federal government agencies utilize various platforms such as blogs, microblogs, wikis, and social media networking sites to interact with citizens, disseminate information, and foster communication with the public (Bertot, Jaeger, & Hansen, 2012).

## 2.6 Factors Influencing Social Media Adoption in Public Sector

Social media presents significant opportunities for public sector organizations to enhance their operations. However, several factors, including organizational, technological, and environmental aspects, influence the adoption of social media. Organizational factors include management drive, social media policies, and the level of formalization within the organization. Technological factors encompass perceived benefits, perceived risks, and compatibility with existing systems. Environmental factors consist of community demand, bandwagon pressure, and trends in social media usage (Sharfi, Troshani, & Davidson, 2015; Abdelsalam et al, 2013). These factors collectively shape the adoption and utilization of social media within the public sector.

According to Hidayat, Rafiki, & AlKhalifa (2018), the government of Bahrain has identified a significant concern regarding the absence of a social media strategy to regulate activities within its ministries. There is a recognized need for improvement in adopting social media within the Bahraini government, considering it as a vital communication and anti-corruption tool. Enhanced social media strategies can lead to improved government activities and better alignment with public needs. Meanwhile, research by Al Riyami & Ashrafi (2016) highlights nine factors, including top management support, training, experience, staff resources, perceived risks, financial and technical resources, relative advantage, community influence, social media strategy and policies, compatibility, and centralization, which significantly affect social media adoption. Addressing these factors can ensure effective adoption within Egypt's public sectors. Additionally, findings from Kenawy (2014) and Al Riyami & Ashrafi (2016) identify key elements influencing social media adoption in Egypt, such as the lack of policies and guidelines, measurement tools, unresolved legal issues, guidelines for employee access to social media, and security concerns. Addressing these issues is essential for successful social media adoption within Egypt's public sector.

It is imperative for governments to integrate social media policies into their organization's mission, vision, goals, objectives, and overall culture. The lack of expertise emerges as a critical factor hindering social media adoption within the public sector. To address this challenge effectively, there should be thorough needs assessment analysis of employees tasked with directing social media activities. Subsequently, necessary training programs should be provided to equip them with the requisite skills and knowledge. This approach ensures that public sector employees are adequately prepared to leverage social media effectively in fulfilling organizational objectives (Elbatanouny et al, 2023).

As per the literature, developed nations are focused on enhancing service delivery and ensuring the satisfaction of citizen needs. Conversely, emerging and developing countries are grappling with the establishment of needs and the implementation of strategies and policies for the use and regulation of social media. Research suggests that the severity of these challenges varies depending on the country's level of development. As an underdeveloped country, Egypt is bound to face obstacles that affect the adoption of social media within its public organizations. These challenges may include infrastructural limitations, resource constraints, and cultural factors, among others (Sangi, 2021).

## 2.7 Social media government barriers in Egypt

Less developed countries encounter challenges in navigating the transitional phase, requiring a re-evaluation of government frameworks to effectively communicate transparent administration to stakeholders using Information and Communication Technologies (ICTs). Egypt, akin to other developing nations, grapples with a multitude of difficulties in this context. There is an imperative to accelerate the adoption of social media across the country. This urgency reflects the recognition that leveraging social media platforms can play a pivotal role in overcoming obstacles and fostering transparent communication in the public sector, aligning with the broader goals of governance modernization in developing nations (Elnady, 2022).

### 2.7.1 Organizational structure

Effectively incorporating social media into public sector organizations necessitates a commitment from the highest levels of administration. Beyond the imperative for top-level responsibility, substantial capital investment and operational expenditure are essential for the seamless execution of e-government initiatives. Unfortunately, governments often exhibit a reluctance to allocate the financial resources required to initiate social media services, posing a significant obstacle to progress in this domain (Qaiser & Khan, 2010). This financial reluctance may hinder the implementation and optimization of social media strategies, affecting the ability of public sector organizations to leverage these platforms for effective communication and engagement.

