

Impact Measurements of Mobile Sales Force Automation (MSFA) Usage towards Employee Job Satisfaction

Heribertus Himawan

Candidate Doctor of Administrative Science,
Faculty of Administrative Science
Universitas Brawijaya
himawan26@dsn.dinus.ac.id

Endang Siti Astuti, Kerta Hadi, Hamidah Nayati

Faculty of Administrative Science, Universitas Brawijaya
endangsitiastuti@gmail.com
kertahadi@gmail.com
hamidahn@ub.ac.id

Abstract

Mobile Sales Force Automation (MSFA) is one of selling automation as part of Customer Relationship Management (CRM) that is able to change manual selling into electronic by using software and mobile device. However, technology implementation or new system is able to cause rejection among the seller. On the other side, mobile technology allows the manager makes an observation that might be occur inconvenient feeling the employee to work and decrease their performance. This research aims to find out is that significant influence between MSFA usages towards job satisfaction. Population in this research is whole seller from national distributor with amount of 2,158 people. Sampling used here was random sampling when the entire sample has same opportunity unlimitedly to have chosen as samples. Using structural equation model approach with WarpPLS 3.0. The result are there is significant relation between Technical support variable towards Ease of use variable, there is significant relation between Ease of Use variable towards MSFA use variable, and there is significant variable between Msa use variable towards Job Satisfaction variable.

Keywords: MSFA, Technical support Ease of Use Training

1. INTRODUCTION

Because of the change of business environment makes organization and corporate need to make change either in order to maintain their competitiveness. One of the popular strategy at this moment is using cellular phone technology or mentioned as mobile system. Cellular phone user in smartphone level in Indonesia globally, according to E-marketer at the last December 2014, has reach 38.3 million and seventh biggest user in the world. This research institution also predicted that smartphone user in Indonesia will reach at the number of 100 million in 2018 because the trend keep increasing as can be seen on Figure 1. With smartphone popularity, internet access also become easier for the user, the company will make a new strategy to use that device into their business.

Mobile sales force automation (MSFA) is one selling automation as part of Customer Relationship Management (CRM), which are able to change manual selling activity into electronic using software and mobile device (Rivers and dart 1999; BenMoussa, 2005). Automatic selling system gave advantages in managing customer data, increasing relationship among customers and generally increasing customer satisfaction and selling performance (Irfan Sabir et al., 2013). But technology implementation or new system is able to caused rejection among sellers (Cho, 2008). Obstacle from seller in adopting new technology was there a lot of efforts they need to learn and accept that new technology but they have nothing in return (Honeycutt et al, 2005). On the other hand, the acceptance and used of this SFA are able to increase salesperson productivity and fasten the respond of customer interest and increase the efficiency in its operationalization (Thiangtem et al., 2013). However, mobile technology that make the manager easy to observe the employee can cause inconvenient feeling among the employee to work and decrease their performance (Vorvoren and Baton, 2000, Aiello and Shao, 1993).

Top 25 Countries, Ranked by Smartphone Users, 2013-2018
millions

	2013	2014	2015	2016	2017	2018
1. China*	436.1	519.7	574.2	624.7	672.1	704.1
2. US**	143.9	165.3	184.2	198.5	211.5	220.0
3. India	76.0	123.3	167.9	204.1	243.8	279.2
4. Japan	40.5	50.8	57.4	61.2	63.9	65.5
5. Russia	35.8	49.0	58.2	65.1	71.9	76.4
6. Brazil	27.1	38.8	48.6	58.5	66.6	71.9
7. Indonesia	27.4	38.3	52.2	69.4	86.6	103.0
8. Germany	29.6	36.4	44.5	50.8	56.1	59.2
9. UK**	33.2	36.4	39.4	42.4	44.9	46.4
10. South Korea	29.3	32.8	33.9	34.5	35.1	35.6
11. Mexico	22.9	28.7	34.2	39.4	44.7	49.9
12. France	21.0	26.7	32.9	37.8	41.5	43.7
13. Italy	19.5	24.1	28.6	32.2	33.7	37.0
14. Turkey	15.3	22.6	27.8	32.4	37.2	40.7
15. Spain	18.9	22.0	25.0	26.9	28.4	29.5
16. Philippines	14.8	20.0	24.8	29.7	34.8	39.4
17. Nigeria	15.9	19.5	23.1	26.8	30.5	34.0
18. Canada	15.2	17.8	20.0	21.7	23.0	23.9
19. Thailand	14.4	17.5	20.4	22.8	25.0	26.8
20. Vietnam	12.4	16.6	20.7	24.6	28.6	32.0
21. Egypt	12.6	15.5	18.2	21.0	23.6	25.8
22. Colombia	11.7	14.4	16.3	18.2	19.7	20.9
23. Australia	11.4	13.2	13.8	14.3	14.7	15.1
24. Poland	9.4	12.7	15.4	17.4	19.4	20.8
25. Argentina	8.8	10.8	12.6	14.1	15.6	17.0
Worldwide***	1,311.2	1,639.0	1,914.6	2,155.0	2,380.2	2,561.8

