

Impact of Information Technology on Determinants of Work-Life Balance of Software Professionals: A Study of Indore Region

Ayushi Vyas

Institute of Management Studies
Devi Ahilya Vishwavidhyalaya, Indore (M.P.)

Dr. Deepak Shrivastava

Professor,
Institute of Management Studies
Devi Ahilya Vishwavidhyalaya, Indore (M.P.)

Abstract

Work-life Balance has become one of the major challenges in the field of Human Resource management. With the transformation of information and communication technologies and their usage, it has affected the work lives and family lives of individuals positively and negatively. The present study investigates the impact of information technology on the determinants of work-life balance of software professionals working in IT industry with special reference to Indore region. The main aim of this study was to explore the determinants of work-life balance and study the impact of IT on each determinant explored. Data was collected with the help of structured questionnaire on a five – point Likert scale consisting of 40 items and all items had adequate reliability. Convenience Sampling was used for data collection and the questionnaire was distributed to 150 respondents working in IT Industry in Indore, out of which 120 dully – filled questionnaires were received. The collected data was analyzed using appropriate statistical tools such as Factor Analysis, Correlation and Regression analysis. The study revealed both positive and negative impact of information technology on the determinants of work-life balance. The findings may have implications for organizations, academicians and can provide scope for future research.

Keywords:

Information Technology, Software Professionals, Work-life Balance, Family-life, Work-life, IT Industry.

Introduction

“The concept of work-life balance is based on the notion that paid work and personal life should be seen less as competing priorities than as complementary elements of a full life. The way to achieve this is to adopt an approach that is “conceptualized as a two way process involving a consideration of the needs of employees as well as those of employers” (Lewis, 2000: p.105)

There was a time when the boundaries between work and home were fairly clear. Now days, work is occupying our personal life — and maintaining work-life balance is not easy task. Technological instruments like e-mail, text messaging and cell phones which were thought of as tools to connect them to their work if they are not present

in office, have actually integrated their personal and professional lives.

Work pressure has been increasing in recent decades. Technological advancements have led to demand for speedy response. The working hours have continued to increase to maintain and fulfil demands of market and customers. As a result, the demand of work begins to dominate personal life and a sense of work life balance ensues. Quality of home and social life are deteriorating. Balance is a must in all aspects of life. It's just like walking on a narrow bridge, as long as we keep ourselves well balanced, we will keep walking towards our destination. It involves time management, concentration and coping up with situations in the right spirit. The best way to maintain work life balance is to have time management. If we try and finish off the work in stipulated time frame, there will be no overburdening of work and thus resulting into better management of work and personal life; thus resulting in a perfect work life balance.

The working conditions of work are changing: changes in technology, globalization pressures, women involvement in working, fewer young people and an expansion of the older generation.

- Almost 19 per cent of employees work in workplaces operating 24 hours a day, 7 days a week. One in eight employees work both Saturday and Sunday.
- Almost 11 per cent of employees work 60 or more hours a week typically in professional and managerial jobs.
- More than one in eight men with dependent children works 60 hours or more a week.
- 56 per cent of women preferred greater flexibility in their working arrangements to longer maternity leave on their return to work following maternity leave. (Source: Orange 2006)

Today, Industries have realized the importance of the work life balance in originations for their employees and they are trying to setting up policies for balancing a work life balance. Companies are trying for innovative methods to keep their employees happy and satisfied, so it makes office environment better for working and also positively impact productivity of employees.

Review of Literature

Duxbury and Higgins (2003) report that employees with high role overload are three and a half times more likely to have high levels of absenteeism due to physical, mental, or emotional fatigue than counterparts with low levels of role overload. Kirchmeyer (2000) defined a balanced life as achieving satisfying experiences in all life domains. Lewis et al. (2003), Rapoport et al. (2002) and Taylor (2002)

suggested work/personal life integration as a working terminology to capture the synergies and connections between different parts of life and the way they flow into each other. Duxbury (2004), in her research, defined work life balance as involving three things: role overload, work to family interference and family to work interference.