## 2.7.2 Strategic planning

Planning and control are recognized as two of the most critical issues in the effective implementation of online networking systems. Thorough and extensive planning is necessary to prevent frustration in e-government ventures. Alsawafi & Sridhar (2003) highlighted that the vision for web-based social networking

requires a well-informed and technically competent team to access the required information. Readiness, in this context, refers to the economy's ability to use Information and Communication Technology (ICT) to transition traditional businesses into the new economy (Bui et al., 2003). Key parameters of e-readiness include skilled individuals, awareness about available web-based social networking services, proficiency in using online services, and the presence of digital infrastructure, namely web and workstation access.

An examination conducted in Egypt revealed several hindrances to the execution of e-government. These obstacles included deficient access to the Internet, low levels of security, insufficient understanding of the advantages of online platforms, and a lack of implementation of IT policy (Kayani et al., 2011). These challenges underscore the importance of addressing issues related to infrastructure, security, awareness, and policy implementation for successful egovernment initiatives.

### 2.7.3 ICT infrastructure

The development of online infrastructure presents another pressing issue, and building it from scratch can be an expensive undertaking (Kazmi, 2010). In many countries, foundational infrastructure is outsourced as a strategy to alleviate the financial burden on governments (Huff, 2001). Beyond the Information and Communication Technology (ICT) framework, considerations for security, privacy, and online regulations are also deemed essential.

Governments must prioritize maintaining an exceptionally high level of security on their websites. This commitment is crucial for establishing and preserving citizens' trust, consequently enhancing their willingness to engage with and utilize e-services provided by the government. The emphasis on security underscores the importance of creating a secure online environment to foster public confidence in the use of digital government services.

#### 2.7.4 Operational resources

Resource commitment stands out as another vital issue for the successful implementation of social media services in Egypt. Assessing resource commitment involves considering human resources (H.R.), hardware, and financial assets. Without these resources, the successful completion of initiatives

becomes unattainable. The sustainability of projects relies on a steady supply of resources, including human and financial capital. Political support is also deemed an essential asset in this context. The availability of hardware is crucial at the outset of a venture, and its absence can lead to delays in meeting project deadlines. This underscores the necessity of a comprehensive approach to resource management to ensure the effective execution of social media initiatives in Egypt.

### 2.7.5 The needs of the stakeholders

The end user emerges as one of the most critical factors in the practical utilization of social media in the public sector. Teicher et al. (2002) emphasize that governments should strive to serve all citizens on an equitable basis. Recognizing end users as consumers of taxpayer-supported organizations, the government must comprehend their needs. In this regard, government initiatives should align with the objective of meeting the diverse needs of consumers (Alsawafi & Sridhar, 2003). This user-centric approach underscores the importance of tailoring social media strategies to effectively address the expectations and requirements of the end users, ensuring inclusivity and responsiveness in public sector engagement.

#### 2.7.6 E-governances' social and economic issues

The government must actively engage in efforts to encourage and persuade citizens to utilize web-based social networking services. This involves promoting the value and usability of such applications and ensuring easy access to e-services (Yaghoubi et al., 2010). For Egypt, focusing on the following changes is imperative:

- (a) Revamping their IT infrastructures
- (b) Implementing structural and operational adjustments to address evolving citizens' needs
- (c) Developing leadership skills while embracing IT advancements
- (d) Ensuring the integrity and quality of data remain consistent.
- (e) Pursuing an effective systematic process while adopting IT
- (f) Building citizens' IT capabilities

- (g) Promoting incremental awareness about PC proficiency
- (h) Promoting the utilization of readily available online networking platforms.

These strategic initiatives underscore the importance of a comprehensive approach to IT development, organizational responsiveness, and citizen empowerment in leveraging social media and online services for effective governance in Egypt.

#### Hence, the research questions in the present study are as follows:

- 1. Which factors play a substantial role in influencing the adoption of social media within public sector organizations in Egypt?
- 2. In what ways can Egypt capitalize on the suggested adoption framework to enhance the utilization of social media as a tool for promoting good governance?

#### 3. RESEARCH METHODOLOGY

Consistent with previous studies utilizing technology acceptance models, a deductive approach with quantitative research methodology was employed to explore the factors affecting the adoption of social media services in Egypt. Data collection involved conducting a web survey designed based on the Unified Theory of Acceptance and Use of Technology (UTAUT) model. The survey focused on the adoption factors outlined by the UTAUT model, simplifying it to only include the relationships among constructs without their moderators. This approach mirrors the methodologies utilized in the studies by Carlsson et al. (2006) and Il et al. (2010), both of which also utilized the UTAUT model. As per the UTAUT model, the primary factors influencing technology adoption include performance expectancy, effort expectancy, social influence, and facilitating conditions.

