VOL. 4, NO. 2, March 2015 ISSN 2307-2466
International Journal of Economics, Finance and Management

http://www.ejournalofbusiness.org

Experiences with Information System for Employee Performance: A case of Royal Malaysia Custom Department (RMCD)

[1] ZuhdiAbd Zakaria, [2] Herman Shah Anuar, [3] Zulkifli Mohamed Udin
[1] Kastam Di Raja Malaysia (RMCD), Ipoh, Perak, Malaysia.
[2,3] School of Technology Management and Logistics, UUM College of Business, University Utara Malaysia (UUM), Sintok, Kedah, Malaysia
[1]zuhdikdrm@yahoo.com, [2] herman@uum.edu.my, [3] zulkifli@uum.edu.my

ABSTRACT

This paper investigates factor analysis of Information Systems Success towards Employee Performanceof Royal Malaysia Custom Department (RMCD). The results of this paper were based on statistical output derived from the Statistical Package for Social Sciences version 19. The survey method was used for the study, focusing on executive level (Individual level) of RMCD as the unit of analysis. Respondents were executives' level who had served the organisation more than five years. This indicates that their in-depth and sufficient knowledge about information system success of RMCD. From this study, it was revealed that the four dimensions of Information System success contribute significant degree of relevance during the dimension reduction process. These dimensions include system quality, information quality, user perception, and user satisfaction. It also indicates that the four dimensions have an effect towards employee performance. The paper reveals that if the four dimensions of information systems success are well coordinated, it will contribute to the betterment of employee performance in the organisation. When information system successes are well managed, being assessed accordingly and issue arises are addressed in wisely manner, it will boost up the productivity, thus improving the employee performance.

Keywords: *Information system success, employee performance, Royal Malaysia Custom Department (RMCD).*

1. INTRODUCTION

The Malaysian economy is totally dependent on the collection of taxes. Taxation in Malaysia is classified into two forms of taxation as direct taxes and indirect taxes. Managing and responsibility for the collection of indirect taxes in Malaysia is assigned under the Royal Malaysian Customs Department (RMCD), which includes local sales taxes and import sales tax, service tax, import duties, and vehicles levy. On the other hand, the Inland Revenue Board (IRB) is the government agency responsible for managing the collection of direct taxes, including income tax (individuals and businesses), cooperation income tax and petroleum income tax.

Tbale 2.0 shows the total Malaysian Federal Government Revenue based on type of tax collection by the comparison from 2008 to 2009.

Table 1: Total Malaysian Federal Government Revenues 2007 and 2008

	TAX TYPE	YEAR	
		2008	2009
		(RM, Billion)	(RM, Billion) and Percentage
1.	Direct Tax	82.138	78.375 (49.4%)
2.	Indirect Tax	30.760	28.129 (17.7%)
3.	Non-Tax Revenues	46.896	52.135 (32.9%)
Total		**159.794**	**158.639 (100%)**

Source: Malaysia Federal Government Treasury Annual Economic Report, 2008 and 2009

Revenue from the tax will be used for infrastructure development, including education, welfare, public safety and public service facilities by the government of Malaysia. Tax is the basis for the country's main source of income. Taxable income has a significant contribution of about RM106.504 billion (67.1%) compared with non-tax revenues is RM52.135 billion (32.9%).

Customs Department has been given the trust and mandate to collect taxes on behalf of the Malaysian government. Thus, Royal Malaysian Customs agency plays an important role for economic growth. The agency is the only government agency that collects indirect taxes in Malaysia. In fact, it is a second-largest tax collector agency's proceeds of the Inland Revenue Department. Figure below shows the RMCD revenue base on tax types for the year 2008 and 2009.

Table 2: RMCD Revenues Base on Tax Types for year 2008 and 2009

	Tax / Duties	2008		2009	
		RM / Billion	% Percentage	RM / Billion	% Percentage
1.	Export Duties	2.779	9.03	1.152	4.09
2.	Import Duties	2.635	8.56	2.114	7.51
3.	Excise	10.683	34.73	10.068	35.80
4.	Sales Tax	8.374	27.22	8.603	30.59
5.	Service Tax	3.345	10.87	3.344	11.89
6.	Other Tax	2.944	9.57	2.847	10.12
Total		30.76	100.00	28.12	100.00

Source: Malaysia Federal Government Treasury Annual Economic Report, 2008 and 2009

Several studies have been undertaken in the field of information system mainly to identify and investigate the factors that influence on the success of the system. There are several concerns about its success as well as the strategies to be adopted in the implementation of systems.

With the emergence of information and communication technologies (ICTs), it is possible to improve efficiency and effectiveness of internal administration within government and to re-locate government service from government offices to locations closer to the citizens.

