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TURKISH POLICE PERCEPTIONS AND ATTITUDES TOWARD USING COMPUTER TECHNOLOGY IN POLICE CARS

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HAMZA TOSUN

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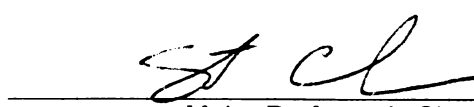

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TURKISH POLICE PERCEPTIONS AND ATTITUDES TOWARD USING COMPUTER TECHNOLOGY IN POLICE CARS

by

Hamza TOSUN

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ABSTRACT

TURKISH POLICE PERCEPTIONS AND
ATTITUDES TOWARD USING COMPUTER
TECHNOLOGY IN POLICE CARS

by

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The present study evaluates Istanbul Police Department officers' attitudes and perceptions toward the new MOBESE system terminals, which are mounted in police cars in Istanbul, Turkey. Based on the Technology Acceptance Model (TAM), a prediction model has been developed. Data gathered from 280 police officers by means of self-report survey. Several significant findings were found. According to bivariate analysis, MOBESE Usage has positively correlated with perceived usefulness, perceived ease of use, attitude toward system, and user satisfaction. This result is consistent with the findings found by previous research. However, having utilized negative binomial regression, no variables were found significant. In order to test TAM's variables, regression was performed for the second time with the variables perceived ease of use, perceived usefulness, and attitude toward MOBESE. This time, perceived ease of use was found to be statistically significant. The results of the study imply that police officers are influenced by the ease of use of the MOBESE terminal. Since the working environment of patrol officers are not like regular officers, they need to get any information very easily and quickly when they are patrolling. Therefore any software and hardware equipment should be designed to be used easily, and heir user interfaces should not be complicated so that users can understand and use easily.

DEDICATION

I would like to dedicate this thesis to my wife, with her support and her continuous encouragement, I sustain through this process.

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First and foremost I want to thank Turkish National Police for granting me to pursue graduate education. I also want to thank my thesis committee: Dr Steven Chermak, Dr. Vincent Hoffman and Dr. Chris Maxwell. They provided me excellent guidance, helpful suggestions and constructive criticisms to build this work. I also would like to thank Nick Corsaro and Carol Zimmerman.

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1. INTRODUCTION

Technology has greatly affected police practices over time (Chan, Brereton, Legosz and Doran, 2001). By introducing new technologies such as the telegraph, two-way radios, and computer-aided dispatching, police services have been greatly changed. Technology extends the physical capacity of police officers to see, hear, recognize, record, remember, match, verify, analyze and communicate (Chan, 2003, p.655). In short, technology has redefined the knowledge and skills required for doing police work (Chan, et al. 2001).

While the use of information technology in recent decades has become part of everyday life for individuals and organizations, police agencies have been one of the leading public organizations that invest in information technology (IT) for gathering, storing, and disseminating intelligence. As a result, although police work remains action- and danger-oriented, a most important recent aspect of police work is "information" work: today's police are knowledge workers (Chan 2003, p.657). Thus, police organizations in many countries now have implemented information technology. The Istanbul Police Department (IPD) is one of those police agencies.

The IPD has invested in IT infrastructure, which it uses daily in police work. Specifically, to improve the safety of Istanbul residents, the IPD has developed a new complex information system called Mobile Information System, MOBESE. Using the new MOBESE, the IPD more capably manages communications with police officers across the entire region. Chan (2003) stated that, "The acceptance or rejection of technological change in any specific setting can depend on its design and implementation, the political issues it raises and its degree of congruence with the

technological frames of users."(p. 674). Therefore, in order to implement effective technology in police work, the adaptation and acceptance of new technology by police officers is essential.

The present study evaluates IPD officers' attitudes and perceptions toward the new MOBESE system terminals, which are mounted in police cars. A literature review shows that the "technology acceptance model," based on the theory of reasoned action (Davis, 1989), is a useful model for assessing police officers' adaptation to the use the MOBESE system. In this thesis, an empirical study has been conducted to evaluate the IPD police officers' attitudes, perceptions, and acceptance of the MOBESE system.

The main purpose of the study is to understand to what extent the perceptions and attitudes of TNP officers predict their use of MOBESE. Another purpose is to evaluate the relationship between user-technology and user-acceptance so as to identify potential barriers to police officers' use of MOBESE. There are several reasons why this study makes a worthwhile contribution. First, although the use of technology in police agencies (and throughout societies) have expanded dramatically, there is little empirical research that examines this important organizational change. Second, the theoretical framework for this study has been applied to many different fields of study, but primarily in the management and business sectors. This is the first study to apply this framework to the study of police use of technology. Third, cross-cultural research has increased in importance, but little research exists that examines important policing issues in Turkey. This study fills these gaps, and it may provide valuable information for the current implementation and future developmental stages of the MOBESE system.

2. LITERATURE REVIEW

The Technology Acceptance Model (TAM). Since many organizations, both private and public, have invested heavily in information systems, the measurement of users' attitudes and perceptions toward information technology systems is an important one for researchers. To examine this issue, many studies have been conducted using relevant models to evaluate system usage; one such model is the technology acceptance model (Davis, Bagozzi, and Warsaw,1989). TAM has been used by a variety of scholars in different academic fields.

For example, Schillewaert, Aheame, Frambach, and Moenaert (2000) studied the acceptance of information technology in the sales force. Schillewaert et al. assessed the acceptance of sales technology of 224 sales representatives working at various organizations such as manufacturing, services, trade, finance, and information. In addition to individual characteristics such as computer self-efficacy and personal innovativeness, the researchers studied the acceptance of sales technology using external variables such as "organizational facilitators including user training, technical support, organizational implementation, and social influence including supervisor influence, peer usage, costumer influence, and competitive pressure" (p. 5). Using cross-sectional survey design, they selected subjects from the subscription list of a magazine relating sales and automation. The results of the study revealed several important findings: 1) perceived usefulness was the fundamental driver for sales technology acceptance, 2) perceived ease of use was a secondary driver of acceptance, and 3) the personal innovativeness of the salesperson with respect to using the information technology also played a key role in the acceptance of sales technology. Schillewaert et al. also found that peer usage also had a

direct connection to the extent that the personnel would use the new technology. That is, colleagues may assist and show one another the advantages of using the sales technology. In short, organizational engagement such as "user training, technical user support and management commitment" is very crucial in terms of the acceptance of a new system by employees.

In another study, Evers (1997) identified cultural preferences for interface design features that influence a user's interface acceptance. Evers conducted a survey of 200 international students and an Australian control group of 38 students at the University of New South Wales in Sydney, Australia. The results revealed that the culture played an important factor on the process of interface acceptance among three Asian cultures (Hong Kongese, Indonesians and Chinese). The elements that were found to correlate highly with culture were the colors of the screen, pop-up menus, touch screen, data glove, sounds, and multimedia (p. 30). Noting that system design preferences impact on attitude towards using attitude of satisfaction, Evers argued that culture can be used as a motivational construct blending familiarity and experience besides task characteristics (p. 32).

In yet another study, Brown (2002) examined the user's technology acceptance in the developing country context, where the language of instruction is not the mother tongue for most students. By administrating a survey to 78 first year South African University students with little prior experience of Internet technologies, Brown found that "the individual characteristics of self-efficacy" and "computer anxiety significantly influenced perceived ease of use" (p.1). According to the findings, perceived usefulness

might not predict adoption of the system, so perceived ease of use would be the main predictor of usage and perceived usefulness (p.12).