Following the UTAUT model, it is anticipated that these main factors similarly influence the adoption of social media services in Egypt. The applied research model is depicted in Figure 2.

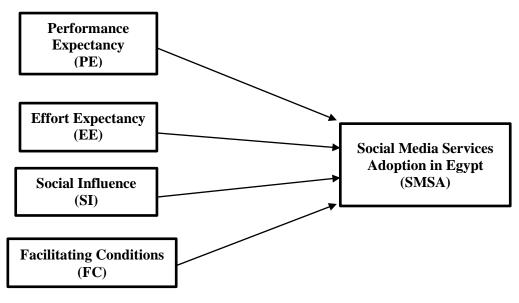


Figure 2: Proposed research model

In this study, performance expectancy signifies users' belief that social media services contribute to enhancing their job performance. The adoption of social media services is influenced by users as beneficial for improving their overall performance. This aligns with the significance attributed to the determinant of performance expectancy in previous technology acceptance theories. Effort expectancy assesses users' perceptions of the utility, ease of learning, and ease of use associated with social media services. According to established theories and models, the easier a technology is perceived to be, the greater the probability of its adoption and acceptance. Consequently, assessing the complexity level of social media services becomes essential, taking into account how challenging users perceive the technology to be in terms of understanding and usage.

Social influence, defined as "the degree to which an individual perceives the importance which others believe that he or she should use the new system" (Venkatesh et al., 2003), refers to users' perceptions of the significance placed on them when adopting social media services. Facilitating conditions elaborate on the necessary environment and the availability of assistance for the usage of social media services. Thus, it becomes evident that performance expectancy, effort expectancy, social influence, and facilitating conditions are pivotal determinants

influencing user adoption of social media services in Egypt, aligning with the requirements of our research.

In the survey, the four determinants of the UTAUT model were assessed using constructs consisting of specific groups of questions. These questions were developed based on insights gathered from previous studies (Venkatesh et al., 2003; Venkatesh & Davis, 2000). The measurement utilized a five-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Details of the questions for each of the four constructs are provided in Table 1.

Constructs	Items of Measurement: Name of the Technology
Performance Expectancy	The makes task completion quicker and simpler for me. Utilizing the can reduce the time required for my crucial job duties. Incorporating the would streamline my job tasks.
Effort Expectancy	Gaining proficiency in utilizing is achievable for me. I can easily navigate to achieve my desired outcomes. Using is straightforward and comprehensible. In general, I perceive the as user-friendly.
Social Influence	Individuals of significance recommend my use of the Within my organization, individuals utilizing the hold a higher social status compared to those who do not.
Facilitating Conditions	I have access to the necessary resources to easily utilize the Comprehensive guidance on operating the was accessible to me. A dedicated team is available to help with any challenges.

Table 1: Instruments from Venkatesh et al. (2003) UTAUT model

In this research, a closed-ended survey was utilized, divided into two parts. The initial section aimed to gather demographic data regarding the participants, including inquiries about age, gender, Internet usage and skill level, and familiarity with governmental social media platforms. The second section comprised 12 questions organized into four categories derived from the researcher's comprehensive literature review.

The survey population comprised students and faculties 'members of the University of Alexandria in Egypt, chosen due to their status among the adult population for whom the Internet is an integral part of daily life. Consequently, their attitudes and perceptions hold significance for assessing and enhancing social media services. The questionnaire dissemination utilized various communication channels, including personal email and diverse groups on social media platforms catering to university students and faculties' members.

The study targeted university students and faculty members at the University of Alexandria in Egypt, distributing 500 questionnaires randomly. Of these, 121 were collected, resulting in a response rate of 24.2%. After disqualifying six questionnaires with incorrect or missing data, 115 responses remained for analysis. The sample size was deemed appropriate according to Krejcie and Morgan's guidelines, given the anticipated population size (the anticipated sampling size for 306 respondents/1500 population was at the proper threshold). The respondents showed a diverse adoption of social media services, and the sample size was used in structural equation modeling to test hypotheses. Cronbach's alpha was employed to ensure the reliability of the research instruments by examining the internal consistency of the survey questions.