Clark (2000) argued that people are daily border-crossers between work and family domains. Also so many aspects of work and family are difficult to resolve; individuals can shape to some degree the nature of work and home domains and create bridges to attain the desired balance. The increased usage the *ICT cluster* has enabled location independent working and 24/7 contact ability to employees creating 'permeations' across work-family borders. These technologies facilitate border crossings between work and family domains even when the individual is physically in the other domain. It also examined how these technologies influenced individuals in achieving their time, involvement and satisfaction balance in work and family roles. As Clark (2000) writes, when participants are central to a domain (i.e. they have influence in that particular domain), they can balance the borders between their domains better, resulting in greater work-life balance.

There are various factors which affect work-life balance and had been studied by various authors. These factors could be related to an individual, family-related, work-related and family and work-related. A number of researchers like Adams et al. (1996), Duxbury and Higgins (2001), Martins et al. (2002), Fisher-McAuley et al. (2003), Schieman et al. (2003), Ezzedeen and Swiercz (2002), and Haar and Bardoel (2008) found that work life balance /work family conflict affects job satisfaction, family satisfaction, life satisfaction, career satisfaction and job stress. Higgins (2001) examined the effects of three types of work family conflict – role overload (having too much to do), work to family interference and family to work interference on the organizational performance and quality of life of employees, parental status) and sources of support (co-workers, community, financial resources) on the negative relationship between work- family conflict and career satisfaction. Fisher-McAuley et al. (2003) examined the relation between employees' beliefs about having a balance between work and personal life, and the feeling of job stress, job satisfaction, and reasons why one might quit his/her job.

Previous research has demonstrated that demographic and social-structural factors shape uneven access to and use of new technology (Papadakis & Collins, 2001). Individuals who are more affluent and educated are typically more likely to own a home computer and use the Internet (Cole et al., 2001; Haythornwaite, 2001; U.S. Census Bureau, 2000). However, income and education do not always adequately explain why particular groups of people use (or do not use) new technology. The impact of technology can be seen both

as positive and negative (Berg, örtberg, & Jansson, 2005). Technology facilitates working arrangements such as teleworking (Tietze, 2005) and mobile working (Prasopoulou, Pouloudi, & Panteli, 2006) which can benefit both employers and employees. Williams and Alliger (1994) found that spill over of unpleasant moods occur both from work to family settings and from family to work though evidence for the spill over of pleasant moods was weak. Both family to work and work to family spill over were stronger for women than men. Hammer et al. (1997) reported that higher levels of perceived work schedule flexibility were related to lower levels of work family conflict. Hill et al. (2001) examined the perceived influence of job flexibility in the timing (flex time) and location of work (flex place) on work family balance. Factors Affecting Work Life Balance can be competition, information technology, individual career ambitions, Global Economy, Longer working hours, International business, Family Problem, Poor Time Management, Lack Of Self-confidence and Stress.

Objectives

1. To identify the determinants that influence work-life balance of software professionals working in IT Industry.
2. To study the impact of information technology on

the determinants of work-life balance of software professionals working in IT industry.

Research Methodology

The study was conducted with primary data using questionnaire as a tool to explore the determinants of work-life balance and study the impact of information technology on each determinant of work-life balance. The data was collected with the help of structured questionnaire with forty statements on a five point Likert scale (Never, Rarely, Sometimes, Often, Always). For the present study, 150 questionnaires were distributed to the software professionals working in IT industry in Indore, out of which 120 dully-filled questionnaires were received and used for the research work. Data was collected through convenience sampling technique. The secondary data was collected through various magazines, journals, articles, internet etc. Appropriate statistical tools such as Factor Analysis, Correlation and Regression Analysis were then applied on the collected data using SPSS 16.0.