According to other literature, a user's psychological situation also is a factor in terms of technology acceptance (Rhee 2004). Conducting a survey of employees of four companies and collecting data from 236 participants whose jobs were categorized in ten different classes, Rhee implemented the technology acceptance model to assess the impact of the stress on the technology acceptance. Rhee's results suggested that 1) supervision of top manager is the important aspect affecting new technology acceptance, and 2) organizations should take necessary steps such as training, users, sharing knowledge, and redesigning tasks in order to implement a new technology.

Although there is a relatively large and growing body of research applying the technology acceptance model, researchers have not used in to examine the attitudes of police officers. There is, however, a few related studies in policing that are important. First, Martin J. Zaworski (2005) conducted a quantitative and qualitative study to analyze "the impact of the Automated Regional Justice Information System (ARJIS) on the performance of law enforcement officers" (p. 1). Zaworski conducted a survey of police officers working in the San Diego County Sheriff's Office (SDSO), and selected officers from another agency who were not using ARJIS as a comparison group. The study's objective was to "determine whether information sharing technology makes a difference in the officers' assessment of the value of technology in the following areas: individual effectiveness, job performance, productivity, investigative support, arrests, and clearances. The study also examined the effects of potential intervening variables such as computer training" (p. 4). The research findings revealed that the impact of information

technology on individual effectiveness, job performance, and individual productivity were significant between group scores (p. 36). In terms of making arrests using information technology, two groups showed no significant difference. In the study, Zaworski used the crime data including the crime and arrests per 1000 population for both agencies from 2000 through 2002, inclusive. Clearance cases were also classified using UCR as "Crimes against persons" and "Crimes against property" (p.17). In clearing cases, "the info-sharing group scores were significantly higher than the comparison group, suggesting that information technology plays a role in clearing more cases" (p. 36). From a user-satisfaction perspective, Zaworski found that although the relation between computer training and user-satisfaction seemed to be weak, nevertheless it was significant (p. 47) In other words, while each training variables including 'training hours', 'amount of training', 'training timing', 'training quality' and 'training frequency' differed significantly from user satisfaction score; "the strength of the relationships between the training variables and scores for 'user satisfaction measures' were weak" (p. 34).

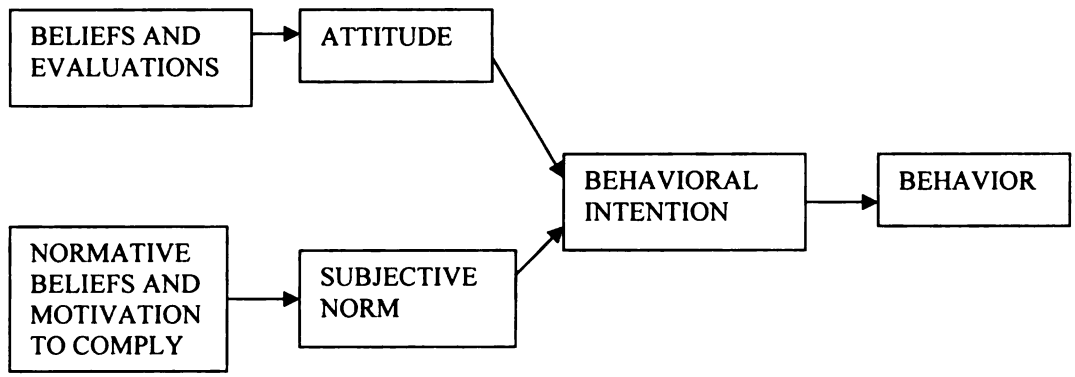
In another study, Northop (1993) examined the use of computers by patrol officers and detectives. Evaluating data derived from Urban Information Systems (URBIS) project, which is "a multi-year study of computerization in U.S. local governments," Northop concluded that "the user friendliness of the systems themselves" and "training of police professionals in use of the systems" greatly influenced "the utilization of computer search capabilities." (p. 21)

The Theory of Reasoned Action.

Thus far, studies relevant to the user's acceptance of technology have been presented. Most of this research used the technology acceptance model to examine a user's acceptance of information technology. The TAM is based on the theory of reasoned action (TRA) proposed by Fishbein and Ajzen (1975) where, as Leong (2003) stated, intentions, which are "determined by the person's attitude and subjective norm concerning behavior," predict a person's behavior. The theory has three components: 1) behavioral intention, 2) attitude, and 3) subjective norm.

Behavioral intention refers to "the strength of one's intention to perform a specified behavior" (Fishbein and Ajzen 1975, p. 288), where attitude is defined as "an individual's positive or negative feeling about performing the target behavior" (p. 216). Subjective norm is "the person's perception that most people who are important to him think he should or should not perform the behavior" (p. 302). As demonstrated in Figure 1, while attitude is influenced by behavioral beliefs and the evaluation of the major outcomes, the subject's norm is "determined by normative beliefs and motivation to comply with salient referents" (Eagly and Chaiken 1993, p. 172)

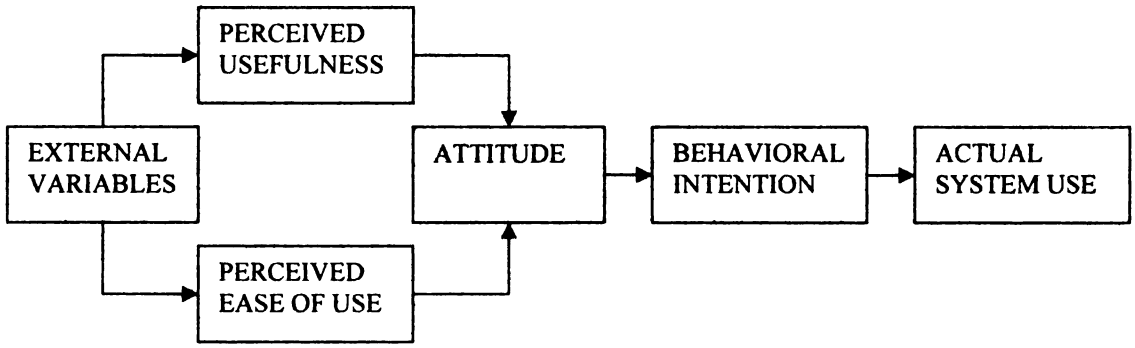
Figure 1 Theory of Reasoned Action



Source: Eagly, H. A., Chaiken, S., (1993) The Psychology of Attitudes. Harcourt Brace Jovanovich, Inc. p. 172

Thus, as Figure 2 shows, the theories of reasoned action (TRA) and the acceptance of technology (TAM) underlie the prediction of the acceptance of technology by showing the links between beliefs (usefulness of an information system) the use of such a system, and users' attitudes, intentions, and actual usage of the system" (Leong 2003, p. 4) According to the model, perceived usefulness is "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis 1989, p.320), and perceived ease of use is "the degree to which a person believes that using a particular system would be free of effort" (p. 320). Therefore, based on the theory of reasoned action and the acceptance technology model and the integration of these

Figure 2 Technology Acceptance Model



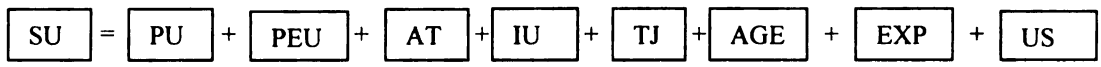
Source: Rhee, Y., (2004) *A Case Study of Employees' Perception of Organizational Characteristics, Subsequent Stress, and New Technology Acceptance* Ph. D Dissertation, Department of Industrial Engineering, University of Wisconsin, Madison. P. 36

theories into the "causal" model as shown in Figure 2, and on previously conducted research showing the relevance of these models for estimating user acceptance of information technology for some groups with some technologies, I propose to test a "prediction" model to estimate the extent to which the above independent variables are related to the use by Istanbul Police Officers of a new, unique system called Mobile Information System (MOBESE).

