Effect of Office Automation on Enhancing Quality of Life of Employees in IT/Printing Industry

M. Bharanitharan[1*] , G. Madhumita[2]

[1] Research Scholar, School of Management Studies, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai, India, Email: bharanitharanresearch@gmail.com
[2] Associate Professor & Research Supervisor, School of Management Studies, Vels Institute of Science, Technology & Advanced Studies (VISTAS) Chennai, India, Email: madhu.sms@velsuniv.ac.in
*Corresponding Author

Abstract

The objective of this study was to investigate the association among office automation and staff members' quality of life and self-efficacy in Information Technology Parks / IT Companies and printing industry. The investigation was conducted in the field using correlational descriptive data collection technique keeping in mind the practical objective. The whole employees (N=50) of IT parks/printing industry were represented in the data population. Also, 384 individuals were randomly selected as the sample of the study, and the selection strategy of the study included Stratified Random Sampling and Morgan tables to estimate the sample size. According to the data of Cranach's alpha, the reliability of the questionnaire was evaluated by administering it to 30 publics. The results of work life office automation α=0.80, self-efficacy α=0.78, and quality questionnaire α=0.8 respectively, indicating the importance of the questionnaire. For inferential analysis of results and hypotheses using SPSS software version 22, Kolmogorov-Smirnov statistical models, linear regression, Shapiro-Wilk, Pearson coefficient were used. According to the results of linear regression, office automation does not significantly affect the self-efficacy of employees (p=0.19, t=0.142), but it significantly affects the quality of life of employees (P>0.001, For SQ (t)= 11.562,), and according to the coefficient of determination (R2=0.837). However, an agreed office automation analysis with reliability analysis is good.

Keywords: office automation, reliability, Cranach's alpha, regression and Kolmogorov-Smirnov

1. Introduction

Recent years of official communications and correspondence within organisations and financial systems have undergone a complete transformation has changed due to the rapid acceleration of environmental changes, continuing technological advancements, and the need for organisations to react effectively and quickly to such advancements [1]. Office automation is a method used to increase organizational efficiency through efficient management and use of organizational processes, automatic distribution of organizational communications, search of stored information, quick and timely client responses, and removal of paper from office communications process, appropriate control over users, licensing and maintenance of optimal knowledge, and immutable records. In addition, it is responsible for creating channels of communication between organizational members and those outside the organization. The employees are achieving their goal by the help of automation information system [2].

Office automation includes both formal and informal computerized systems that facilitate communication between people inside and outside the workplace [3] and it can be consider as a main important aspect in developing performance and increasing productivity [4]. According to a study conducted by Mohseni, various criteria influence human performance, including ease of access to information,

establishment of uniformity across all areas, speed of completion of tasks, and operational precision and accuracy [5]. Automated raises employee effectiveness as a consequence. According to Kay, 2004, the University of California conducted a study titled "Inspection and Design of Automation Systems". Increasingly, automation planning is used to optimize organizational levels, processes and costs in order to save money, time and labour [6]. Functional diagrams for the system, process, and product are needed for automation. According on the system's actions and behaviours, several structural processes are carried out in accordance with the concept of the automated system.

Sheikh Baklo et al. (2012) investigated the impacts of robotic process automation on productivity in their investigation, and found that office automation has an impact on successful use of time, customer care, and work accuracy, leading to increased productivity [7]. According to Sherifzadeh's research titled "Assessment of the Relationship between Automation and Organizational Performance," efficiency rises as levels of automation increase. Although both companies have similar levels of automation, there is a huge gap between them. This indicates that there is no significant performance difference between firms with a certain level of automation. Employee happiness rises as a result of increased automation levels. In a 2009 study, Sarafizadeh and Alipour looked at the impact of office. Office automation on aspects including efficiency, effectiveness and productivity in the

human services sector, but the success rate was not very good [8]. Additionally, the advancement of office automation occurred so recently that there was not enough time to conduct basic research or explore the effects. As a result, office automation has not received much attention.

