

PERSON TECHNOLOGY FIT AMONG IT PROFESSIONALS: IMPACT AND
IMPLICATIONS



A

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
FELLOW PROGRAMME IN MANAGEMENT
INDIAN INSTITUTE OF MANAGEMENT
INDORE

BY

GUNJAN TOMER [2010FPM08]

JANUARY 2014

THESIS ADVISORY COMMITTEE

PROF. SUSHANTA KUMAR MISHRA

[CHAIRMAN]

PROF. NAGARAJAN KRISHNAMURTHY
[MEMBER]

PROF. PRABIN K. PANIGRAHI
[MEMBER]

ABSTRACT

Research suggests that IT (Information Technology) professionals exhibit higher levels of intent to leave and report high stress levels as compared to other professionals. Despite much of the research on IT professionals, it is believed that there are many avenues which still remain unexplored and possess potential to explain their work behavior. In the present work we are exploring the role of a given technology in explaining the work behavior of IT professionals. Although the impact of technology on individuals is a well researched area in the field of IS research, we did not find relevant literature in the context of IT professionals. The academic literature has discussed different aspects of technology and how it affects individuals. One of the most prominent research frameworks in this area is Technology Acceptance Model (TAM) which explains that how different characteristics of technology influence the intent to use a given technology among technology users. Another significant stream of literature explores the relatively new construct of technostress which suggests that invasive and the ubiquitous nature of technology is leading to increased levels of stress among individuals. Despite ample amount of studies in this domain, studies to assess the impact of technology on IT professionals are in short supply. The individual-technology interaction as a phenomenon has been primarily studied among technology users. This study introduces a new construct, person technology fit and particularly defines and measure technological dimensions which are hypothesized to have an impact on work outcomes (career satisfaction, work exhaustion and turnover intent). Person-Environment (P-E) fit model is employed as a theoretical lens to examine person technology fit.

The first phase of the study is exploratory in nature since the phenomenon is not explored in the extant literature. We found that IT professionals evaluate a given technology based on their individual perceptions and needs. This evaluation, either positive or negative, influences their work outcomes. Further, we explored the technological dimensions which make a

technology preferable to others. In the present study we have defined and explained how technology is conceived by IT professionals and have extracted five technology characteristics which are relevant to the work behavior of IT professionals. Based on the findings, we define the construct, “Person Technology Fit” to capture the fit between individual preferences and the characteristics of technology a professional is working in. The first phase of the present study has contributed in describing the unexplored phenomenon of individual-technology interaction among IT professionals and its impact on the work outcomes.

The finding of the qualitative study and the extant literature guides our research model. The survey design methodology is used to test the proposed research model. Field data for 386 working IT professionals was obtained using web based survey. Our hypotheses assert that person technology fit will impact (a) career satisfaction, (b) turnover intention and (c) work exhaustion among IT professionals. The construct of person technology fit is defined and measured across the five dimensions/characteristics of technology. In general, the results of polynomial regression analysis supported the hypotheses from the model. The results suggest that Person technology fit is present among IT professionals (and is a significant predictor of studied work outcomes such as turnover intention). The results from this study have implications for both research and practice.

Keywords: Person Technology fit, Technology characteristics, IT professionals, mixed method

TABLE OF CONTENTS

TITLE PAGE	
ABSTRACT.....	i
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	viii
LIST OF FIGURES.....	ix
CHAPTER 1: INTRODUCTION	2
1.1 Overview.....	2
1.2 Research objective	6
1.3 Contribution	7
1.4 Outline of dissertation.....	8
CHAPTER 2: LITERATURE REVIEW	9
2.1: Information technology professionals	10
2.2 Technology characteristics.....	11
2.3 Impact of technology on individuals.....	14
CHAPTER 3: EXPLORING PERSON TECHNOLOGY FIT: A GROUNDED THEORY ..	16
3.1 Theoretical foundation.....	16
3.2 Research design	17
3.3 Method.....	18
3.3.1 Preliminary findings from the pilot study: Insight for full study design	18
3.3.2 Main study	21
3.4 Findings.....	25
3.4.1 Resource acquisition and allocation.....	25
3.4.2 Individual needs and preferences.....	32

