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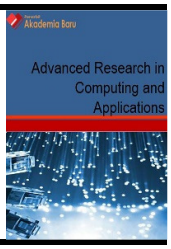

Using the UTAUT Model to Determine the Factors Affecting the Technology Acceptance in Judicial System Environment

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ABSTRACT

The implementation of e-government technology to support both user and organization enables both to perform better by facilitating and decision-making processes. This paper addresses the problem of how to determine the factors that influence employees to accept and use technology implemented in Judicial System institutions in developing countries focusing on acceptance technology theories. The research model employed in this study is based on the Unified Theory of Acceptance and Use of Technology (UTAUT). The study will be undertaken via quantitative method by distributing questionnaires to target respondents. The intended method of data analysis describes the objectives to be included later, including a variable analysis followed by the intended quantitative analysis. Finally, the expected outcome of this study is to identify the possible issues which occur when implementing e-government in a local law environment.

Keywords:
E-government, government to employee, UTAUT, developing countries

1. Introduction

Information Technology (IT) is a tool that helps public administrators accomplish their tasks quickly and efficiently. On the other hand, if new technology is not implemented successfully, effective public administration may be hampered and society may quickly lose trust in government. Due to the expanding use of IT, multiple theoretical frameworks have been proposed to explain determinants of technology acceptance. In an attempt to unify the existing frameworks, the Unified Theory of Acceptance and Use of Technology (UTAUT) model was developed by Venkatesh *et al*., [1]. This model has been empirically tested over time and examining technology acceptance among various disciplines. The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) was developed to enhance the original and account for more variance. Nevertheless, little research exists pertaining to the updated UTAUT2 model [2].

United Nations divides the countries into two major categories (developed and developing countries), this taxonomy is based on the economic status like GNP, GDP, standard of living ,per capita income, industrialization, etc. [3]. Institutions in developing countries are trying to apply e-

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government applications instead of the traditional government and this is facing different challenges, such as technology awareness, limited infrastructure, technology education and skills sets[4-6]. The full benefits of e-government services can only be obtained when the majority of the people get access to the Internet and electronic service channels and fully engage the participation of people[7]. This paper will address the problem of determining the factors that influence employees to accept and use technology implemented in a local law enforcement environment.

2. Literature Review

There is little research that combines policy implementation theory and information technology theory to determine what factors influence the use of technology at the local law enforcement level. This review links IT implementation and public policy and public administration implementation as a review of the existing literature in order to develop a sound study that takes into account past findings. Findings indicate that there are multiple frameworks, models, and variables as well as various differing subject matters when it comes to the study.

Kundra [8] reported that the United States' Office of Management Budget issued a document titled 25Point Implementation Plan to Reform Federal Information Technology Management. This plan recognizes there have been failures in implementing information technology at the federal level by stating, The Federal Government has achieved little of the productivity improvements that private industry has realized from IT. "For technologies to improve productivity, they must be accepted and used by employees in organizations"[1].

This study can be used to help guide law enforcement administrators to understand what works best in implementing IT tools by applying Unified Theory of Acceptance and Usage of Technology (UTAUT)[1] . In the review of UTAUT literature, there is a noticeable gap in research applied to law enforcement's use of information technology. The rarity of UTAUT studies as applied to law enforcement becomes apparent in searching several academic search engines as shown in table1. For example, a search for UTAUT in EBSCOhost yields two hundred thirty three articles, whereas adding the key words of "Law enforcement" yields zero results. The UTAUT has been widely used to examine employee technology acceptance and has served as the model of choice for hundreds of studies across diverse disciplines.

Table 1
Frequency of Law Enforcement and UTAUT in academic search engine

Academic Search Engine	UTAUT	UTAUT and LAW ENFORCEMENT
Web of Science	637	0
Scopus	1356	0
IEEE	195	0
EBSCOhost	233	0

3. Results and Discussion

Since the theory was published, applications of the model have been applied to research on implementing new technologies in education[9], healthcare[10], and psychology [11]. Additionally, variables such as goal expectancy, intrinsic motivators, extrinsic motivators, security, and trust have been added as research variables in acceptance and use of technology[12-14]. Table 2 presents findings related to UTUAT from five different studies.

Table 2
UTAUT Research Variables and Findings

Variable	Finding	Citation
Performance Expectancy Effort Expectancy Social Influence	No moderator influence and Positive effect on Behavior Intention	[15]
Performance Expectancy Effort Expectancy Facilitating Conditions	No moderator influence and Positive effect on Satisfaction	[16]
Performance Expectancy Effort Expectancy Facilitating Conditions	Positive effect on Behavior Intention through Trust of Internet as Moderator. Considerable effect on Usage Behavior through Intermediary	[17]
Performance Expectancy Effort Expectancy	the most important factor influencing Behavior Intention	[18]
Performance Expectancy Social Influence Facilitating Conditions Effort Expectancy	Positive effect on behavior Intention through Trust as moderator. No significant effect.	[19]

Few studies have used the UTAUT2 model, possibly due to its introduction in 2012. Escobar-rodríguez and Carvajal-trujillo [20] examined the determinants and acceptance of purchasing flight tickets on Websites using the modified UTAUT among Spanish consumers. For the purpose of this study, the UTAUT model will be used to examine employee's behavior intention and use of e-government technology. Although many studies have examined government acceptance of new technology using the UTAUT model, limited research was found that used the UTAUT framework to assess technology acceptance and behavioral intention among government employees in developing countries.