#### 4. RESULTS AND DISCUSSIONS

Out of the 115 respondents analyzed, 32 (28%) identified as adopters of social media services, while 83 (72%) were non-adopters of social media services. The respondents included Bachelor (42%), Master (51%), and PhD (7%) students and faculty members from various departments within the Faculty of Business, Faculty of Education, Faculty of Law, and Faculty of Tourism with 78% male and 22% female participants. A vast majority (91%) had internet connectivity, with generally proficient internet skills. Most respondents spent over ten hours weekly on the internet for information retrieval, transactions, and social networking. About 73% preferred using e-services for communication with government agencies, considering existing e-government services and social media services useful. However, some participants (20%) still favored traditional communication, given the incomplete implementation of e-government across Egypt.

### 4.1 Performance Expectancy

The performance expectancy factor, assessed through three questions, pertained exclusively to respondents currently using social media services (n=32). These users perceived social media services as facilitating easier contact with the government (mean=3.75), enabling quick task completion (mean=4.09), and saving time (mean=3.88). The relatively high mean of 3.90 for the performance expectancy construct suggests that users harbor a positive attitude towards Egyptian social media services due to their perceived efficiency. This efficiency is seen as a means for users to circumvent long queues and uncooperative staff in government offices.

Performance Expectancy (n=32)	Mean	Median	Mode	Standard Deviation
Rapid Task Completion	4.09	4.0	4	0.96
Easier Contact	3.75	4.0	4	1.07
Time Efficiency	3.88	4.0	4	0.97

Table 2: Mean Score - Performance Expectancy

The positive response from users suggests a readiness among citizens to embrace the social media services offered by the Egyptian government. Several researchers have reported similar findings.

### 4.2 Effort expectancy

The effort expectancy factor, assessed through five questions applicable only to respondents currently using social media services (n=32), showed favorable views with an average mean of 3.83. Participants generally perceived social media services as easy to learn (mean=3.84), easy to use (mean=3.81), useful (mean=4.00), cost-effective (mean=3.94), and providing clear interaction (mean=3.59). These results indicate a positive perception among users regarding the ease and usefulness of social media services, contributing to a generally favorable attitude toward their adoption.

Effort Expectancy (n=32)	Mean	Median	Mode	Standard Deviation
Easy to Learn	3.84	4.0	4	1.05
User-Friendly	3.81	4.0	4	0.89
Useful	4.00	4.0	4	1.03
Cost-Effective	3.94	4.0	4	0.91
Clear Interaction	3.95	4.0	4	1.18

Table 3: Mean Score - Effort Expectancy

Effort expectancy, a Factor influencing technology acceptance (Venkatesh et al., 2003), yielded positive attitudes among respondents toward social media services in Egypt. This suggests citizens are inclined to adopt Egyptian government social media services, considering the anticipated effort required for their use. These findings align with previous research results.

### 4.3 Social Influence

The social influence factor, assessed through two questions applicable only to respondents currently using social media services (n=32), was not provided in the provided text.

Social Influence (n=32)	Mean	Median	Mode	Standard Deviation
Enhanced social status via social media services	3.4I	3.5	4	0.91
Influential individuals recommend its usage	3.31	3.5	4	1.06

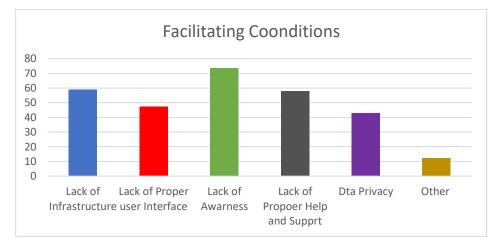
Table 4: Mean Score - Social Influence

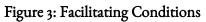
The findings indicate that participants favor using social media services, and several factors may influence adoption and usage. Almost half of the participants (46%) agreed or strongly agreed that they gain more social status (mean=3.41) when using social media services, and their peers and families (mean=3.31) prefer them to utilize these services. The participants believed that these social media e-services make their lives easier. While the literature emphasizes the importance of social influence in the acceptance and adoption of new technology, the average mean of social influence is 3.39, suggesting that service users experience a positive social influence in using Egyptian government social media services. However, it

is noteworthy that social influence is considered less significant among the eservice users group in this study compared to performance and effort expectancies (Venkatesh et al., 2003).