Psychologists have recently thought about the psychological characteristics of workers in organizations. Professionals in organizational human behavior and social relations look closely at human characteristics to determine variables and actions to improve performance [9]. Therefore, management has begun to take into account quality of work life as a new indicator of employee satisfaction [10]. A state-of-the-art program called Excellence in Professional Life is committed to promoting employee satisfaction. Dehnavi (2013) examines the variables affecting organizational development and growth in the light of work life quality on the one hand and provides tips for increasing labour productivity and organization on the other hand [11]. Additionally, Self-efficiency is one of these traits that is discovered when attitude and achievement are being justified personal characteristics influence conduct (Asadi, 2009) [12]. The productivity and conduct are also impacted by changes in self-efficiency [13].

According to the previous literature, the self-efficiency and appropriate quality of life of an organization's employees have an impact on performance, productivity, and efficiency. The performance of computer technology can be significantly affected by other factors. Because of their involvement with patients and the public, workers play a significant role in government organizations such as healthcare teams, and their relevance will continue to grow. In addition, the use of computer technology and its widespread adoption has increased the demand for professional staff in health network organizations, as well as leading to automated systems that represent labour shortages, loss of skilled tradesmen, and economies of scale expansion of knowledge-based jobs. Due to the lack of literature and studies that can shed light on the social and economic effects of mechanization in the healthcare network, accurate statistics showing the value and rarity of automation have not been achieved. The purpose of this study was to determine the relationship between self-office automation and work life quality.

2. Materials And Methods

The present study has an imposed main objective and is correlational descriptive research in aspects of data collection and analysis. This occurs because it explains the status of different factors and their relationships, and it tests and clarifies the simultaneous relationship between two parameters using data analysis techniques.

Descriptive analysis of data was collected from the current state of IT technology parks in Coimbatore using Morgan sampling total sample size (n=384) revealed that 256 participants were required for the Morgan sampling table study. This study used stratified random sampling as its sampling strategy, and the Morgan table was used to calculate the

population size, with 256 participants randomly selected. As a result, 160 respondents responded, some of whom did not respond and were therefore invalidated. Two approaches were used to collect data: a google form method was used to generate research literature and a manual method was used to collect statistical data. Standardized questionnaires were used as data collection method. The reliability was measured by Cronbach's alpha. This statistic was generated using information from questions that assessed from the Team Leader, Service Manager, Quality Manager, and Proprietor. This statistic was generated using information from questions that assessed the quality of self-efficiency (α=78.0), working life (α=81.0), and office automation (α=8.0). These results show that the utilised questionnaires have a high degree of reliability.

The Kolmogorov- Shapiro-Wilk testing, confirmed factor analysis, path analytic hierarchy process, and multiple linear regression analysis were employed for data analysis. The Kolmogorov-Smirnov test was used to determine whether the data associated with each of the parameters had a normal distribution. The questionnaire's items and validated factor evaluation were used to assess the quantitative measurements of the collected data. This analysis examined the confirmability of the variables studied using the questionnaire's responses prior to initial development and the research hypotheses were tested using confirmatory factor analysis. A theoretical model can be tested using hierarchical linear modelling by examining the correlations between variables. Using this technique, the researcher can examine the data based on precise detection. The SPSS software was performed to analyze the research hypothesis in different statistics.

3. Result And Discussions

The present investigation of the questionnaire was developed using the results of an interview process in which managers and seniors recognized these differences in its basic structure, overall purpose and design. It is an "Attitudinal Assessment Questionnaire" that uses a Likert scale to measure respondents' attitudes toward advanced industrial automation in their port companies. conceptual validity or Validity method was used in the present investigation. Additionally, to evaluate the reliability of the survey questions, a pre-test was performed. As a result, 7 questionnaires were allocated, gathered and reliability analysis (Cronbach's alpha) was determined. Cronbach's alpha is shown in the following Table 1 and 2, and it is more than 80% which is considered for acceptable.

The results of this study showed that out of 384 individual respondents 154 were male or 60% of the population and 230 were female equal to 40% of the population. According to Table 1's data, 12.1% of respondents were 20–30 ages old, 32.1% were 31–40 ages old, 43.8% were 41–50 ages old, and 12.1% were 51–60 years old. Table 1 shows the reliability statistics analysis of different ages by Cronbach's Alpha techniques.

