

Ethical Work Climates

Protecting Guards for Health Information Privacy?

Tuba Bozaykut¹, Nilüfer Ata² and Prof. İbrahim Pınar²
Faculty of Economics and Business Administration, Okan University Istanbul, Turkey¹
Institute of Social Sciences, Istanbul University, Turkey²
e-mail: tuba.bozaykut@okan.edu.tr

Abstract

Having countless benefits like keeping and storing more accurate patient records together with decreased costs, health informatics has also raised the questions of patient privacy, data reliability and accessibility. Especially, the violation of the rights related with patient privacy has been a topic of great concern for health care authorities, lawyers as well as academics.

This paper questions whether ethical climates substantial at public hospitals can function as a guard for protecting health information privacy. To examine this phenomenon empirically, the perceptions of health professionals on the relation between organizational ethical climates and health information privacy are analyzed.

Introduction

The ability of creating a worldwide web and a boundless e-world has positioned knowledge as the most valuable resource for businesses. The competitiveness and strength of a firm in the new economy lie undoubtedly on the knowledge it possesses. The knowledge networks are built and strengthened through investments in information and communication technologies. Although healthcare information technology investments started late compared to other sectors [1, 2], the effects of information technology (IT) use in healthcare sector has resulted in a positive transformation of services provided. As the goal of IT use is to provide right information to the right people at the right time at the right place, it has notably increased the healthcare service quality and overall satisfaction.

Turkish healthcare system has been undergoing a revolutionary change with the 2003-2013 Health Transformation Program. Since 2003, citizens have been introduced to new health informatics and e-Health services in line with the program's main target of increasing quality and efficiency of the healthcare services and making healthcare facilities available to all segments of the society. The targets to be reached from the new informatics have been debating topics in Turkish health care context. The area requires researches concerning not only the efficiency of the new health informatics but its ability to protect patient rights to privacy.

There is not much remarkable field research concerning ethical work climates and health information privacy in Turkey. It is in our hope to attract the attentions in this intact research area and shed light on the possible effects of ethics on protecting patient privacy.

Literature Review

Electronic Patient Records and Patient Privacy

Privacy addresses information, ideas and emotions that people don't want to share with other people/groups/institutions. That is to say, privacy refers to the communication with the third parties without disturbing the compliance with one's self-realization need [3].

Information privacy notifies the conditions under which information can be shared. However, it is difficult to control the conditions due to the fact that some kind of information has to be involuntarily shared to the third parties. Especially social networks can display members' personal information without their consent or even without their knowledge. Ultimately, one of the most striking ethic problems of the knowledge age is to protect privacy of personal information [4].

It is a right for health service takers to demand their information to be kept disclosed and inaccessible to others. This right is a natural consequence of "confidentiality of medical and personal information and respect for the physical integrity of the individual" [5].

Electronic healthcare records (EHR) is the information that is recorded, stored, shared, accessed and processed about past, present and future physical and mental health or illnesses of citizens by using electronic systems [6]. The accurate recording of patient information is a necessity for diagnosis, treatment and future health examinations. Besides, keeping patient records private also affect organizations' reputation and can be an assessment measure for future information sharing.

Medical records are the basic references of all the required important information about the patients. The records include some basic demographics as name, age, marital status but also diagnosis, treatment and health insurance information of the patients. Keeping these records and making them accessible to medical staff facilitate meeting patient needs and providing more qualified health care service. Moreover, compared to the paper records, e-records have the advantages of time and storage space. Also, paper records can be misleading due to the unreadable doctor handwritings [7].

The IT Ethical Work Climate

Victor and Cullen [8] described the ethical climate as ". . . the shared perceptions of what is ethically correct behavior and how ethical issues should be handled". The ethical climate model developed by Victor&Cullen is schematized as follows:

Ethical Criteria	Locus of Analyses		
	Individual	Local	Cosmopolitan
Egoistic	Self interest	Company interest	Efficiency
Utilitarian	Friendship	Company team	Social Responsibility
Principal	Personal Morality	Rules/Company Code	Law or Professional Codes

Figure 1. The organizational ethical work climate model

The ethical criteria and locus of analysis are the two main dimensions of ethical climate model. The ethical criteria are egoistic, utilitarian, and principle. The egoistic criteria emphasize self-interest, the utilitarian focuses on caring for others, and the principle centers upon laws and rules. The locus of analysis dimension has the categories of individual, local, and cosmopolitan. Cosmopolitan addresses factors outside the organization as local analysis refers to factors inside the organization. Later, Pierce and Henry [9] developed ethical work climate model by focusing on ethical decision-making in knowledge intensive environments.

Like many organizations of service sector, health care institutions provide public service. This fact necessitates health organizations to use information technologies in an ethical framework. The increase of ethical issues in health care concerns not only health professionals but also patients, legislators, and undoubtedly, the whole society. It is in our hope that health professionals' perceptions of the ethical climate will assist in resolving ethical issues. In this study, Henry and Pierce's IT ethical work climate model was adapted to the health sector to examine to analyze impacts on health information privacy.