*Note: individuals of any age who own at least one smartphone and use the smartphone(s) at least once per month; *excludes Hong Kong; **forecast from Aug 2014; ***includes countries not listed*
 Source: eMarketer, Dec 2014

182905 www.eMarketer.com

Figure 1. 25 Most Smartphone user's country

If the system seems too difficult to use, the user tend to feel resistant of that system (Beckers and Bsat, 2008). Someone was developing positive or negative behavior towards mobile system also based on its

usability and easiness to use (Taylor and Todd, 1995). Information technology reduce the difficulties and easier to use are more preferable (Davis, 1989).

Job satisfaction can influence 2 factors which are first, work environment factor and job orientation, second, individual factor and individual way of life (Spector, 1997). Glisson and Durick (1988) has shown that the main factor influenced job satisfaction was the employee itself (including employee personal demography variable, capability and individual character), Job (Like job characteristic, compensation and salary) and organization characteristic.

According to that background of study, the aims of this research was to figure out is there any significant influence between MSFA user and Job satisfaction.

2. METHODOLOGY

2.1 Research population, data resource and Collecting data technic

This research was quantitative research to examine relation between variables. Research variables has measured using research instrument which makes data consist of numbers were able to analysis according to statistic procedure (Creswell, 2010). Population in this research were the entire seller in national distributor that amounts to 2,158 people. Sampling used in this research counting with Slovin formula (Umar, 2002), as follows:

$$n = \frac{N}{N.d^2 + 1}$$

Explanation:

n = Total sample

N = Total population

D = error estimation

According to Slovin formula, the calculation of research sample are as follows:

$$n = \frac{2.158}{2.158(0.1)^2 + 1}$$

$$n = 95.58 = 96$$

Sampling technic used was random sampling where research sample has same probability unlimitedly to choose as sample. Sample of that 96 respondent has chosen randomly from the questioner answer sent through email.

2.2 Operational definition of variable

Variable technical support defined as support gave by the experts to computer hardware and software user (Wilson, 1991). While indicator of technical support refer to Igbaria et al (1997) which was Technical support personnel that is easy to contact every time they need and give satisfaction respond.

Variable training defined as comprehensive and broader explanation related to system aims to user and presented by internal and external resource (Cheney, Mann and Amoroso, 1986). While indicator training refer to Igbaria et. al (1997) which are like my comprehension substantially getting better after training program, training give me assurance in using mobile computation device, this long training was sufficient and detail, and the trainer are knowledgeable and help me to understand about mobile computation device.

Variable ease of use defined as how far user believe that using certain technology will free them from the efforts. Information technology that easier and reduce difficulties were more interesting to use (Davis, 1989). While ease of use indicator refer to Davis (1989), which are like learn mobile computation device was easy for me, I will easy became skilled in mobile computation device, my interaction with mobile computation device are clear and understandable, and I get an easy mobile computation device.

mSFA use variable defined as attitude to behave using mobile system. If the system was difficult to use, user tend to have negative behavior in using it (Beckers and Bsath, 2008). Someone develop positive and negative behavior about the use of mobile system according to its function and easiness (Taylor and Todd, 1995). Attitude indicator refer to Taylor and Todd (1995), which are like: using mobile system for transaction was a good idea, using mobile system for transaction are wise idea, and very comfortable.

Job satisfaction variable was the result of some different elements evaluation that create the job (Locke, 1969). Job satisfaction indicator refer to Cheney (1984) which are like: using smartphone makes flexible schedule of visits, increasing work relationship and increasing work activity.