System Use (Y) = Perceived Usefulness (X1) + Perceived Ease of Use (X2) + Attitude (X3) + Intention to Use (X4) + Tenure on the Job (X5) + Age (X6) + Experience (X7) + User Satisfaction (X8), where: the dependent variable (Y), "system use," is a measure of the extent to which officers have used the MOBESE technology and the independent variables (Xs) are perceived usefulness, perceived ease of use, attitude toward using the

MOBESE, intention to use MOBESE, tenure with the police department, level of education, age (as a measure of life experience), and officers' satisfaction with the system.

Figure 3. The Development of a Prediction Model to Estimate the Actual System Use of MOBESE by Istanbul Police Officers



I know of no previous study that has examined the variables (figure 3) together to determine the relative importance of each for predicting behavior, in this case police behavior, specifically as it pertains to the use of the new MOBESE. The results of the estimation of this mathematical model can be practically applied to the prediction of police officer behavior.

For example, based on the TRA and TAM theories, individuals who have higher perceived usefulness and ease of use and greater attitudes and therefore intentions toward the system would be predicted to use the system to a greater extent.

This model can also be used for developmental purposes, such as for training of individuals whose prediction scores are lower, relative to others, based on their perceptions and attitudes. That is, some individuals may have unwarranted misperceptions that could be modified with accurate information, and behavioral intentions can change if attitudes also are changed (Fishbein & Ajzen, 1975).

This research is, to a great extent, exploratory: no other study has tested these variables together in a prediction model. There is, therefore, no way to estimate a prior

which variables will produce the greatest prediction estimates (values or coefficients). The following hypothesis, however, based on the above reported research and causal models, will be tested using simple regressions.

3. RESEARCH HYPOTHESES

Based on the above reported literature review, I propose the following hypotheses which will be tested using simple regressions (i.e., from the correlation matrix):

Hypothesis 1: Perceived usefulness is positively related to MOBESE use.

Hypothesis 2: Perceived ease of use is positively related to MOBESE use.

Hypothesis 3: Attitude toward the system is positively related to MOBESE use.

Hypothesis 4: Intention to use MOBESE is positively related to the actual use of MOBESE.

Hypothesis 5: Tenure in the Turkish National Police is related to MOBESE use.

Hypothesis 6: Age is related to MOBESE use.

Hypothesis-7: Officers who have used any kind of computer system will have greater positive attitudes toward using MOBESE terminals, relative to officers who have had no previous computer experience.

Hypothesis-8: User satisfaction is positively related to system (MOBESE) use.

Tenure with the organization and age are related to experience, both work and life, and past experience is a strong predictor of future behavior (Muchinsky, 1990). Also, Eagly and Chaiken (1993) stated that "the consistency between attitudes and behaviors is also increased by prior knowledge about attitude objects, another factor that may be increased by direct experience" (p. 201).

I therefore propose that individuals with greater life and work experience would be more amenable to adopting a new system, relative to others with lesser experiences.

As Rhee (2004) stated in the literature review, user satisfaction and system usage is positively related (p. 46). Rhee defined user satisfaction as "the extent to which technology application meets the end user's needs." (p. 63). Dillon (2001) reported that, "satisfaction is influenced by such factors as personal experience with other technologies, preferred working style, the manner of introduction, and the aesthetics of the product." (p. 3). Dillon explained user experience at three levels: process, outcome, and affect. While process and outcome refer to user-device interactivity, affect covers attitudes, emotions, and other mood-related elements involved in the experience. Xiao and Dasgupta (2002) tried to measure user satisfaction by using a 12-item End-User Computing Satisfaction (EUCS) developed by Doll and Torkzadeh (1988). Conducting a survey of 340 end users about their satisfaction/dissatisfaction with Internet portals, they found that EUCS scale was reliable and valid and that this instrument could be applied to evaluate end-user applications. Therefore, I will use the Xiao and Dasgupta instrument to measure officers' satisfaction with MOBESE terminals.

The items measuring perceived usefulness and perceived ease of use will be adapted from Davis (1989). The questionnaires measuring attitude and intentional behaviors adapted from Taylor and Todd (1995). Appendix A lists all of the items and the variable that each item measures. Appendix B shows the survey that will be administered to the police officers.

To summarize, the TAM model, derived from the theory of reasoned action, has been used in various studies with different groups of individuals and different systems of

technology, however, no study has yet applied the proposed prediction model to the job of police officer. No study has examined the model's variables in terms of relative predictability for the extent to which an officer would actually use a specific technology, such as the MOBESE. Based on the above findings using causal modeling, the theory of reasoned action and the technology acceptance models seem appropriate theoretical bases to now estimate a prediction model (Figure 3) and for testing related hypotheses using simple regression analysis.

4. RESEARCH DESIGN

4.1. Data

Data were collected using a survey developed by this author for the present study. The survey measured the attitudes and perceptions of police officers who are currently using the MOBESE technology to perform their job tasks. The survey items were adapted from the study conducted by Rhee (2004), and Xiao and Dasgupta (2002); however, to perform better quantitative analysis, and to be able to develop the prediction model, the survey responses were ordered on a Likert scale ranging from (1) low to (5) high. The survey items are presented in Appendix A.

4.2. Sample

The study subjects are police officers currently working as patrol officers for Istanbul Police Department. MOBESE terminals mounted in 1000 police cars are used by approximately 2500 police officers. Several issues raised while distributing the surveys. The first concern was geography. Considering Istanbul has 32 districts, almost half of which were located in Europe and others in Asia, the decision was originally made that the survey would be distributed to 15 districts in European side for convenience. The plan

was for twenty officers to be randomly selected from each district and questionnaires would be sent them according to the initial decision. Another issue that influenced sampling was a series of external events. At the time the study began there were several bombing incidents existing in several places of Istanbul and most police officers had to work more intensely than the regular time because Istanbul Police were alarmed. The last issue was the huge differences in the number of officers using MOBESE system. In other words, while some districts have more than 100 officers, others have around 20 or 30. When surveys distributed the districts that have a large number of officers, it could be biased because of that the questionnaires would be distributed to those who are known by district manager as computer expert or those who are thought by their superiors as they give answers in favor of system. As a result, instead of distributing the surveys to twenty officers in 15 districts, distributing them to all officers working four districts (two big and two small) is more appropriate for achieving unbiased results.

Surveys were distributed to these designated four District's Police Departments which are mainly located in European side of Istanbul City. Then, District Police Managers were noticed about selecting officers randomly. From 4 districts, a total 280 officers completed questionnaires. Table 1 is the summary of response rate for each district.