Population and Sample Design

The population consisted of 104 health professionals working at two education and research hospitals in Istanbul. Table1 summarizes the complete profile of our respondents.

Table I: Summary of the Descriptive Analyses of the Demographic Variables

Demographics		F	%
Gender	Female	35	33,7
	Male	69	66,3
Marital Status	Married	62	59,6
	Single	41	39,4
Age	24-29	47	45,2
	30-35	26	25,0
	36-41	11	10,6
	42-47	6	5,8
	48-53	9	8,7
	≥54	5	4,8
Net Usage	2-3 hrs	46	44,2
	4-6 hrs	19	18,3
	≥6 hrs	9	8,7
	1-2 hrs / two days	23	22,1
	1-2 hrs / week	7	6,7
Period for Electronic Patient Records (Years)	1-3	61	58,7
	4-6	41	39,4
	7-9	2	1,9
Position	Assistants	90	74,4
	Specialists	9	7,4
	Nurses	5	4,1
	Assistant Chief	5	5,8
	Clinic Chief	3	2,5
	Head Assistants	2	5,8
	Supervisor Nurse	2	

Demographics		F	%
Branch	Pediatrists	28	26,9
	Nurses	26	25,0
	Internists	13	12,5
	Neurologists	12	11,5
	Orthopedics	10	9,6
	Other	15	14,5
Sector Tenure (Years)	1-3	35	33,7
	4-6	20	19,2
	7-9	10	9,6
	10-12	8	7,7
	13-15	6	5,8
	≥16	25	24,0
Hospital Tenure (Years)	1-3	63	60,6
	4-6	18	17,3
	7-9	1	1,0
	10-12	4	3,8
	13-15	5	4,8
	≥16	13	12,5
Position Tenure (Years)	1-3	62	59,6
	4-6	18	17,3
	7-9	5	4,8
	10-12	6	5,8
	13-15	7	6,7
	≥16	6	5,8

Research Design and Data Collection

To collect quantitative data, the questionnaire method is used. 180 surveys were delivered to all healthcare staff at two education and research hospitals with a response rate of %52. The survey consists of 3 main sections. First section contains demographics of age, sex, education level, and other socio-demographic questions as working tenure, hospital tenure. IT ethical work climate questionnaire developed by Stone and Henry [10] constituted the second part of the research questionnaire. Stone and Henry has adapted Victor and Cullen's [8] Ethical Climate Questionnaire (ECQ) to healthcare context. Stone and Henry have examined the questionnaire's structural applicability and internal consistency to confirm whether required psychometric characteristics are proved. The reliability of the questionnaire vary between 0.75 and 0.90. Individual, organizational and non-organizational factors were evaluated from 36 statements of Likert scale. For Turkish version of the questionnaire, Eser's [11] study is used. At the third section of the survey, electronic health information privacy questionnaire (HIPQ) is used.

HPIQ scale was developed by COMPLETE [12]. In total there are 13 questions examining the dimensions of use of computers to keep health information private, outsiders' use of de-identified information, sharing of health information with other health professionals, benefits versus risk of computerized health information.

Data Analysis and Model Testing

Resolving the issues that were stated in the preceding methodology section, the data were processed using statistical software packages (SPSS 16). Multiple regression analysis (Total Model) was conducted and the associated statistical inference tests with regression techniques were performed for testing the overall regression equations (F test) as well as specific partial regression coefficients (t test on b). While evaluating data, descriptive statistical methods (Average, Standard Deviation), and linear regression analysis were used. The results were evaluated at %95 confidence bounds and $p < 0.05$ significance level.

Table II Scale Descriptions

Electronic Health Information Privacy	Min.	Max.	Ave.	Std. Dev.
Privacy 1 : use of computers to keep health information private	2	5	3,42	0,62
Privacy 2: outsiders' use of de-identified information	1	5	3,39	0,85
Privacy 3: sharing of health information with other health professionals	1,33	5	3,91	0,65
Privacy 4: benefits versus risks of computerized health information	1,33	5	3,64	0,7
IT Ethical Work Climates				
Self interest	2	5	3,35	0,62
Friendship	1,5	5	3,23	0,72
Personal Morality	2	5	3,64	0,65
Company interest	1	5	3,21	0,7
Company team	1	5	3,31	0,78
Rules/Company Code	1,75	5	3,4	0,7
Efficiency	2	5	3,07	0,77
Social Responsibility	2	5	3,47	0,67
Law or Professional Codes	2	4,25	3,31	0,41

When regressed together, IT Ethical Work Climate is accountable for 4% of the variance of use of computers to keep health information private ($r^2=0,04$), 15% of the variance of outsiders' use of de-identified information ($r^2=0,15$). It's found out that overall perceived IT Ethical Work Climate affects 15% of the variance of sharing of health information with other health professionals ($r^2=0,15$) and 21% of the benefits versus risks of computerized health information ($r^2=0,21$).