2.3 Research Concept Framework

According to Research result of Son et. al (2012) and Phan and Daim (2011) about the impact of mobile system usage, research from Samaranayake and Gamage (2012) about employee perception towards electronic monitoring also Schoonenboom (2012) about using technology as one of factors to increase performance and the research from walczuch et al. (2007) about the influence of technology readiness (TRI) for someone towards new technology. Hence, this research model as described in figure 2.

In Information technology utilization context, technical support defined as help given by the experts for software and hardware user (Wilson, 1991). Technical support usually consist of particular instructions, guidance, training, and consultation in using technology (Wilson, 1991; Pijpers et al., 2001). The important of technical support are for the success information technology that has discussed in many studies (Igbaria, 1994; Igbaria et. al. 1997; Amoroso and Cheney, 1991). Various kind of technical support (most of them are accessible online and through call center) has positive impact in information technology success. Furthermore, the bigger technical support given, the higher probability of the success of that information technology, the increase of technical support indicated high trust about the advantage of using technology among individuals (Igbaria et. al., 1997). Ngai et al. (2007) has found that technical support positively influence towards perceived of use. According to that matter, it found hypothesis 1 as follows:

Hypothesis 1 : Technical support has influenced towards ease of use

Training has defined as comprehensive and broader explanation related to system for users and presented by internal and external resource. Training was an important factor that will influence information technology acceptance in organization (Cheney, Mann, and amoroso, 1986). The right training will increase probability of acceptance Information Technology implementation, because training gave better understanding and experience about technology (aymond, 1988; Venkatesh and Morris, 2000). Former research has shown that programmed training has positive impact on perceived ease of use (Igbaria et al., 1997; Thong et al. 1996). According to that matter, it stated secong Hypothesis as follows:

Hypothesis 2 : Influence of training towards ease of use

Use mSFA defined as behavior of using mobile system. If the system feel hard to use, the user tend to have negative behavior towards the system (Beckers and Bsat, 2008). Someone develop negative or positive attitude about using mobile system according to the evaluation of the easiness to use (Taylor and Todd, 1995). Based on that matter put forward hypotheis 3 as follows:

Hypothesis 3 : Ease of use has influenced towards use

Job satisfaction has defined as behavior using mobile system from evaluation of some different elements that create the job (Locke, 1969). Glisson and Durick (1988) has shown that main factor influenced job satisfaction was the employee itself (including variable of employee individual demography, capability and individual characteristic), Job (Job characteristic, compensation or salary) and organization character. The implementation of mobile system using smartphone as its main device, equipped with ability to detect location of the device and the user, that feature known as location based service. Indirectly, using that feature, management were able to monitor the user or employee in their work field. This electronic monitoring could have impact on job satisfaction and stress among employers (Aiello and Shao, 1993). Besides, if transformation in organization consider threat by the employers, it can cause decreasing of job satisfaction for them (Cunningham, 2006). Based on that matter, it can be stated hypothesis 4 as follows:

Hypothesis 4: Use mSFA has influenced towards job satisfaction

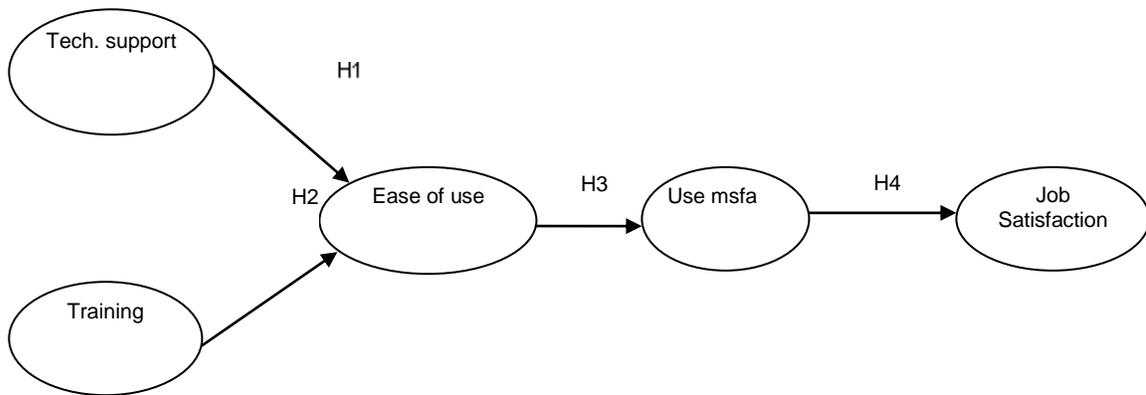


Figure 2. Model Structural

3. RESULT AND DISCUSSION

3.1 Goodness of Fit Measure

Model examine using structural equation model approach with WarpPLS 3.0. Output result presented 3 fit indicators, which are Average Path Coefficient (APC), Average R Squared (ARS) and Average Variance Inflation Factor (AVIF). P score was for APC and ARS indicators counted by estimate re-sampling and Bonferroni like corrections. It has needed because both of them counted as parameter average. Model stated as fit if significance score in APC and ARS was under 0.05 and AVIF score smaller than 5. Output result has shown goodness of fit model criteria has fulfilled that are APC score is 0.393 and ARS score is 0.205 and also significant under 0.05. 1.405 AVIF score also has fulfilled the criteria.

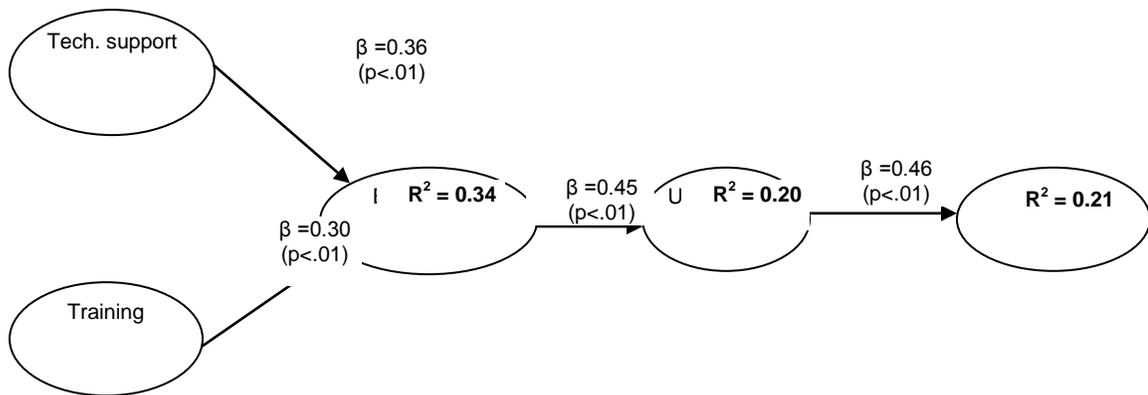


Table 1 Goodness of Fit Measure

Model Fit	Nilai	Sign
APC	0,393	<0,001
cal ARS	0,250	0,001
AVIF	1,405	

3.2 Latent Variable Coefficients

Latent variable coefficients presented various estimation result that reported in scientific paper, which are determination coefficients, instrument reliability, and discriminant validity, full co-linearity test and predictive validity.

Determination coefficients used R squared that has shown how many percentage of endogen variable that are able explained by variable hypothesized its influence. The higher R squared showed the better model. From the output recognized that R squared score for ease of use are 0.339 means that several of technical support and training has influenced ease of use variation for 33.9%. While R squared score of use mSFA are 0.21 means that several of ease of use influenced several of use mSFA for 20.1% and R squared score of job satisfaction are 0.211 means that Use mSFA variable influenced Job satisfaction variable for 21.1%.

Q squared used for scoring predictive validity or relevancy from a group of various latent predictor variable towards criterion variable. Q squared score must be higher than 0, from the output has known that Q square score already higher that 0, hence, the model showed good predictive validity.

Composite reliability and Cronbachs Alpha are the measurements of instrument reliability. Both must be higher than 0.7 (Fornell and Lacker, 1981, Nunnaly 1978). Output has shown that reliability instrument has fulfilled.

Full co-linearity VIF are test result of full co-linearity including vertical and lateral multi-co-linearity criteria for full co-linearity must be lower that 3.3 (Kock, 2013). Output has shown that full co-linearity less than 3.3 so the model has free from problems like vertical and lateral co-linearity and common method bias.