Table 1
Summary of response for each districts

Districts	*Total Survey distributed*	*Total survey returned*	*Response Rate*
Bahcelievler	120	106	88%
Bakirkoy	111	111	100%
Bayrampasa	40	40	100%
Zeytinburnu	28	23	82%
Total	299	280	93%

Comparing general response rate of survey studies which are mostly at 50 percent or lower, 93 percent response rate is unexpectedly high and surprising. Studies like this conducted in Turkey are very uncommon, especially compared to the frequency of surveys done in the United States, where almost all of this type of research has been done. Therefore, individuals participating in the study were willing to answer questions because they have not been overwhelmed with survey requests. This may be a reason of high response rate. Another reason of this high response rate may be that it was the first request for police officers to provide their thoughts about a new system launched almost ten months ago. Third, since the author of the survey is a police chief in Turkey, and this study had to be approved by the director of TNP, respondents might have felt obligated to participate. If this third issue is true, then many officers might not have responded truthfully about the system. It is difficult to know whether this was the case. The respondents were ensured of their protections as required by the IRB, and encouraged to speak truthfully and honestly. Moreover, there was variations in their reactions to the

system, and thus one can be fairly confident with these results accurately reflect their position on this new technology.

5. RESULTS

5.1. Demographic Information

Demographic information is presented in Table 2. According to Table 2, only 1.4 percent of the participants are female, 98.6 percent of them are male. 32.2 percent of the officers were in the age group of 21 to 30, 37.7 percent were in the age group of 31 to 40 and 27.9 percent were in the age group of 41 to 50. As for officers' tenure on their job 13.7 percent of the respondents were in their first three years, 26.4 percent were in their 4 to 7 years, 14.4 percent were in 8 to 11 years, 15.2 percent were 12 to 15 years, and interestingly 30.3 percent of the respondents had been working as a police officer for more than 15 years. Most users finished ordinary high school (67.9 %) prior to police school. Only 5.8 percent of the respondents graduated from technical high school, while 26.3 finished vocational high school. 7.5 percent of the participants have extended their degree to undergraduate, while 92.1 percent of them only finished police school. According to officers' jurisdiction type, 87.5 percent were working in residential areas, 7.4 percent were patrolling in business district, and 5.5 percent were working in night clubs district.

Table 2
Demographic Information

Variables		n	Percent
Gender (279)			
	Male	275	98.6
	Female	4	1.4
District (280*			
	BE	106	37.9
	BK	111	39.6
	BP	40	14.3
	ZB	23	8.2
Age (276)			
	Under 20 years	1	0.4
	21-30 years	89	32.2
	31-40 years	104	37.7
	41-50 years	77	27.9
	51 years or older	5	1.8
School type prior to Police School (274)*			
	Ordinary High School	186	67.9
	Technical High School	16	5.8
	Vocational High School	72	26.3
Education Level (267)			
	Police School	246	92.1
	PS+Undergraduate D.	20	7.5
	PS+UD+Masters	1	0.4
Tenure (277)			
	0-3 years	38	13.7
	4-7	73	26.4
	8-11	40	14.4
	12-15	42	15.2
	More than 15 years	84	30.3
Jurisdiction Type (256)**			
	Business District	19	7.4
	Night Clubs	14	5.5
	Residential and other Dist.	223	87.1

5.2. Measures

5.2.1. Dependent Variable

In this study, a ten-item scale was developed to measure MOBESE usage. This scale measured whether officer used terminal or not (0 times), or if he or she had used terminal, how many times a respondent had used it during an average day. As seen in Table 3, the response rate for this variable 76 % (n=214), which is considerably lower than total response rate. Nevertheless, Bachman and Paternoster (2004) defined "a good rule of thumb" for the sample size (p. 234). According to them, "the assumption of normality" is met when the sample size is 100 or more. Hence, n=214 is enough to make any data analysis. Table 3 also presents its mean and standard deviation values. Considering the mean value, 15.88, it can be said that terminals were rarely used by officers.

5.2.2. Independent Variables

Independent variables were determined based on Technology Acceptance Model and other previous research. Descriptive statistics for these variables are presented in Table 3. In order to determine whether the survey items captured the constructs of intent, varimax rotation factor analysis was used. According to Leong (2003), "the decision rule was that each item had to show a loading of greater than 0.50 on one underlying dimension". The results of factor analysis are shown in Appendix-A. The items having less than .5 have been written in italic. After excluding the items having less than .5, components were restructured and their alpha scores have shown in Table 3. According to factor analysis, since the components of attitude towards MOBESE and Behavioral

intention have loaded on same factor, these items have been merged into one component called attitude toward MOBESE.

Perceived usefulness is a scale of six items (appendix-A). Their cronbach alpha value is .96, which means that the reliability of this variable is very high. Its mean value (17.93) implies that MOBESE system is moderately perceived as useful by most officers.

Another variable, perceived ease of use, is a scale of six items. These items were adapted from TAM. The reliability of this scale is .87 which demonstrates that it is acceptable for use in testing the hypothesis. The factor analysis also indicates that these six items belong exclusively to this variable.

The variable attitude toward MOBESE system also is an index created by four items; however, when the factor analysis was performed, attitude toward MOBESE and behavioral intention were loaded on the same factor. Therefore four items measuring attitude toward MOBESE and two items measuring behavioral intention was combined and named attitude toward MOBESE. This modified new scale, therefore, has six items. As seen in Table 3, Cronbach's alpha value of these items is .94.

The scale of user satisfaction had originally fourteen items. However, according to factor analysis result, items 11. and 12. were dropped from the scale. User satisfaction was constructed with the remaining 12 items. The cronbach's alpha score of these items is .95.

In order to measure previous computer experience of an MOBESE user, a 7-item scale was developed. After performing factor analysis, two items were dropped. Cronbach's alpha for the other 5 items are .74 which is acceptable for use in testing the hypothesis. The scores of the variable are between 5 and 10. Five indicates that user had

considerable experience on computers and use them a lot. Ten demonstrates that user has no previous computer knowledge. Its mean score is presented in Table-3.

Table 3
Descriptive statistics of variables

	N	*Missing*	*Missing %*	*Items*	*Mean*	*Std. Dev.*	***Cronbach's Alpha***
Perceived Usefulness	260	23	8.13	6	17.93	7.37	.96
Perceived Ease of Use	246	37	13.07	6	19.99	5.60	.87
Attitude toward MOBESE	261	22	7.77	6	20.37	6.52	.94
User Satisfaction	236	44	16.61	12	32.94	12.96	.95
User Experience	217	66	23.32	5	7.75	1.63	.74
MOBESE Use	214	69	24.38	10	15.88	7.12	.91

5. 3. Hypothesis Testing

In order to test hypotheses, bivariate correlation was utilized. First, alpha level was determined as .05 and .01. To accept any research hypothesis stated in this study, test should be significant at alpha either .05 or 01. level. Since the variables are at the interval level, the Pearson correlation coefficient is appropriate to test correlation between two variables (Norusis 2002, p.482).

Hypothesis 1: Table 4 shows the correlation between perceived usefulness and MOBESE usage. As the correlation analysis indicated, there is a positive relationship between usefulness and usage at alpha .01 level. That is to say, officers who think that the MOBESE system is useful tend to use MOBESE terminals in the police cars. This result supports research hypothesis that Perceived usefulness is positively related to MOBESE use.