Table III Regression analyses

Independent Var.	Dependent Var.	R Sq.	Beta	T	Sig.
IT Ethical Work Climates	use of computers to keep health information private	0,04	0,18	1,62	0,914
IT Ethical Work Climates	outsiders' use of de-identified information	0,15	0,16	3,38	0,002*
IT Ethical Work Climates	sharing of health information with other health professionals	0,15	0,05	3,84	0,002
IT Ethical Work Climates	benefits versus risks of computerized health information	0,21	0,23	3,33	0,005

* $p < 0,05$

Company interest has impacts on "outsiders' use of de-identified information" whereas efficiency influences sharing of health information with other health professionals. "Benefits versus risks of computerized health information" dimension is clearly influenced both by company team and social responsibility dimensions.

Table IV Summary output of the multiple regression analyses

Independent Var.	Dependent Var.	Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
Company interest	outsiders' use of de-identified information	0,298	0,096	0,295	30,113	0,002*
Efficiency	sharing of health information with other health professionals	0,298	0,096	0,295	30,113	0,002
Company Team	benefits versus risks of computerized health information	0,405	0,112	0,447	30,618	0,001
Social Responsibility	benefits versus risks of computerized health information	-0,24	0,117	-0,239	-20,07	0,041

* $p < 0,05$

Discussions and Conclusion

Use of IT systems at healthcare sector has to comply with the ethical standards designed in line with human rights. In our study, health professionals evaluated personal morality more highly than other IT ethical climate dimensions. It also revealed that IT ethical climates affected most “benefits versus risks of computerized health information”. This finding pointed out that IT ethical climates had the greatest effects on healthcare professionals' opinions about computer's usefulness in the operational processes and risks to be faced in cases of health information confidentiality loss.

Company interest affected only one dimension, “outsiders' use of de-identified information”. The participants evaluated that the interests of any given hospital could be distorted if the health information were shared with the third parties even the identification of the patient is hidden. On the contrary, they indicated that the efficiency of the IT use influenced “sharing health information with other health professionals”. Both company team and social responsibility dimensions of utilitarian climate had influences on “benefits versus risks of computerized health information”. According to these findings, it can be said that, to the participants, the use of IT was to be evaluated on the basis of the value it created.

Protecting the security of health records and keeping them safe becomes more important than ever. Private health insurance provider companies are trying to access their customers' records in order to evaluate the risk of insurance. Additionally, medicine firms are trying to find this info as well for making profit over specific patients. All these underline that ethical climates can be tools for affecting health information privacy.

Turning to the limitations of the current work, it must be pointed out that our sample consists of only two hospitals making it difficult to generalize our findings to all healthcare organizations.

References

1. Khoubati, K., Themistocleous, M., and Irani, Z. 2006. “Evaluating the adoption enterprise application integration in health-care organizations,” *Journal of Management Information Systems*, Vol.22, Issue 4, pp. 69-108.
2. Baker, J., Song, J., Jones, D., and Ford, E.W. 2008. "Information technology investments and returns--uniqueness in the 90 healthcare industry," *Communications of the Association for Information System* Vol.23, Issue 1.
3. Margulis, S.T. (2003). “On the status and contribution of Westin's and Altman's theories of privacy”, *Journal of Social Issues*, Vol.59, Issue 2, pp. 411—429.
4. Smith, H. J., Milberg, S. J. and S. J. Burke (1996), “Information privacy: measuring individuals' concerns about organizational practices”, *MIS Quarterly*, Vol.20, Issue.2, pp. 167–196.

5. Sert, G. (2007), "Medicine ethics and Medicine Law", Unpublished Doctoral Thesis, Marmara University, Istanbul, p.3.
6. Turkish Health Information System Action Plan, p.19. (www.saglik.gov.tr).
7. Berner, E. S., (2008), "Ethical and Legal Issues in the Use of Health Information Technology to Improve Patient Safety", *HEC Forum*, Vol. 20, Issue.3, pp. 243–258.
8. Victor, B. and J. B. Cullen (1988), "The Organizational Basis of Ethical Work Climates", *Administrative Science Quarterly*, Vol. 33, pp.101-125.
9. Henry, J. W. and M. A. Pierce (1994), "Computer Ethics: Influences on Decision Making", *Computer Personnel*, Vol. 5, Issue. 3, 21-27.
10. Stone, R.W. and Henry J. W. (2003), "Identifying and Developing Measures of Information Technology Ethical Work Climates", *Journal of Business Ethics*, Vol.46, pp. 337-350.
11. Eser, G. (2007), "The role of ethical climate and trust in supervisor on organizational commitment", Unpublished Master Thesis, Marmara University, Istanbul.
12. COMPLETE II- the computerization of medical practices for the enhancement of therapeutic effectiveness II study/ Toronto University, 2011.