3.4.3 Technology characteristics.....	36
3.4.4 Developing the construct of Person Technology fit and assessing its influence on work outcomes.....	44
3.4.5 Influence on work outcomes.....	47
3.5 Towards developing a quantitative research model.....	48
3.6 Summary.....	49
CHAPTER 4: DEVELOPING A QUANTITATIVE RESEARCH MODEL.....	51
4.1 Theoretical development.....	51
4.1.1 Existing theories and concept of PT fit.....	52
4.2 Redefining Technology Characteristics.....	55
4.3 Concept of fit or congruence.....	60
4.4 Person environment fit and different approaches for conceptualization.....	62
4.5 The phenomenon of person technology fit.....	63
4.6 Convergence of findings.....	66
4.7 Impact of technology characteristics on work outcomes: development of hypotheses.....	67
CHAPTER-5: METHODOLOGY.....	77
5.1 Operationalization of constructs.....	77
5.1.1 Subjective Vs. Objective Measures.....	78
5.1.2 Direct measurement versus component measure.....	79
5.1.3 Difference score approach.....	81
5.1.4 Alternative to difference score.....	82
5.2 Research Design.....	84
5.2.1 Unit of Analysis.....	84
5.2.2 Sample Design.....	84
5.4 Research instrument.....	85
5.5 Control variables.....	92
5.6 Overview of data Analysis.....	96

5.7 The data preparation phase	96
5.7.1 Pretest.....	97
5.7.2 Pilot study	98
5.8 Validity and method bias	100
5.8.1 Non-response bias.....	100
5.8.2 Common Method Bias and common method variance.....	102
5.9 Normality, Heteroscedasticity and Multicollinearity.....	104
CHAPTER 6: RESULTS	107
6.1 Sample Characteristics.....	107
6.1.1 Descriptive statistics and correlations.....	108
6.2 Hypotheses Testing.....	110
6.2.1 Analytical Representation of the Hypotheses	110
6.2.2 Testing Career satisfaction hypotheses: Hypothesis H1 (a) to H1 (e)	111
6.2.3. Testing Turnover intention hypotheses: Hypotheses H2 (a) to H2 (e)	111
6.2.4. Testing Work exhaustion hypotheses: Hypotheses H3 (a) to H3 (e).....	112
6.3 Hypotheses testing using response surface methodology	114
CHAPTER 7. CONCLUSIONS AND IMPLICATIONS	125
7.1 Developing Meta inferences: Integrating findings from the qualitative and quantitative research	125
7.2 Contributions and Implications.....	129
7.2.1 Contribution to the theory	129
7.2.2 Contribution to the practise.....	134
7.3 Limitations and directions for the future research	136
REFERENCES.....	140
ANNEXURE A: Detailed description of participants of the qualitative study	148
APPENDICES	149
Appendix A: Guiding questions for semi structured questionnaire employed for data collection.....	149

Appendix B: Example of data analysis using constant comparison method	150
Appendix C: Illustrations of the data analysis using grounded theory	152
Appendix D: Data analysis process for extracting technology characteristics	153
Appendix E: Categorization of different business domains/Industry service units utilized in IT organizations	154
Appendix F: Profile of technology studied in previous research on individual-technology interface.....	155
Appendix G: Alternate scales for the core constructs of the research model.	156
Appendix H: Document prepared for validation of construct definition and measurement process.....	160
Appendix I: Consent form for the web based survey shared with the respondents.....	165
Appendix J: List of organizations included in the study.....	166
Appendix K: Definitions and terminology	166

List of Tables

Table 2.1: Select description of Technology characteristics employed in IS literature

Table 3.1: Profile of the participants

Table 3.2: Theoretical categories and data illustrations

Table 4.1: Difference among technology users and IT professionals

Table 5.1: Long term consequences scale

Table 5.2: Technology Uncertainty scale

Table 5.3: Challenging Technology scale

Table 5.4: Technology growth potential scale

Table 5.5: Work life balance scale

Table 5.6: Career Satisfaction scale

Table 5.7: Turnover Intention scale

Table 5.8: Work Exhaustion scale

Table 5.9: Negative affectivity scale

Table 5.10: Scale reliabilities

Table 5.11: Results of Harman's single factor test

Table 5.12: Descriptive Statistics

Table 6.1: Demographics

Table 6.2: Correlation among Constructs

Table 6.3: Results of Regression Analysis

Table 6.4: Stationary points and slopes along lines of interest

Table 6.5: Summary of the hypotheses

List of figures

Figure 3.1: Overview of data structure

Figure 3.2: The recruitment and project allocation process

Figure 3.3: The process of individual level assessment of Person Technology fit.

Figure 3.4: Data illustration for the work outcomes

Figure 4.1: Proposed research model

Figure 5.1: Illustration of data analysis process

Figure 6.1 Response surface predicting career satisfaction

(a) Career growth potential

(b) Challenging technology

(c) Long term consequence of technology

(d) Technology uncertainty

(e) Work life balance

Figure 6.2 Response surface predicting Turnover intention

(a) Career growth potential

(b) Challenging technology

(c) Long term consequence of technology

(d) Technology uncertainty

(e) Work life balance

Figure 6.3 Response surface predicting Work exhaustion

(a) Career growth potential

(b) Challenging technology

(c) Long term consequence of technology

(d) Technology uncertainty

(e) Work life balance