Analysis and Findings

Reliability Analysis- Scale (Alpha)

Reliability analysis was conducted using Cronbach's Alpha for 40 items which came out to be 0.897, indicating that the data is reliable

Reliability Coefficients	
No. of Cases	120
No. of Items	40
Chronbach's Alpha	.897

KMO and Bartlett's Test

The KMO (Kaiser-Meyer-Olkin) and Bartlett's Test of Sphericity is a measure of sample adequacy which is recommended to check before undergoing Factor Analysis. The value of KMO ranges from 0 to 1, and the acceptable value of KMO should be greater than .5 to proceed for factor analysis. Large value of KMO indicates that factor analysis is a good idea for variables. Bartlett's Test of Sphericity is

used to test the hypothesis that the correlation matrix is an identity matrix and its value should be less than .05. If KMO and Bartlett's Test of Sphericity are appropriate, then it is a good indicator that, factor analysis could be performed on the available data. The 40 items in the questionnaire were subjected to factor analysis using principal components analysis and the varimax rotation method to determine the underlying dimensions.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.759
Bartlett's Test of Sphericity	Approx. Chi-Square	2836.622
	Df	780
	Sig.	.000

The value of KMO Bartlett's test is .759, which indicates that data is accepted for Factor Analysis, as the value is greater

than .5 and Eigen values of all dimensions/factors are higher than 1.0.

Rotated Components indicating the determinants of Work-Life Balance

Factors	Statement No. and Items	Item Load	Factor Load	% of variance
Social Support	Social Support from Work.	.832	3.044	9.666
	Social Support from Family.	.831		
	IT balances work & Family.	.703		
	Workplace Flexibility.	.678		
	Individual signs WLB Policy.	.857		
Organizational Issues	Organization established WLB Policy.	.827	3.139	18.340
	Organizational Initiatives to improve WLB Policy.	.816		
	Organization focuses on WLB Policy.	.639		
Stress Issues	Individual Stress.	.747	3.767	26.682
	Difficulty in managing family duties.	.698		
	No rest due to work & family related issues.	.647		
	Work-overload affecting Personal Life.	.635		
	IT affects relationships in family.	.551		
	Professional calls via IT after office hours.	.489		
	IT dependence for work.	.859		
	24*7 IT availability at work.	.761		
	IT equipped work environment.	.680		
	IT usage for work, even at home.	.666		
IT Factor	Work overtime.	.567	3.533	34.488
	Personal sacrifice for work.	.798		
	Work from home regularly.	.767		
	Professional Cut off, when at home.	.672		
Work Issues	Difficulty in managing work and family.	.614	2.791	41.148
	Work more to perform well.	.746		
	IT usage at home.	.690		
	Work stress due to family issues.	.663		
Family Issues	Family Balance.	.659	2.758	47.693
	Management of family & social obligations easily.	.827		
	Sufficient time for family.	.819		
	Work from home after working hours.	.595		
Social Issues	Manage dependent needs.	.462	2.703	53.614
	Compressed working week in organization.	.782		
	Usage of emails owned by organization	.704		
	Remote Working.	.662		
Work overload factor	Difficulty in managing work.	.579	1.241	63.711
	Proper Rest & Sleep.	.782		
Individual Issues	Live family Expectations.	.644	1.977	68.378
	Individual creates border between work & family.	.551		
	No concept of WLB as an Individual.	.803		
Lack of Knowledge	IT helps in border creation & balance between work and family.	.757	1.56	73.014

Factor Analysis

The responses of the samples were subjected to factor analysis using SPSS 16.0, which led to emergence of eleven factors. These factors were:

Factor 1: Social Support (3.044)

The first factor which was identified through Factor Analysis was Social Support. Social Support is an important factor which contributes to work-life balance. When people have social support from work and family, they can balance

their lives with proper peace and harmony. With the usage of technology, it becomes easier to balance work and family domains. The factor consists of four sub-factors viz. Social Support from work (.832), Social Support from family (.831), IT balances for work and family (.703) and Workplace Flexibility (.678).