Cronbach's Alpha	Cronbach's Alpha on Based Standardized	N of Items
0.916	0.943	50

Table 1. Reliability Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.399	3.589	5.39	1.801	1.502	0.077	50

Table 2. Summary Item Statistics

Different descriptive statistics techniques such as incidence, proportion and mean have been used to interpret population information in the form of figures and tables. The 50 participants in this study are listed in Tables 3, 4 and 5. Statistical analysis: Complete correlation analysis was used to examine the study hypothesis. The following tables provide an overview of statistical analysis for research hypothesis testing:

Following are the results of the study related to its primary question to assess office automation will affect the ability of managers to make better decisions in the IT/Printing Industries. The use of industrial automation enables managers to make more accurate choices. The promptness of managers' decisions is enhanced by industrial automation. The use of process automation enables managers to make more cost-effective decisions. The use of industrial automation enables managers to make more accurate choices. The four-fold hypothesis, characterized by the standards of appropriateness, correctness, timeliness, and economy, cannot be refuted because there is no evidence to support it. The main ideas are that qualitative research never has an end, the results are always preliminary, and further study will show that the results are wrong. It was verified that the studies assessed the desired characteristics of the research by applying the necessary changes to the topics at different stages using the opinions and opinions of these experts. Before using the confirmatory factor approach to test the previous concept and hypothesis development, it was determined to what extent the items of the questionnaire could measure the independent variable.

Table 5 shows the normality test analysis results by Kolmogorov-Smirnova and Shapiro-Wilk techniques, which indicates the significance of the proposed statistical model. It is possible to use parametric tests. Pearson and regression are used to estimate the significance of testing this hypothesis. The Pearson test is inappropriate for ordinal and other categorical variables [15].

	N	Minimum	Maximum	Mean	Std. Deviation
B1	384	4	5	4.63	0.485
B2	384	2	5	4.53	0.53
B3	384	4	5	4.61	0.488
B4	384	4	5	4.48	0.5
B5	384	4	5	4.51	0.5
B6	384	3	5	4.46	0.515
B7	384	4	5	4.47	0.5
B8	384	2	5	4.4	0.662
B9	384	4	5	4.5	0.501
B10	384	3	5	4.56	0.537
B11	384	4	5	4.21	0.41
B12	384	4	5	4.28	0.449
B13	384	3	5	4.2	0.537
B14	384	4	5	4.27	0.444
B15	384	4	5	4.27	0.445
B16	384	4	5	4.2	0.399
B17	384	4	5	4.31	0.464
B18	380	4	5	4.23	0.422
B19	384	3	5	4.25	0.444
B20	384	3	5	4.32	0.477
B21	384	3	5	4.2	0.412
B22	384	3	5	4.26	0.586
B23	384	3	5	4.16	0.44
B24	384	4	5	4.36	0.482

B25	384	2	5	3.99	0.46
B26	384	3	5	4.14	0.512
B27	384	3	5	4.1	0.316
B28	384	2	5	3.62	0.865
B29	384	3	5	4.12	0.519
B30	384	1	6	5.26	1.292
B31	384	4	5	4.36	0.482
B32	384	1	5	4.81	0.848
B33	384	4	5	4.43	0.496
B34	384	4	5	4.5	0.501

Table 3. Descriptive Statistics

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
TE	0.193	367	0	0.825	367	0
SQ	0.344	367	0	0.684	367	0
AI	0.209	367	0	0.94	367	0
NF	0.174	367	0	0.922	367	0
SI	0.171	367	0	0.875	367	0

Table 4. Kolmogorov-Smirnova and Shapiro-Wilk technique tests of Normality

a. Lilliefors Significance Correction

There is a result (see distribution of the sample variance in Table 6) that allows a test to be done to assess whether the difference of the sample has a specified value when a samples of size n is drawn from a group with a normal distribution.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	53.832a	27	0.002
Likelihood Ratio	46.37	27	0.012
Linear-by-Linear Association	0.093	1	0.76
N of Valid Cases	384		

Table 5. Chi-Square Tests

a. 19 cells (47.5%) have expected count less than 5.