Table 4
Correlation of Perceived Usefulness and MOBESE Usage

		MOBESE Usage
Perceived Usefulness	Pearson Correlation	.269**
	Sig. (1-tailed)	.000
	N	203

** Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 2: The correlation between perceived ease of use and MOBESE usage was examined to test if there is any positively correlation between these two variables. As seen in Table 5, the correlation analysis showed that perceived ease of use and MOBESE usage are positively correlated. The more that the terminals are ease to use, the more they are used intensively by police officers. This result found significant at alpha level .01 supported research hypothesis that Perceived ease of use is positively related to MOBESE use.

Table 5
Correlation of Perceived Ease of Use and MOBESE Usage

		MOBESE Usage
Perceived Ease of Use	Pearson Correlation	.257**
	Sig. (1-tailed)	.000
	N	194

** Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 3 and 4: Based on literature, research hypotheses asserted that attitudes toward the system should be positively related to MOBESE use. The correlation analysis was examined the factors of attitude toward MOBESE and MOBESE Usage. A significant relationship was found between these two variables (Table 6). That is, users who have positive attitude toward the system are apt to use terminals more than those

who have lower attitude toward the system. In sum, this result supported the research hypothesis 3.

Table 6
Correlation of Attitude Toward MOBESE and MOBESE Usage

		MOBESE Usage
Attitude Toward MOBESE	Pearson Correlation	.221**
	Sig. (1-tailed)	.000
	N	199

** Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 5: Correlation between tenure and MOBESE usage was examined by using the correlation analysis. The result indicated that there is no correlation between tenure and system usage at alpha level .05 (Table 7). Therefore, the research hypothesis that Tenure in the Turkish National Police is related to MOBESE use is rejected.

Table 7
Correlation of Tenure and MOBESE Usage

		MOBESE Usage
Tenure on the TNP	Pearson Correlation	-.012
	Sig. (1-tailed)	.123
	N	213

Hypothesis 6: Similar to previous result, it was not found relationship between age and MOBESE Usage at .05 alpha level (Table 8). Based on the correlation analysis, the research hypothesis was rejected.

Table 8
Correlation of Age and MOBESE Usage

		MOBESE Usage
Officer's Age	Pearson Correlation	-.083
	Sig. (1-tailed)	.114
	N	212

Hypothesis 7: In order to test the correlation user experience and MOBESE usage a correlation matrix was utilized. According to the results of correlation analysis, having computer knowledge prior to launch MOBESE system was not significantly correlated MOBESE Usage at .05 alpha level (Table 9). According to this result, the research hypothesis is not supported that officers who have used any kind of computer system will have greater positive attitudes toward using MOBESE terminals, relative to officers who have had no previous computer experience.

Table 9
Correlation of User Experience and MOBESE Usage

		MOBESE Usage
User Experience Scale	Pearson Correlation	.037
	Sig. (1-tailed)	.315
	N	172

Hypothesis 8: This study proposed that user satisfaction is positively correlated to MOBESE usage. In order to test this hypothesis, the correlation analysis was utilized. The result indicated that user satisfaction is positively correlated MOBESE usage at .01 alpha level (Table 10). The more users were satisfied MOBESE terminal, the more they used the system. This result supported the research hypothesis.

Table 10
Correlation of User Satisfaction and MOBESE Usage

		MOBESE Usage
User Satisfaction	Pearson Correlation	.284**
	Sig. (1-tailed)	.000
	N	184

** Correlation is significant at the 0.01 level (1-tailed).

In conclusion, the correlation analysis showed that Perceived Usefulness, Perceived Ease of Use, Attitude toward MOBESE, and User Satisfaction are significant at .01 alpha level, while officers' age tenure, and user experience are not related with MOBESE Usage.

5.3. Regression Analysis for Prediction of MOBESE Usage

Before implementing regression analysis, a correlation matrix was performed to check whether multicollinearity would cause a problem. As seen the correlation results in Table 11, there is a high correlation between age and tenure (.88)--therefore age was dropped from the regression analysis. Thus, six independent variables including perceived ease of use, perceived usefulness, attitudes toward MOBESE, user experience, user satisfaction, and tenure on the job was regressed on the dependent variable, MOBESE Usage.

Correlations

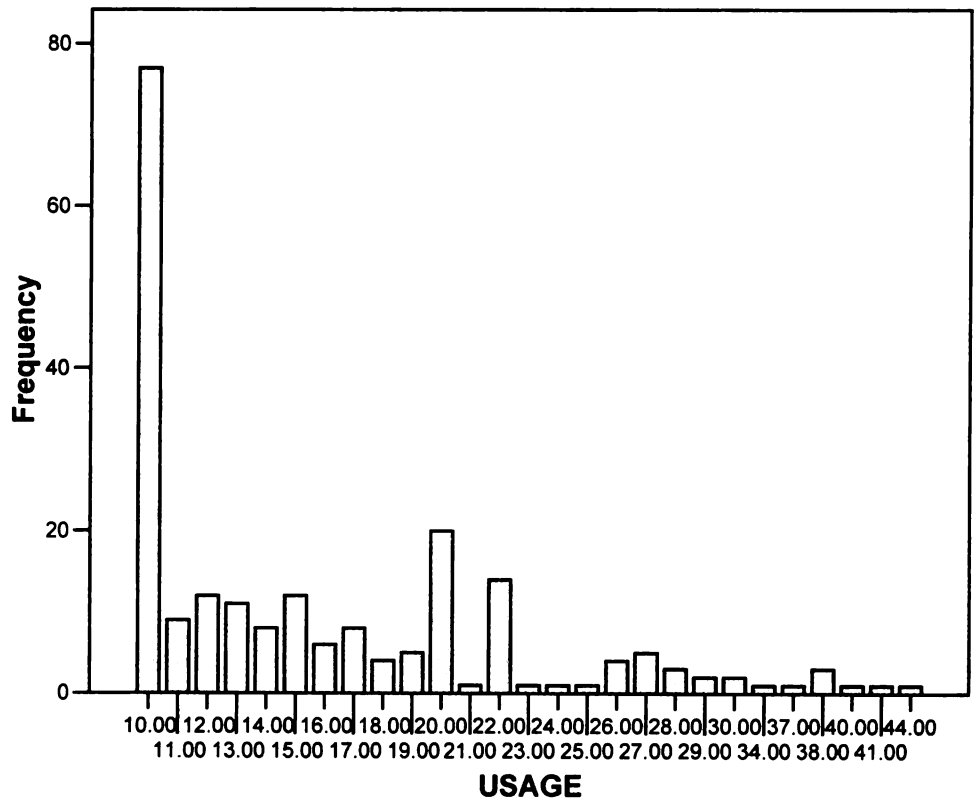
		1	2	3	4	5	6	7	8
1. MOBESE Usage	Pearson Correlation	1	.269**	.257**	.221**	.037	.284**	-.083	-.080
	Sig. (2-tailed)	.	.000	.000	.002	.629	.000	.229	.245
	N	214	203	194	199	172	184	212	213
2. Perceived Usefulness	Pearson Correlation	.269**	1	.559**	.583**	.059	.664**	-.128*	-.055
	Sig. (2-tailed)	.000	.	.000	.000	.402	.000	.040	.381
	N	203	260	240	248	207	227	257	259
3. Perceived Ease of Use	Pearson Correlation	.257**	.559**	1	.610**	-.114	.581**	-.146*	-.085
	Sig. (2-tailed)	.000	.000	.	.000	.110	.000	.023	.185
	N	194	240	246	237	197	215	244	246
4. Attitude Toward MOBESE	Pearson Correlation	.221**	.583**	.610**	1	-.073	.639**	-.067	-.085
	Sig. (2-tailed)	.002	.000	.000	.	.301	.000	.287	.170
	N	199	240	237	261	203	220	250	259
5. User Experience	Pearson Correlation	.037	.059	-.114	-.073	1	-.012	.187**	.152*
	Sig. (2-tailed)	.629	.402	.110	.301	.	.866	.006	.025
	N	172	207	197	203	217	190	215	217
6. User Satisfaction	Pearson Correlation	.284**	.664**	.581**	.639**	-.012	1	-.080	-.039
	Sig. (2-tailed)	.000	.000	.000	.000	.866	.	.220	.556
	N	184	227	215	228	190	236	234	235
7. Age	Pearson Correlation	-.083	-.128*	-.146*	-.067	.187**	-.080	1	.885**
	Sig. (2-tailed)	.229	.040	.023	.287	.006	.220	.	.000
	N	212	257	244	258	215	234	276	274
8. Length of time being as a police officer	Pearson Correlation	-.080	-.055	-.085	-.085	.152*	-.039	.885**	1
	Sig. (2-tailed)	.245	.381	.185	.170	.025	.556	.000	.
	N	213	259	246	259	217	235	274	277