Factor 2: Organizational Factor (3.139)

The second factor which was identified through Factor Analysis was related to Organizational Issues. Organization plays an important role in initiating work-life balance

policies for its employees. If organization emphasizes on proper work-life balance policies, it can lead to better performance and employee satisfaction. The factor consists of four sub factors viz. Expectation from individual to sign work-life balance policies (.857), Organization established Work-life balance policies (.827), Organizational Initiative to improve Work-life balance policies (.816) and Organization's focus on Work-life balance policies (.639).

Factor 3: Stress Factor (3.767)

The third factor which emerged through Factor Analysis was Stress Issues. Stress is the major cause of unhappiness among employees, whether it is real or imagined. Stress being one of the major factors which affects work-life balance of employees leading to fatigue, mental illness, depression, heart diseases, and ultimately loss in productivity. It includes six sub factors viz. Individual Stress (.747), Difficulty in managing family duties (.698), No rest due to work & family related issues (.647), Work-overload affecting Personal Life (.635), IT affects relationships in Family (.551) and Professional calls via IT after office hours (.489).

Factor 4: IT Factor (3.533)

The forth factor which emerged out of Factor Analysis was Information Technology. IT is one of the major factors of work-life balance as it helps in providing 24*7 accessibility and connectivity. It includes five sub-factors viz. IT dependence for work (.859), 24*7 IT availability at work (.761), IT equipped work environment (.680), IT usage for work, even at home (.666) and Work overtime (.567).

Factor 5: Work Issue Factor (2.791)

The fifth factor emerged through Factor Analysis was Work Issues. Work being an important factor affects work-life balance of employees, as if there would be work overload, it would increase stress level and it will create an imbalance in the lives of the employees. There are four sub-factors viz. Personal sacrifice for work (.798), Work from home regularly (.707), Professional Cut off, when at home (.672) and Difficulty in managing work and family (.614).

Factor 6: Family Issues Factor (2.758)

The sixth factor which was identified through Factor Analysis was Family Issues. Family holds an important place in a person's life. If an individual is happy and gets social support from his family, then it enhances work-life balance. If an individual is unhappy from family, it may create work related stress and conflicts. It includes four sub-factors viz. Work more to perform well (.746), IT usage at home (.690), Work stress due to family issues (.663) and Family Balance (.659).

Factor 7: Social Issues Factor (2.703)

The seventh factor identified through Factor Analysis was Social Issues. An individual can't live in isolation. There are certain social duties which he needs to fulfil in order to keep his life at peace and harmony. It includes four sub-factors viz. Management of family and social obligations easily (.827), Sufficient time for family (.819), Work from home after working hours (.595) and Manage dependent needs (.462).

Factor 8: Supportive Factor from Organization (1.486)

The eighth factor which emerged through Factor Analysis was Supportive Factor from organization. An employee to be committed and involved in the organization must require support from his organization which can enhance his performance and balance his work-life too. It includes two sub-factors viz. compressed working week in organization (.782) and Usage of E-mails owned by organization (.704).

Factor 9: Work Overload Factor (1.241)

The ninth factor emerged through Factor Analysis was Work overload factor. Work overload is playing a crucial factor in increasing the stress level and creating imbalance at work as well as in family. It includes two sub-factors viz. Remote Working (.662) and Difficulty in managing work (.579).

Factor 10: Individual Factor (1.977)

The tenth factor which was identified through Factor Analysis was Individual Issues. An individual is responsible for creating a proper balance between work and family if he is able to manage both the responsibilities and manage himself also. It includes three sub-factors viz. Proper rest and sleep (.782), Living family expectations (.644) and Individual creates border between work and family (.551).

Factor 11: Lack of Knowledge Factor (1.56)

The eleventh factor which was identified through Factor Analysis was Lack of Knowledge. Lack of knowledge is a factor which creates problem as individual is unaware about the issues that are emerging related to work-life balance in this changing scenario and how can IT help in creating a balance. It includes two sub-factors viz. No concept of WLB as an Individual (.803) and IT helps in border creation & balance between work and family (.757).