The minimum expected count is .94.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.846	9	1.427	2.141	0.026
Within Groups	249.339	374	0.667		
Total	262.185	383			

Table 6. ANOVA

	H.M	L.M	Cronbatch Alpha's	No of Items
Technology Innovation	4.63	4.4	0.927	10
Artificial Intelligence	5.26	3.62	0.729	10
Service Innovation	4.52	4.27	0.89	10
Service Quality	4.32	4.2	0.969	10
Non-Financial Office Automation	5.4	4.36	0.713	10

Table 7. Reliability Cronbatch Alpha's analysis

Table 7 shows that the Pearson Correlations among the variables, which indicates that the significant relationship between the office automation and employee's quality of life. Also relation between the variables are Technology Innovation (r=1, P<0.001), Artificial Intelligence (r=0, P=<0.384), Service Innovation ((r=0, P=<0.383), Service Quality (r=0, P=<0.380), Non-Financial Office Automation (r=0, P=<0.372).

		TE	SQ	AI	NF	SI
	Pearson Correlation	1	.195**	0.034	.604**	.706**
TE	Sig. (2-tailed)		0	0.51	0	0
	N	384	380	384	372	383
	Pearson Correlation	.195**	1	.329**	.343**	.532**
SQ	Sig. (2-tailed)	0		0	0	0
	N	380	380	380	368	379
	Pearson Correlation	0.034	.329**	1	.191**	.284**
AI	Sig. (2-tailed)	0.51	0		0	0
	N	384	380	384	372	383
	Pearson Correlation	.604**	.343**	.191**	1	.565**
NF	Sig. (2-tailed)	0	0	0		0
	N	372	368	372	372	371
	Pearson Correlation	.706**	.532**	.284**	.565**	1
SI	Sig. (2-tailed)	0	0	0	0	
	N	383	379	383	371	383

Table 8. Pearson Correlations

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.837a	0.701	0.699	1.86472

Table 9. Model Summary

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	3058.844	3	1019.615	293.229	0.000b
1	Residual	1303.947	375	3.477		
	Total	4362.792	378			

Table 10. ANOVA

The advantages of automated systems are clear, but there is considerable scope for achieving the goal. The first step to achieving a realistic perspective in assessing the results of office automation in organizations is to formalize useful variables for determining the degree of organizational progress and to monitor signs of organizational expansion as a result of putting advanced organizational systems in place. Table 12 shows the coefficients of variables significant between the all-office automation techniques. Figure 1 shows the dependent variables normalized value of both actual and predicted values. It shows the good agreed with the interaction between the variables.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.23	1.623		0.142	0.887
TE	0.593	0.026		22.472	0
1	0.3	0.026	0.647	11.562	0
SQ	0.159	0.029	0.353	5.456	0
AI			0.163		

Table 11. Coefficients

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: SI
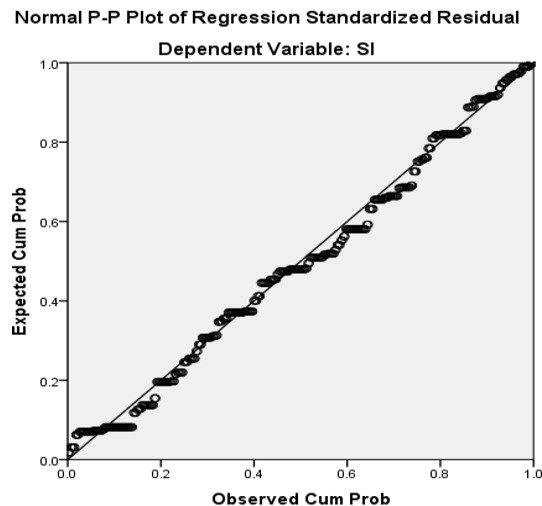
Figure 1. Predicted value

4. Discussion

The results suggest a significant positive relationship between the quality of life of young and senior employees in printing industry and information technology and automation in all its representations. Sarrafzadeh and Alipur (2009) conducted a study on the impact of robotic process automation on human productivity improvement and found that although there was a direct relationship between the deployment of office automation and these characteristics, the magnitude of the impact was not significant [14]. According to Sharifzadeh's research, employee satisfaction rises when levels of automation are raised. Automation avoids the uniformity of today's modern methods and variations in preferences for ways of doing things and interpretations of legal requirements [15]. Furthermore, regularity is achieved in performing activities that lead to improvement in organizational performance. Office automation systems are responsible for establishing personal communication between organizations and their employees and individuals outside the organization. This relationship helps to improve the operational collaboration and improve output efficiency, which raises individual fulfilment levels and improves people's quality of life. Improving quality of life creates a harder work and workplace environment at all organizational levels, which improves organizational performance.