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Ordinary Least Squares regression and logistic regression were used to predict MOBESE usage. As seen in Figure 4, the distribution of the dependent variable, MOBESE Usage, is not normally distributed. Therefore, the linear regression can not be applied due to the violated the assumption that cases should be normally distributed (Bachman and Paternoster 2004, p. 511). It is important to note, however, that the results using OLS regression and logistic regression are similar to the negative binomial regression results.

Figure 4. Bar chart of MOBESE Usage variable



When the variance is larger than the mean and the distribution of the dependent variable is overdispersed, the most appropriate statistical technique to be applied is

negative binomial regression (NBR). According to the descriptive statistics the variance of usage is 50.2, its mean value is 15.8, and the chibar(2) value is 108.05; this is significance evidence of overdispersion. These values suggest that the NBR is most appropriate statistic procedure for this study. STATA 9.1 software has been used for conducting NBR. Table 11 shows the result.

Table 12 shows that no variables in the regression analysis are statistically significant. In other words, the variables utilized by this study were not found significant at alpha .05 level.

Table 12
Negative Binomial Regression Result for MOBESE Usage

Independent Variables	*b*	*z*	*P>z*	*e^b*	*%*
Perceived Ease of Use	0.01129	1.440	0.150	1.0114	1.1
Perceived Usefulness	0.00847	1.300	0.194	1.0085	0.9
Attitude toward MOBESE	-0.00615	-0.798	0.425	0.9939	-0.6
User Experience	0.01368	0.630	0.529	1.0138	1.4
User Satisfaction	0.00446	1.143	0.253	1.0045	0.4
Tenure on Job	0.00105	0.011	0.991	1.0010	0.1
Constant	2.29505	9.97	0.000		

b = raw coefficient
z = z-score for test of b=0
P>|z| = p-value for z-test
e^b = exp(b) = factor change in expected count for unit increase in MOBESE Usage
% = percent change in expected count for unit increase in MOBESE Usage
Chibar(2)=108.05 (p <001)

However, when the three variables that are main constructs of the Technology Acceptance Model were regressed on usage, perceived ease of use was obtained as the only variable that is found statistically significant at .05 alpha level. The result is shown in Table 13.

Table 13
Negative Binomial Regression Result for MOBESE Usage using TAM's variables

Independent Variables	*B*	*z*	*P>z*	*e^b*	*%*
Perceived Ease of Use	0.01339	2.027	0.043	1.0135	1.3
Perceived Usefulness	0.00712	1.336	0.182	1.0071	0.7
Attitude toward MOBESE	0.00347	0.565	0.572	1.0035	0.3
Constant	2.307872	20.00	0.000		

b = raw coefficient
z = z-score for test of b=0
P>|z| = p-value for z-test
e^b = exp(b) = factor change in expected count for unit increase in MOBESE Usage
% = percent change in expected count for unit increase in MOBESE Usage
Chibar(2)=127.83 (p <001)

According to this result, perceived ease of use increased the expected number of usage by a factor of 1.01, holding all other variables constant. Consistently, perceived ease of use increases the expected number of usage by 1.3 percent, holding the variables perceived usefulness and attitude toward MOBESE constant.

6. DISCUSSION

One of the main goals of the present study was to evaluate IPD officers' attitudes and perceptions toward the new MOBESE system terminals, which are mounted in police cars. As shown in the literature part, the Technology Acceptance Model (TAM), based on the theory of reasoned action (Davis, 1989), has been selected to assess police officers' adaptation to the use the MOBESE system. In this thesis, an empirical study has been conducted to evaluate the IPD police officers' attitudes, perceptions, and acceptance of the MOBESE system.

Having examined the hypothesis, this study revealed that perceived usefulness, perceived ease of use, attitude toward MOBESE, and user satisfaction are positively related to MOBESE usage. This result partially supports previous research.

This study has examined the model's variables in terms of relative predictability for the extent to which an officer would actually use a specific technology, such as the MOBESE. Based on the literature examined, a prediction model has been created to test related hypotheses using regression analysis. On behalf of the model, it has been tried to find to what extent and how each independent variables affect the MOBESE Usage. Based on previous research, MOBESE Usage was regressed by six independent variables including perceived usefulness, perceived ease of use, attitude toward MOBESE, their tenure on the job, user experience on computers, and user satisfaction. In the previous chapter, these variables were analyzed by using STATA software.

Several significant findings were found by examining both the bivariate and multivariate relationship between independent and dependent variables in the model. According to bivariate analysis, as seen in Tables 4-10, MOBESE Usage has positively correlated with perceived usefulness, perceived ease of use, attitude toward system, and user satisfaction. This result is consistent with the findings found by previous research.

However, having utilized negative binomial regression, no variables were found significant. In order to test TAM's variables, regression was performed for the second time with the variables perceived ease of use, perceived usefulness, and attitude toward MOBESE. This time, perceived ease of use was found to be statistically significant. This finding is consistent with Brown's study (2002). According to the findings of Brown's

study, perceived usefulness might not predict adoption of the system, so perceived ease of use would be the main predictor of usage and perceived usefulness (p.12).

Consistently, this study also found that perceived ease of use is the only predictor that was found statistically significant. In other words, perceived usefulness, behavioral intention to use MOBESE, officers' age, their tenure, attitude toward MOBESE, and user satisfaction were not important in predicting MOBESE use.

One explanation for the findings of no significance of the independent variables except for perceived ease of use is that MOBESE system has been launched almost ten months before the survey conducted. Due to several technological and administrative factors such as the frequency in the breakdown of the system, loss of connection, and closed inquiry services because of lacking legitimate approval, MOBESE system in the police cars could not be implemented properly by users. As seen in Table 4, only 48,4% of participants have used MOBESE system at least one time, which means that half of respondents did not (or could not) use the system.