Correlation Analysis

Correlation analysis was applied in order to find out the association between information technology and determinants/factors explored related to work-life balance. When correlation was applied on the eleven factors of work-life balance, following results were obtained:

S. No.	Correlations Between	Value of Pearson Correlations	Level of significance	No. of Cases
1.	Information Technology and Social Factor	0.445	0.01	120
2.	Information Technology and Organizational Factor	-0.016	0.860	120
3.	Information Technology and Stress Factor	0.463	0.01	120
4.	Information Technology and IT Factor	0.872	0.01	120
5.	Information Technology and Work Issues Factor	0.379	0.01	120
6.	Information Technology and Family Issues Factor	0.502	0.01	120
7.	Information Technology and Social Issues Factor	0.384	0.01	120
8.	Information Technology and Supportive Factor from organization	0.570	0.01	120
9.	Information Technology and Work Overload Factor	0.448	0.01	120
10.	Information Technology and Individual Factor	0.390	0.01	120
11.	Information Technology and Lack of Knowledge Factor	0.399	0.01	120

The results of correlation shows the association of IT and factors of work-life balance, which clearly indicates that impact of Information technology on ten factors i.e. Social factor (.445), Stress Factor (.463), IT factor (.872), Work issues factor (.379), Family Issues factor (.502), Supportive factor from organization (.570), Work overload factor (.448), Individual factor (.390), lack of knowledge factor (.399) is positive at 0.01 level of significance. And the impact of information technology is having a negative correlation with the organizational factor (-.016).

Regression Analysis

Regression Analysis was applied in order to find the nature of relationship and result shows that Information Technology as an independent variable is related with the factors/determinants of work-life balance of software

professionals. R^2 is the square of this measure of correlation and indicates the proportion of the variance in the work-life balance and the value of R^2 (.630). Adjusted R^2 value gives the most useful measure of the success of our model and the value of adjusted R^2 (.627) respectively, which indicates that variation on the factors of work-life balance, is explained by underlying factors .i.e. Information Technology.

• Value of Beta

The beta regression coefficient is computed to make comparisons and to assess the strength of the relationship between Information technology and factors of work-life balance. The value of Beta coefficients was computed as (.794), which indicates that how strongly information technology is influencing the factors of work-life balance.

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.794 ^a	.630	.627	13.325	
a. Predictors: (Constant), ITWII					

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	52.298	5.436		9.620	.000
	ITWII	2.691	.190	.794	14.176	.000
a. Dependent Variable: AllFTOT						

Discussion and Conclusion

The data provides much information about the determinants of work-life balance. Social Support being the first factor with factor loading of (3.044) indicates that employees do require social support from family as well as from organizations in order to perform well and remain at harmony. The impact of IT on social

support (.445) is having a positive correlation which shows that those organizations where employees get social support, feel cared, and it reduces their stress level (Cohen and Wills, 1985, Hobfoll 1989 and Jex 1998). Researches also show that those employees who are capable of managing multiple roles, are likely to conserve resources for both the domains i.e. work and family (Allen, 2001 and Hammer et al, 2009).

Organizational factors appeared as the second factor with a loading of (3.19) indicating that organization must take initiatives for its employees on work-life balance as employees may not be aware about it. Impact of IT on Organizational factor was negative (-.016).

Highest factor loading is 3.767 that had significant impact on the work-life balance was Stress Factor. It means Stress acts as one of the factors which create problems in tackling work-life balance and indicates that the line between work and personal lives is blurring. Information technology has a positive impact on stress factor, as people are continuously engaged in checking their e-mails, even when they are at holiday, which is a clear source of work-related stress due to dependency and over usage of technology (Survey Report by Personnel Today, 2013).