Implementing Technology with Local Law Enforcement With information technology (IT) is becoming more and more prevalent in society, local law enforcement is a major player among government agencies obligated to implement new digital methods of sharing information with relevant stakeholders. It is therefore imperative that criminal justice administrators understand what motivates or hinders their employees to accept and use technology in order to succeed with the intended goals of creating a more efficient and effective method of information sharing. They should have an awareness of what subsets of workers tend to accept new technologies more quickly than others and recognize which subset(s) might be more reluctant or slow at adopting something new. Ultimately by understanding what influences an individual to accept and use technology, a criminal justice administrator can build an environment promoting a productive implementation experience.

According to Foster [21] who alludes to the importance of understanding what works in implementing technology in law enforcement and he found that one study showed that a quarter of the agencies employing new-technology considered it a failure. This statement alone illustrates the need for police administrators to understand what factors influence the acceptance and use of technology. He further explains that local law enforcement shows no exception to the presence of and increased use of technology as [21] stating, "Technology is having a significant impact on all levels of the local police agency" and "the trend for police officers to report information directly into a database from the field via computer is increasing". Previously, using the technology acceptance model (TAM) with special statistics methods "Confirmatory Exploratory Factor Analysis (CEFA)" to look up and validate the findings of why patrol officers reject or accept technology [22]. The model finds usefulness and perceptions of ease of use are variables that influence the acceptance of use of

technology. The use of confirmatory (CFA) and exploratory factor analyses (EFA) led to the findings that the two factors of usefulness and ease of use of the TAM theory showed a poor fit, but instead, an adequate fit could be made by changing the study to a four-factor model. In addition to usefulness and ease of use, the new factors that evolved from the EFA were information quality and timeliness[22], Table 3 outlines the acceptance drivers that have been included in this preliminary literature review related to acceptance and usage of technology by local law enforcement. From this table, perceived usefulness, [23] peer support[24], information quality, and timeliness [22] are the four drivers found to have the strongest influence on local law enforcement to accept and use technology. In comparing these variables to those in the UTAUT model, perceived usefulness is part of the definition of performance expectancy, peer support would fall under social influence, and information quality and timeliness would fall under facilitating conditions. Therefore, law enforcement implementation of technology findings are suggestive that applying the UTAUT theory to study a case of law enforcement implementation of technology is applicable.

Table 3
Law Enforcement Acceptance and Use of Technology Findings

Acceptance driver	Source
Perceived usefulness*	[23]
Subjective norm	
individual Attitude	
Ease of use	
Technical factors	[24]
Ease of use	
Security of information	
Password/lockout	
Functionality	
Work effectiveness	
Communication effectiveness	
Time management	
Implementation processes	
Management support	
Peer support *	
End user involvement	
Pace of deployment	
Quality of Training	
Policies	
Lack of policies	
Usefulness	[22]
Flexibility	
Report writing	
Dependability	
Transportability	
Ease of use	
Usability	
The information provided	
Information Quality*	
Relevance	
Accuracy	
Recency	
Specificity	
Timeliness*	
timely access to information	
timely response	

* indicates the strongest indicator of acceptance and use of IT by LE based on past research

Mazmanian and Sabatier [25] attempt to synthesize the variables of implementation into one framework, grouping the variables into three categories: The tractability of the problem (s) being addressed, the ability of policy decision to structure implementation, and other non-statutory variables affecting implementation. Table 4 shows how each of the variables from criminal justice studies and policy implementation studies can be associated with the UTAUT variables of study. Since all of the policy implementation and criminal justice variables are linked to UTUAT variables, it makes sense to use the UTAUT theory as the foundation of this paper.

Table 4
Application of UTAUT to Criminal Justice and Policy Implementation

Variable with significance in implementation studies	UTAUT
Perceived usefulness [23]	Performance Expectancy
Information quality [22]	Facilitating Conditions
Prior experience with similar programs [26]	Experience (moderator)
Clarity of program definition and procedures [26]	Facilitating Conditions
Diversity of target group behavior [25]	Effort Expectancy
Target group as a percentage of the population [25]	Demographic Population
Commitment and leadership skill of implementing officials[27,28]	Social Influence
Understanding Leadership Perspectives; Peer support [25]	

3. Conclusion

The paper highlights key findings in IT, criminal justice, and public administration, implementation theory and business intelligence technology with the goal of gaining an understanding of what works in implementing technology. First, the IT review resulted in adopting UTAUT as a theory representing the adoption and use of technology. This theory was chosen because it incorporates eight IT theories into one and has been replicated several times to prove its relevance to the field. Finally, a review of policy implementation recognized that implementation research is complex with multiple frameworks, models, and variables of the study.

Performing more researches with similar issues is suggested, as a way to verify if the developments described here will be present, as well as to find new research opportunities. Future research is recommended in a broader law enforcement population to compare between the findings and international articles. Additional work could be also by modifying UTAUT model to compare it with other models.

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