This study has contributed to the literature in various ways. First, while many researchers have been conducted on university students' or employers of private companies, little research has been conducted in the police settings. Moreover, this study results will provide valuable information for future research. This study also has increased our understanding of critical factors in patrol officers' technology acceptance such as perceived ease of use .

There are several implications of this study for departmental decision making. First, decision-makers should focus on ease usability of any information system during decision process. The results of the study imply that police officers are influenced by the

ease of use of the MOBESE terminal. Since the working environment of patrol officers are not like regular officers, they need to get any information very easily and quickly when they are patrolling. Therefore any software and hardware equipment should be designed to be used easily, and heir user interfaces should not be complicated so that users can understand and use easily.

6.1 Limitations of the Study

Two points can be focused as being the most important limitations of the study. First, this study is designed as cross-sectional style. Like conducted previous research, data in this study were gathered from a particular population at one point in time. Therefore, as stated Singleton and Straits (1999), cross-sectional designs "do not show clearly the direction of causal relationships" between variables (p. 248). Second, the information system was not working properly during the time the study was done as mentioned above. In other words, if officers had a chance to use all features of the system, the results may have been different. In order to acquire more reliable information on officers' attitude and perceptions toward the system in question, a follow-up study is needed which will be done after the system is completely ready to be operated by users.

Another limitation of this study is related to its sampling design.. Due to the several factors mentioned in previous sections, this study selected only four districts from thirty-two districts. If all officers were participated this study, the result would be more reliable.

6.2. Future Research

This study is a starting point for further research on measuring user acceptance of mobile information systems in the police setting. There are several areas that are remained uncovered in this study which include the comparison between officers and their superiors and the comparison between Istanbul and other cities utilizing similar information systems. Future research should focus on these uncovered areas to be able to get better information about the model used.

APPENDIX A: THE VARIABLES AND THE ITEMS

Items	Questions	Factor Loadings
Perceived Usefulness	1. Using MOBESE terminal in my job enables me to accomplish task more quickly.	.870
	2. Using MOBESE terminal improves my job performance.	.879
	3. Using MOBESE terminal in my job increases my productivity.	.859
	4. Using MOBESE terminal enhances my effectiveness on the job.	.838
	5. Using MOBESE terminal makes it easier to do my job.	.865
	6. I find MOBESE terminal useful in my job.	.623
Perceived Ease of Use	1. Learning to operate MOBESE terminal is easy for me.	.674
	2. I find it easy to get MOBESE terminal to do what I want it to do.	.671
	3. My interaction with MOBESE terminal is clear and understandable.	.687
	4. I find MOBESE terminal to be flexible to interact with.	.640
	5. It is easy for me to become skillful at using MOBESE terminal.	.755
	6. I find MOBESE terminal easy to use.	.771
User Satisfaction	1. The MOBESE system is successful.	.640
	2. I am satisfied with the MOBESE system.	.665
	3. The MOBESE system provides the precise information I need.	.730
	4. The information content meets my needs.	.823
	5. The MOBESE system provides reports that seem to be just about exactly what I need.	.766
	6. The MOBESE system provides sufficient information.	.848
	7. The MOBESE system is accurate.	.788
	8. I am satisfied with the accuracy of the MOBESE system.	.767
	9. The output is presented in a useful format.	.886
	10. The information is clear.	.847
	11. The MOBESE system is user friendly.	.127
	12. The MOBESE system is easy to use.	.132
	13. I get the information I need in time.	.814
	14. The MOBESE system provides up-to-date information.	.734
Attitude toward MOBESE + Behavioral Intention	1. Using MOBESE terminal is a good idea.	.799
	2. Using MOBESE terminal is a wise idea.	.846
	3. I like the idea of using MOBESE terminal.	.834
	4. Using MOBESE terminal would be pleasant.	.816
	5. I intend to use MOBESE terminal frequently on my patrol duty.	.600
	6. I intend to use MOBESE terminal in future.	.656
Attitude toward Computer	1. Working with a computer makes me nervous.	.867
	2. Computers make me feel uncomfortable.	.857
	3. **Computers make me feel uneasy.**	.428
	4. Computers scare me.	.455
User Experience	**1.What age did you first use computer?**	.067
	2. Do you have computer in your home?	.591

Items	Questions	Factor Loadings
User Experience	3. Do you use computer outside of work?	.842
	4. Did you have any computer knowledge before MOBESE system launched?	.762
	5. Before patrol duty, had you been working bureau requiring computer use such as secretaryship, documentation archive, etc.?	.684
	6. Do you have Internet banking account?	.628
	7.Have you ever participated in in-service training related MOBESE system?	.031
MOBESE Usage	1. During an average day, how many times do you use the MOBESE terminal in order to communicate to dispatcher ?	
	2. During an average day, how many times do you use the MOBESE terminal in order to communicate to police stations?	
	3. During an average day, how many times do you use the MOBESE terminal in order to communicate to other patrols?	
	4. During an average day, how many times do you use the MOBESE terminal to get address information that you do not know?	
	5. During an average day, how many times do you use the MOBESE terminal to get distance information between locations?	
	6. During an average day, how many times do you use the MOBESE terminal to get jurisdiction information that you are?	
	7. During an average day, how many times do you use the MOBESE terminal to inquire plate numbers?	
	8. During an average day, how many times do you use the MOBESE terminal to inquire personal information?	
	9. During an average day, how many times do you use the MOBESE terminal to inquire the criminal records?	
	10. During an average day, how many times do you use the MOBESE terminal in order to inquire individual's ID Number?	

*** The items in bold has been excluded due to their low factor loadings.**

APPENDIX B: THE MOBESE STUDY QUESTIONNAIRE

THE MOBESE QUESTIONNAIRE

Survey conducted by

Hamza TOSUN

Under the direction of

Dr. Steve M. Chermak

School of Criminal Justice

Michigan State University

Received IRB Approval: App#i024185

Dear Participant:

I seek your expert opinion on the MOBESE system. In this study, you will complete a questionnaire concerning various factors that may or may not encourage the use of MOBESE by Turkish police. I am interested in your opinions about ease of use, user satisfaction, prior experience with technology, usefulness, and attitudes about technology. The questionnaire contains 69 items which I estimate will take 10-15 minutes to complte.

There are several reasons why participation would be beneficial. There currently are no data from the users' perspective to indicate what factors do or do not promote usage of MOBESE. First, the results will identify officer concerns about the use of this new technology. Second, it might also provide valuable information on training gaps about the use of this system. Third, the results of this study may be of interest to police managers as they continue to upgrade and expand this system.

There are some risks to participating in this study. You may be anxious about answering some of the questions related to your supervisor's attitudes toward MOBESE. This risk is minimized because the completion of the survey is anonymous. I am not asking for your name, identification, or position. Only my thesis committee and I will have access to these data. Data will only be presented in the aggregate in the thesis and any other research reports.

Your completion of this survey is completely voluntary. You are free to not answer any question or to stop participating at any time without penalty. All questionnaires are anonymous, and the forms will be kept confidential by me to the maximum extent allowable by law. By completing this survey, you indicate your voluntary consent to participate in this study and to have your answers included in the research data set. You may submit the survey to me at the address below, using the self-addressed and stamped envelope enclosed for your convenience.