Table 2. Latent variable Coefficients

	TechSupp	Training	Ease of use	Use mSFA	JobSatis
R Squared			0.339	0.201	0.211
Adj. R Squared			0.319	0.189	0.199
Composite Reliab.	0.769	0.897	0.912	0.855	0.826
Cronbach's Alpha	0.400	0.843	0.866	0.729	0.683
Avg. Var. extrac.	0.625	0.688	0.724	0.682	0.615
Full collin. VIF	1.417	1.387	1.865	1.351	1.761
Q Squared			0.354	0.211	0.252

3.3 Hypothesis

This following table has presented the result of path coefficients result and p score. Column showed predictor latent variable and lines showed criterion latent variable.

Table 3. Path Coefficients

	TechSup	Trainin	Perceiv	attitud	JobSati
TechSup					
Trainin					
Perceiv	0.361	0.302			
attitud			0.448		
JobSati				0.46	

Table 4 P. Values

	TechSup	Trainin	Perceiv	attitud	JobSati
TechSup					
Trainin					
Perceiv	<0.001	<0.001			
attitud			<0.001		
JobSati				<0.001	

In Path coefficients, the influence of technical support towards Ease of Use are 0.361 and significant in 0.001 means that 1 variation from standard deviation of technical support caused 0.361 variation standard deviation of Ease of Use.

The influence of training towards ease of use are 0.302 and significant at 0.001 means that 1 variation from standard deviation of training caused 0.302 variation standard deviation of use mSFA.

The influence of Use mSFA towards Use mSFA are 0.448 and significant at 0.001, means that 1 variation from standard deviation of Ease of Use caused 0.448 variation standard deviation of use mSFA.

The influence of use mSFA towards job satisfaction are 0.46 and significant at 0.001, means that 1 variation from standard deviation of Attitude caused 0.46 variation standard deviation of job satisfaction.

4. CONCLUSION

Research about the impact of mSFA used towards Job satisfaction generate several conclusions according to this paper result and discussion as follows:

- (1) There is significant relationship between technical support variable towards Ease of Use variable
- (2) There is significant relationship between Training variable towards Ease of Use variable
- (3) There is significant relationship between Ease of Use variable towards Use mSFA variable
- (4) There is significant relationship between Use mSFA variable towards Job satisfaction variable

References

- [1]. Aiello, J.R. and Shao, Y., 1993. Electronic Task-Specific Monitoring And Stress: The Role Of Feedback And Goal Setting. *Human Computer Interaction: Applications and Case Studies* 1011, 1016
- [2]. Amoroso, D.L. and Cheney, P.H. 1991. Testing A Causal Model Of End-User Application Effectiveness. *Journal of Management Information Systems* 8 (1): 63–89.
- [3]. Beckers, A.M. and Bsat, M.Z., 2008. A DSS classification model for research in humanresource information systems. *Information Systems Management* 19 (3): 1–10.
- [4]. BenMoussa, C. (2005, December). Supporting sales representatives on the move: A study of the information needs of pharmaceutical sales representatives. In *Proceedings of the 18th Bled e-conference*.
- [5]. Cheney, P. H. 1984. Effects of Individual Characteristics, Organizational Factors and Task Characteristics on Computer Programmer Productivity and Job Satisfaction. *Information & Management* 7 : 209-214.
- [6]. Cheney, P.H., Mann, R.I., and Amoroso, D.L. 1986. Organizational factors affecting the success of end-user computing. *Journal of Management Information Systems* 3 (1): 65–80.
- [7]. Cho, S. D., & Chang, D. R. 2008. Salesperson's innovation resistance and job satisfaction in intra-organizational diffusion of sales force automation technologies: *The case of South Korea. Industrial Marketing Management*, 37(7): 841-847. doi: <http://dx.doi.org/10.1016/j.indmarman.2008.04.004>
- [8]. Creswell, J. W. (2010). *Research design: pendekatan kualitatif, kuantitatif, dan mixed*. Yogyakarta: PT Pustaka Pelajar.
- [9]. Cunningham, G., 2006. The relationships among commitment to change, coping with change, and turnover intentions. *European Journal of Work and Organizational Psychology* 15 (1): 29–45.
- [10]. Davis, F. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly* 13(3) : 319–340.
- [11]. Fornell, C. G., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- [12]. Glisson, C. V. and Durick, M. 1988. Predictors of job satisfaction and organizational commitment in human service organizations. *Administrative Quarterly*, 33(1): 61–68.
- [13]. Honeycutt Jr, E. D. 2005. Technology improves sales performance doesn't it?: An introduction to the special issue on selling and sales technology. *Industrial Marketing Management*, 34(4): 301-304. Doi : <http://dx.doi.org/10.1016/j.indmarman.2004.12.002>
- [14]. Igbaria, M., Zinatelli, N., Cragg, P., and Cavaye, A.L.M. 1997. Personal computing acceptance factors in small firms: a structural equation model. *MIS Quarterly* 21 (3), p. 279–305.
- [15]. Irfan Sabir, R., Rehman, A., Bahadur, W., Aziz S., Ejaz K., 2013. "Impact of Sales Force Automation on Relationship Quality and Sales Force Performance", *Journal of Basic and Applied Scientific Research* 3(12) :1-7.
- [16]. Kock, N. (2013). *WarpPLS 4.0 User Manual*. Laredo, Texas: ScriptWarp Systems.
- [17]. Locke, E.A., 1969. What is job satisfaction?. *Organizational Behavior and Human Performance* 4, p. 309–336.
- [18]. Ngai, E.W.T., Poon, J.K.L., and Chan, Y.H.C. 2007. Empirical examination of the adoption of WebCT using TAM. *Computers in Education* 48 (2), p. 250–267.
- [19]. Nunnally, J. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
- [20]. Phan, K. and Daim, T. 2011. Exploring technology acceptance for mobile services. *Journal of Industrial Engineering and Management*, p. 339-360.
- [21]. Pijpers, G.G.M., Bemelmans, T.M.A., Heemstra, F.J., and van Montfort, K.A.G.M. 2001. Senior executives' use of information technology, *Information and Software Technology* 43 (15), p. 959–971.
- [22]. Raymond, L. 1988. The impact of computer training on the attitudes and usage behavior of small business managers. *Journal of Small Business Management* 26 (3), p. 8–13.
- [23]. Rivers, L. Mark and Jack Dart (1999), The Acquisition and Use of Sales Force Automation by Mid-Sized Manufacturers, *Journal of Personal Selling & Sales Management*, 19 (2), Spring, 59-73.
- [24]. Samaranayake, V. and Gamage, C. 2012. Employee perception towards electronic monitoring at work place and its impact on job satisfaction of software professionals in Sri Lanka. *Telematics and Informatics* 29 , p. 233-244.