### 4.4 Facilitating Conditions

Respondents (n=115) mentioned obstacles to the adoption of social media services in Egypt, as illustrated in Figure 3. Despite the Egyptian government's efforts in e-government services, a majority of respondents (73.68%) noted a lack of awareness, while over half (58.89%) emphasized the absence of assistance and effective guidelines. The respondents also attributed the lack of broadcasting services and their benefits to government personnel and social media. These findings highlight that the absence of awareness, proper help, and guidelines influences the acceptance and adoption of social media services by Egyptian citizens. Thus, rigorous advertising campaigns and educational initiatives are recommended to enhance public awareness and utilization of the services, aligning with similar findings reported by other researchers.





### Technical Challenges and Privacy Concerns:

A majority of the participants (58.88%) reported experiencing various technical issues with internet connections, such as disconnections or interruptions during transactions, concerns regarding privacy, delays causing frustration, and slow processing speeds. Privacy, technical issues, and trained staff are recognized as common challenges in the implementation of social media services, particularly

in less developed countries. Ensuring sufficient network capacity to handle eservice traffic is recommended, as suggested by McClure (2000). Data privacy and trust in services play significant roles in the acceptance of social media services, with 55% of respondents expressing concerns about personal information and data privacy. User trust is closely connected to security and data privacy assurance, as emphasized by researchers.

### Validity and Reliability Test:

The study employed the four constructs of the UTAUT model—performance expectancy, effort expectancy, social influence, and facilitating conditions based on the work of Venkatesh et al. (2003). The survey questionnaire, administered to students and faculty members of the University of Alexandria in Egypt during the summer of 2022, included questions on background information, such as gender, internet experience, and usage frequency. The survey involved 121 participants from various academic majors. Modifications were made to the original instruments to adapt them to the study's context while ensuring the validity of the research results. Validity, according to Cook and Campbell (1979), is the "best available approximation to the truth or falsity of a given inference, proposition, or conclusion."

Constructs	Number of Items	Cronbach's Alpha
Performance Expectancy	3	.795
Effort Expectancy	5	.851
Social Influence	2	.717

Table 5: Reliability measurement

The reliability of the research instrument was assessed through the calculation of internal consistency using Cronbach's coefficient alpha, a method developed by Cronbach (1951). This coefficient provides insights into the internal consistency of the measurement, with values falling into four categories: excellent (0.90 and higher), high (0.70 – 0.90), high moderate (0.50 – 0.70), and low (0.50 and lower). As illustrated in Table 5, the reliability of each construct was determined, revealing that several constructs exhibited high reliability. The Cronbach's alpha values ranged from 0.717 in the social influence construct to 0.851 in the effort

expectancy construct. These results indicate that the constructs are internally consistent, affirming the reliability of the measurements within each construct.

#### 5. CONCLUSION

This study aims to explore the factors influencing the adoption of social media technology services in Egypt from a user's perspective, utilizing the Unified Theory of Acceptance and Use of Technology (UTAUT) model constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. Existing literature suggests a relatively low adoption rate of social media technology services in developing countries like Egypt, often attributed to a lack of citizen knowledge about these services. The survey results underscore the importance of awareness in the adoption of social media technology services, suggesting that the Egyptian government should implement widespread awareness campaigns to educate citizens about these services. The findings also reveal concerns about outdated websites and inadequate electronic resources, emphasizing the need for regular updates, online communication channels, and help facilities on government social media technology platforms. Positive perceptions of user-friendly interfaces suggest a favorable view among respondents, while issues related to authentication, identification, and privacy underscore the need for trust-building measures in the adoption of Egyptian social media technology services.

The outcomes of this research hold implications in both theory and practice. Theoretically, the study contributes to validating the determinants of the UTAUT model within the framework of social media technology service adoption in Egypt. While previous research has extensively explored the adoption of such services in developed countries, there is a scarcity of studies in developing nations, particularly from a user's perspective. This study addresses this gap, providing valuable insights for future research in Egypt and other Middle Eastern countries, with a specific focus on user perspectives.