If you have any question about this study, you may contact me at the email address below, or you may contact my thesis advisor, Dr. Steve M. Chermak, at . If you have any questions or concerns regarding your rights as study participant, or are dissatisfied at any time with any aspect of this study, you may contact- anonymously, if you wish- Peter Vasilenko, PHD, Director of Human Research Protections, (517)355-2180, fax (517)-432-4503, e-mail , mail 202 Olds Hall, Michigan State University, East Lansing, MI 48824-1047.

Hamza TOSUN
Master's Degree Candidate
Michigan State University
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00-1-(517)-547-0797

DEMOGRAPHICS For each items below, please circle the number that is representative for you.

1. GENDER 1. Male 2. Female	2. AGE 1. under 20 years 2. 21-30 years 3. 31-40 years 4. 41-50 years 5. 51 years or older

3. TENURE

3a. Length of time being as a police officer	3b. Length of time employed as a by the Istanbul Police Department	3c. Time in the same position
1. 0-3 years 2. 4-7 years 3. 8-11 years 4. 12-15 years 5. more than 15 years	1. 0-3 years 2. 4-7 years 3. 8-11 years 4. 12-15 years 5. more than 15 years	1. Less than 1 year 2. 1-2 years 3. 3-5 years 4. 6 or more years

4. EDUCATION

1. Type of high school completed prior to attending police school;
   1. Ordinary High School
   2. Technical High School (including computer, electric, electronic high schools)
   3. Vocational High School (excluding computer, electric, electronic high schools)
2. Type of post-high school education completed;
   1. Police School
   2. Police School + Undergraduate Degree
   3. Police School + Undergraduate Degree + Master's Degree

MOBESE QUESTIONNAIRE

Please respond to each statement below by circling the number that indicates the extent to which you agree or disagree.

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1. Using MOBESE terminal in my job enables me to accomplish task more quickly.	1	2	3	4	5
2. Using MOBESE terminal improves my job performance.	1	2	3	4	5
3. Using MOBESE terminal in my job increases my productivity.	1	2	3	4	5
4. Using MOBESE terminal enhances my effectiveness on the job.	1	2	3	4	5
5 Using MOBESE terminal make it easier to do my job.	1	2	3	4	5
6. I find MOBESE terminal useful in my job.	1	2	3	4	5
7. Learning to operate MOBESE terminal is easy for me.	1	2	3	4	5
8. I find it easy to get MOBESE terminal to do what I want it to do.	1	2	3	4	5

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
9. My interaction with MOBESE terminal is clear and understandable.	1	2	3	4	5
10. I find MOBESE terminal to be flexible to interact with.	1	2	3	4	5
11. It is easy for me to become skillful at using MOBESE terminal.	1	2	3	4	5
12. I find MOBESE terminal easy to use.	1	2	3	4	5
13. The MOBESE system is successful.	1	2	3	4	5
14. I am satisfied with MOBESE system.	1	2	3	4	5
15. The MOBESE system provides the precise information I need.	1	2	3	4	5
16. The information content meets my needs.	1	2	3	4	5
17. The MOBESE system provides reports that seem to be just about exactly what I need.	1	2	3	4	5
18. The MOBESE system provides sufficient information.	1	2	3	4	5
19. The MOBESE system is accurate.	1	2	3	4	5
20. I am satisfied with the accuracy of the MOBESE system.	1	2	3	4	5
21. The output is presented in a useful format.	1	2	3	4	5
22. The information is clear.	1	2	3	4	5
23. The MOBESE system is user friendly.	1	2	3	4	5
24. The MOBESE system is easy to use.	1	2	3	4	5
25. I get the information I need in time.	1	2	3	4	5
26. The MOBESE system provides up-to-date information.	1	2	3	4	5
27 Using MOBESE terminal is a good idea.	1	2	3	4	5
28. Using MOBESE terminal is a wise idea.	1	2	3	4	5
29. I like the idea of using MOBESE terminal.	1	2	3	4	5
30. Using MOBESE terminal would be pleasant.	1	2	3	4	5
31. I intend to use MOBESE terminal frequently on my patrol duty.	1	2	3	4	5

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
32. I intend to use MOBESE terminal in future.	1	2	3	4	5
33. Working with a computer makes me nervous.	1	2	3	4	5
34. Computers make me feel uncomfortable.	1	2	3	4	5
35. Computers make me feel uneasy.	1	2	3	4	5
36. Computers scare me.	1	2	3	4	5
37. Administration of Istanbul Polis Department supports MOBESE system	1	2	3	4	5
38. My superiors support MOBESE system	1	2	3	4	5

USER EXPERIENCE

1. What age did you first use computer?
   1. Below 15
   2. 16-20
   3. 21-25
   4. 26-30
   5. 31-35
   6. above 35

2. Do you have computer in your home?
   1. Yes
   2. No

3. Do you use computer outside of work? 1. Yes (Please answer question 4) 2. No (Go to question 5. Please skip question 4)	4. Please indicate how many hours do you spent outside of work on computer? 1. 1 hours 2. 2-3 hours 3. More than 3 hours
5. Did you have any computer knowledge before MOBESE system launched? 1. Yes (Please answer question 6) 2. No (Go to question 7. Please skip question 6)	6. If yes please indicate level of your knowledge 1. Basic (Only typing and editing documents) 2. Intermediate (with office programs, using Internet functions web, e-mail etc.) 3. Advanced (developing computer programs, writing codes)

7. Before patrol duty, had you been working bureau requiring computer use such as secretaryship, documentation archive, etc.?
   1. Yes
   2. No

8. Do you have Internet banking account?	9. If yes Which application do you use Internet banking? 1. Credit Card Payment

1. Yes (Please answer question 9) 2. No (Go to next section. Please skip question 9)	2. Bil payment 3. Other_____

10. Have you ever participated in in-service training related MOBESE system?
    1. Yes
    2. No

MOBESE USAGE

During an average day, how many times do you use the MOBESE terminal in order	0 times	1-10 times	11-20 times	21-30 Times	More than 30 times
1. To communicate with dispatcher	1	2	3	4	5
2. To communicate to police stations	1	2	3	4	5
3. To communicate to other patrols	1	2	3	4	5
4. To get address information that you do not know	1	2	3	4	5
5. To get distance information between locations	1	2	3	4	5
6. To get jurisdiction information that you are?	1	2	3	4	5
7. To inquire plate numbers	1	2	3	4	5
8. To inquire personal information?	1	2	3	4	5
9. To inquire the criminal records	1	2	3	4	5
10. To inquire individual's ID Number	1	2	3	4	5

JURISDICTION INFORMATION

1. Please select one of the following items to describe your jurisdiction 1. Business district 2. Night Clubs 3. Residential District 4. Other_____	2. Comparing average crime rate in Istanbul, please indicate crime rate of your jurisdiction. 1. Very High (Almost every day) 2. High 3. Moderate 4. Low 5. Very Low (Almost one in a month)
3. Please select the crime type that is seen the most frequently in your jurisdiction. 1. Property Crimes 2. Violent Crimes 3. Drug use 4. Other_____	4. If you know, please indicate crime rate of your jurisdiction per month. 1. 1-20 2. 21-40 3. 41-60 4. more than 61 5. I do not know

Thank you for your participation!

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