Therefore, according to the effectiveness and efficiency of automation systems and the results of its dimensions including goal attainment, quality of decision making, reliability of data, the best companies improve the quality of daily life of employees, analysis and entry of new ideas. Personal responsibility and modernization of business processes increase the quality of life of employees. Thus, the main fact is that considering from authorities Team Leader, Service Manager, Quality Manager, and Proprietor. Improving the desirable employees and quality of life of their organization, and direct and indirect demands, and high office automation, increase the quality of life in the organization of team members with coordination and their employees.

5. Conclusion

The fairness, correctness, economy, and responsiveness of decision-making by managers and employees are significantly affected by automation systems. The first phase effects of automation are replacing human capital rather than labour. The advantage of expert knowledge is that it supports managers and employees in making wise decisions. In addition, by using automation and information technology to make employees more efficient and influential, working conditions can be improved and employees can be motivated, which raises job satisfaction and ultimately improves the quality of life of employees. According to the study conclusion, there is a strong beneficial relationship between mechanization and all its components and the quality of life of Network Solutions employees. However, regularity is achieved in performing tasks which leads to improvement in employee performance. Office automation systems are responsible for establishing

communication channels between organizations and their employees and individuals outside the organization. This correlation function helps improve the efficiency of integration and output, which raises personal satisfaction levels and improves people's quality of life.

References

[1] Poczwardowski, A., Barott, J. E., &Henschen, K. P. (2002). The athlete and coach: Their relationship and its meaning. Results of an interpretative study. International Journal of Sport Psychology, 33, 116–140.

[2] Ranjijifrodi, Nima. (2008). study on improvement of management decisions office of Vice-Governor and, Guilan a Commercial Management, Azad University of Rash.

[3] Rahimi Kia, Amin et al. (2010). investigated the use of automation in Khorramabad municipal employee productivity, urban management, 27, 99-124.

[4] Johnsrsud, Linda K, Tabta, Lynn N. (2006), "Quality of Faculty Work Life". The University of Hawaii. Office the Vice President for Academic Planning Policy.

[5] Mohseni, Nasser. (2006). Office automation efficacy of organizational performance, Thesis Master of Public Administration, Faculty of Management and Accounting, Shahid Beheshti University.

[6] Kai. (2004), study and design of automation systems, university of California.

[7] Sheikh Baklo, S. et al. (2012). examines the impact of automation on performance. Journal of Management, 9, 53-58.

[8] Sarrafzadeh, A and Alipur, S. (2009). A survey effect of office automation on human resources productivity. Journal of Management Development and Transformation 3, 17-24.

[9] Mirzapour, A.A. (2010). the relationship between motivation and commitment of volunteers in the tenth Sport Cultural Olympiad students across in Iran, Sport Management master's thesis, University of Mazandaran.

[10] Armagan, J. (2012). Work-life quality and efficacy of staff in the Department of Physical Education in Western Azerbaijan province, a Master's thesis, Islamic Azad University of Boroujerd.

[11] Dehnavi1, A, et al. (2013). Perceptions of coaching behavior and quality of work life in athletes competing in Iran track and field league 2012-13. European Journal of Experimental Biology, 2013, 3(2):6-12.

[12] AsadiMoones, (2009) Voliditation of Language and Vocabulary Learning Self- Efficacy Questionnaires for Iranian High School Students And The Relationship Between Their Self-Efficacy And Passive And Productive Vocabulary Knowledge. A.M. Thesis, Ferdosi University.

[13] Kamkari, K. (2013). Standard questionnaire of self-training, master's thesis, central Tehran branch, Islamic Azad University.

[14] Sarrafzadeh, A and Alipur, S. (2009). A survey effect of office automation on human resources productivity. Journal of Management Development and Transformation 3, 17-24.

[15] Beck, H. (2008). Richard, Wendy Pritchard "management of developments and innovations" translated by Mehdi Iran NejadPayrizi (Tehran, publishing of Modiran, 2008).