- [25]. Schoonenboom, J. 2012. The use of technology as one of the possible means of performing instructor tasks: Putting technology acceptance in context. *Computers & Education* 59 , p. 1309-1316.
- [26]. Son, H., Park, Y., Kim, C., and Chou, J.S. 2012. Toward an understanding of construction professionals' acceptance of mobile computing devices in South Korea: An extension of the technology acceptance model. *Automation in Construction* 28 , 82-90.
- [27]. Spector, P. 1997. *Job Satisfaction: Application, Assessment, Cause, and Consequences*. California: SAGE Publications
- [28]. Taylor, S. and Todd, P.. 1995. Assessing IT Usage: The Role of Prior Experience. *MIS Quarterly* 19, 2 , p. 561 - 570.
- [29]. Taylor, S. and Todd, P.. 1995. Assessing IT Usage: The Role of Prior Experience. *MIS Quarterly* 19, 2 , p. 561 - 570.
- [30]. Thiangtam Saranyapong, Anuntavoranich, P., Puriwat, W (2013, October), Acceptance and Use of SFA of Life Insurance Agents in Thailand: A Concept Paper
- [31]. Thong, J.Y.L., Yap, C.S., and Raman, K.S. 1996. Top management support, external expertise and information systems implementation in small businesses. *Information Systems Research* 7 (2), p. 248-267.
- [32]. Umar, H. 2002. *Metodologi Penelitian Aplikasi Dalam Pemasaran*. PT. Gramedia Pustaka Utama, Jakarta.
- [33]. Venkatesh, V. and Morris, M.G. 2000. Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly* 24 (1), p. 115-139.
- [34]. Vorvoreanu, M. and Botan, C.H. 2000. Examining electronic surveillance in the workplace: A review of theoretical perspectives and research findings. *Conference of The International Communication Association*. Acapulco, Mexico.
- [35]. Walczuch, R., Lemmink, J., and Streukens, S. 2007. The effect of service employees' technology readiness on technology acceptance. *Information & Management* 44, p. 206-215.
- [36]. Wilson, R. 1991. *Help!: The Art of Computer Technical Support*, Peachpit Press, Berkeley. CA.