The study's findings highlight that perceptions of adopting social media services are shaped by performance expectations. When citizens assess the performance benefits of social media applications on usage efficiency, they tend to view their use favorably, as indicated by the data. Consequently, technology experts should emphasize and elucidate these user performance benefits, while citizens should participate in social media service initiatives that offer advantageous features to enhance their usage efficiency.

The study suggests that integrating social media services with user-friendly interfaces could lead consumers to develop a favorable attitude toward these services and perceive the interface as valuable for enhancing their efficiency in usage. Additionally, social media professionals and developers are advised to incorporate social applications like discussion forums, as well as accounts on popular social media platforms such as Twitter and Facebook. These features can facilitate citizens in connecting with professionals and fellow citizens, thereby leveraging social elements for interaction and engagement.

Practically, the findings offer guidance for government policymakers and decision-makers engaged in designing and implementing social media technology services in Egypt and similar developing nations. The emphasis on factors such as awareness, security, privacy, and user trust highlight key areas that should be considered in policy formulation and strategy development. Given that the implementation of Egyptian social media technology services is in its early stages, understanding these factors is crucial for effective planning and deployment.

Nevertheless, it is crucial to recognize the limitations inherent in this study. One limitation is its focus on a single country, implying that the findings in Egypt might not be entirely applicable to other developing nations. Consequently, future research could explore the determinants of social media technology adoption across various countries in the Middle East. Given the region's dynamic nature, social media could serve as a catalyst for governmental reforms. Additionally, this study is limited by its concentration on a specific subset of adopters of social media technology services. Future research should extend its scope to include non-adopters to provide a more comprehensive understanding of user perceptions. Additionally, incorporating UTAUT model moderators (e.g., age, gender, and experience) and other determinants like culture, trust, and socio-economic constraints could further enrich the insights, necessitating continued exploration in subsequent research endeavors.

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## دراسة العوامل المؤثرة على تبني المستخدمين لتقنيات وسائل التواصل الاجتماعي في القطاع العام: حالة مصر

د. صفاء أحمد محمود حسين

#### ملخص البحث باللغة العربية

أصبحت وسائل التواصل الاجتماعي تستخدم إلى حد كبير في ادارة الاعمال و للأغراض التجارية. كما أنها أتاحت الفرصة لتقديم خدمات متنوعة بشكل أكثر فعالية كبديل لوسائل الاتصال التقليدية. ومع ذلك، فقد طرح هذا الاتجاه مشكلة في البلدان النامية، حيث ثبت أن تنفيذ مبادرات الحكومة الإلكترونية صعب لأنها لا تزال في مهدها وتواجه العديد من العقبات التي تحول دون استخدامها على نطاق واسع.

قامت الابحاث السابقة باستكشاف مدى اعتماد تقنيات وسائل التواصل الاجتماعي في البلدان النامية من وجهه النظر التنظيميه. ومع ذلك، هناك القليل من الأبحاث التي تناولت تبني تقنيات وسائل التواصل الاجتماعي من وجهة نظر المواطن، حيث أن تبني المواطنين لا يقل أهمية عن مبادرات الحكومات الالكترونيه. ويسعى هذا البحث إلى معالجة هذه الفجوة من خلال االتعرف على التحديات والخصوصيات الفريدة لمؤسسات القطاع العام وكذلك المستخدمين.

قامت هذه الدراسة بتبنى نموذج UTAUT لتحليل مدى تبنى وسائل التواصل الاجتماعي في القطاع العام فى مصر، وتحديد العوامل الرئيسية التى قد تساهم فى هذا التبنى مثل سهولة الاستخدام، والفوائد، والتأثير الاجتماعي، والقضايا التكنولوجية، ونقص الوعي، وخصوصية البيانات، والثقة.

تعتبر نتائج هذا البحث مهمة لكل من الشركات وصانعي السياسات، حيث توجه الاستراتيجيات لتحسين تجربة المستخدم ومعالجة العوائق وتعزيز الاستخدام المسؤول من خلال اللوائح والتعليم.

**الكلمات الدالة:** تبني التكنولوجيا، وسائل التواصل الاجتماعي، النظرية الموحدة لقبول واستخدام التكنولوجيا (UTAUT)، القطاع العام، مصر.

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