Information Technology is the major factor with a loading of 3.533 and a key driver for enhancing the work-life balance of software professionals. Impact of IT on IT factors was found positive and highest among all factors (.872) i.e. with the usage of IT in home and workplace, it provide easy information flow and 24*7 connectivity, thereby allowing individuals to work even when they are absent physically in either of the domains (N. Chen, 2005; Perry et al., 2001; Venkatesh et al., 2003)

Next factors were work issues (2.791) and family issues (2.758). As an employee, an individual should be in a position to manage work-related issues and family-related issues for having a proper balance in his life. Impact of IT on work issues (.379) and family issues (.502) was found positive. Individuals who are able to manage roles and responsibilities of both the domains achieve work-life balance, as they know what resources should be used for which domains (Frone, 2003, Grzywacz, 2002).

The other two factors are social issues factor (2.703) and supportive factor from organization (1.486) which also contribute in work-life balance of an employee. The ability to manage social obligations, managing responsibilities from friends, community, family even at work and also support given by organization adds flexibility (Mc closkey and Riley, 1996) and helps in balancing work and life. IT has a positive impact on these two factors also (Swamy, 2007).

Work overload factor (1.241), Individual Factors (1.977) and Lack of knowledge (1.56) are the other three factors which influence work-life balance. Individual suffering from work-overloads suffers from problems like stress, imbalance, and mental illness. Work overload creates difficulty in managing duties from work and family, at the same time individual is unable to manage multiple roles in his life and without the knowledge of work-life balance, achieving WLB is not possible. Impact of IT is positive on all these three factors i.e. over usage of IT may lead to work-overloads (Chesley, 2005, Duxbury and Higgins, 2003, Gutek et al. 1991). Studies show the relationship between technology use and individual or family or well-being (Collins, 2001). Research shows that there are people who do not perceive technology as solution to communicate and coordinate, yet they use these technologies (Frissen, 2000). Thus, findings of this research shows eleven factors which have been identified related to work-life balance and the impact of information technology on each factor. Out of eleven factors, social support, Organizational factors, Stress factors, and IT factors are the major factors which affect the work-life balance of an individual.

Study Limitations

1. As the respondents, they are confused about the work-life balance issues, they were not probably objective when they studied and answered the questionnaire.
2. The study may be only applicable to the prevailing IT Sector in Indore region. Another factor worth mentioning is that the study may not represent the whole sample population, as relatively small sample size was utilized. Thus, biasness of the respondents should be taken into account.
3. One factor may be the environmental forces that exist which involve time constraint and limited resources.

Organizational Implications

“Organizations must ensure that there is a work life balance to their organizations, which will open the new paths for better performance, improved morale and results in higher job satisfaction, which will ultimately help to improve the organization's performance and profitability.”

While work demands fluctuate and deadlines are constantly changing due to many being driven by client service needs, this team strives to respond quickly to the emerging needs. Assistance should be provided to help employees find a balance between work and private life demands, in this ever-changing world of work. Strategies should be developed to deal with change and transformation, such as encouraging individuals to engage in physical activity and healthy lifestyles, but especially to express awareness of increased workloads and demands.

New technology has provided more flexible work practices but has also increased the speed at which information is shared and the expectation for responses, action and decision-making. Hours of work extend beyond the daily normal hours regardless of being able to adjust the hours within the 24-hour period, and therefore have generally been found to negatively impact on work-life balance.

Future Research Directions

The present study is an exploratory study dealing with the impact of IT on determinants of work-life balance and its dimensions in Indore city. Therefore, it is desirable to pursue further studies to understand the impact of IT on the Non-IT professionals taking into account the social and cultural dimensions. Another promising area of future research could be developing a psychometric and psychological tool to assess the dimensions of WLB issues based on demographics and provide advice accordingly. A need to develop a standardized scale on assessing the impact of IT on WLB could also be taken as a future research, to analyze up to what extent IT affects WLB and what initiatives organizations should take in order to enhance productivity at workplace and check the satisfaction level of the employees. Another research could be studied to find out the attitude of software professionals or employees and their acceptance or rejection of IT.

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