Gichoya (2005) categorized the factors influencing the development of ICT in government to be a factor in the success and failure factors. He subsequently was categorized as well, driver enablers, barriers or inhibitors. The results of the study showed that the factors that encourage or reinforce the successful development of an ICT project is depending on the vision and strategies, government support, external and donor support, increasing customer expectations, technological change, modernization, and globalization.

Employee impacts are supposed to be impact of information on user behavior (DeLone& McLean,1992) and has been used in many of the previous success models (e.g: DeLone& McLean,1992; Farhoomand& Drury, 1996; Molla& Licker, 2001). Millman&Hartwick (1987) studied the effect of IT in relation to an employee's work and discovered that middle managers perceived the office automation is beneficial in improving their work and also makes their job more satisfying.

Obviously, information systems play an important role in most work processes. In a lot of work, employee work behavior, performance is closely related to the use of technology-based systems. However, there was an argument that the use of technology in the process of works threatening the traditional view of performance where performance is conceptualized as a behavior completely under the control of human (Hesketh& Neal, 1999; Campbell, 1990).

2. RESEARCH METHODOLOGY

This study was conducted through a survey targeting executive level of the Royal Malaysia Custom Department (RMCD). It was design to determine the external and internal factor that mediates the Information System Success toward the operational performance of the department.

The process of sampling began with the identification of the population. The population refers to a whole group of people or organization that is of interest to the researcher (Sekaran, 2005). The size of the sample depends on the accuracy required, the heterogeneity of the sample, the number of variables in the research, and the statistical tools that are appropriate (Hussey & Hussey, 1997; Neuman, 1997). The sample was chosen from the population of executive level officers of RMCD.

The population for the total executives of RMCD were 3500 and it was obtained from the Directory of Royal Malaysian Custom Department and Malaysian Civil Servant Directory (SPA, 2013). According to a statistical table produced by Krejcie and Morgan (1970), a population of 3500, with the margin error of 5%, requires a minimum sample size required to be 234. However, with the confidence level of 95%, confidence interval 9.56, the sample size needs to be greater than 120 (Survey system, 2012). In this study, the returned survey questionnaire was 138, but only 102 were usable, as the rest were incomplete due to lots of missing data.

According to the literature review, quality of respondents is an important factor that determines whether the required data can be obtained or otherwise. Not all individuals in the RMCD know about the IS success implemented, even if they work in the department. Particularly when discussing about IS success, not all officers know about it comprehensively. Hence, the survey targets RMCD personnel starting from executive level and above.

The sampling frame can be defined as a list of population elements from which a sample can be drawn. There are four basic criteria that an appropriate sampling

frame should meet, which are (Cooper & Schindler, 1998):

- The frame contains a list of member defined population,
- The frame should be up-to-date and complete,
- the frame element is unique and not repetitive, and
- The frame should contain information to stratify the sample.

The latest copy obtained from Directory of Royal Malaysian Custom Department and Malaysian Civil Servant Directory (SPA, 2013) for this research contains information that is reliable and up-to-date. It provides the position and officers contact details required for the survey purpose. From a literature review on manufacturing research done in the Southeast Asian context (Boon-it & Paul, 2006; Thi, 2006), the average successful response rate is relatively low, between 15% and 22%.

Multi-item scales adopted from prior studies for the measurement of the construct was used to test the hypotheses above. A five-point Likert scale with end points of strongly disagree (1) and strongly agree (4) was used to measure the 90 items. The survey sought data on many components of system quality, information quality, user perception, user satisfaction and effects of information system success RMCD towards employee performance.

3. RESULTS

3.1 Dependent Variable–Effects of Information Success RMCD towards Employee Performance (D)

For the dependent variable of Effects of Information Success RMCD towards Officer Performance, factor analysis was performed to verify the suitability for all the factors listed. The total items measuring these dimensions were 11 items. However, after considering all the criteria discussed before, factor analysis produced only one factor. None of the factors were deleted because they met the criteria. The total items remaining were 11 items. As shown in Appendix 7.1, all items had factor loadings above .50 on one factor, and .35 or lower on the other factors.

The eigen values for operational performance factor was greater than one. All factors have factor loading of more than .5, which means all factors fulfilled the requirement. There were no factors eligible to be deleted. The Kaiser-Meyer-Olkin (KMO) value was .920 and Bartlett's test of sphericity was significant. The one factor extracted from the factor analysis was named Effects of Information Success RMCD towards Officer Performance.

The factor was defined by 11 items related to Effects of Information Success RMCD towards Officer Performance.

Items
1. Information systems RMCD help in improving job performance
2. I often do better than what I expected
3. IS improve the quality of decisions made by me
4. IS has enhanced the quality of the work that I do
5. IS helps me make decisions effectively,
6. IS helps RMCD to increase its productivity
7. With IS, I do not need to do the job over and over again
8. IS helps to improve the arrangements for me to identify problems as well as the ability to solve them
9. IS enhance my ability to complete tasks within a specified time
10. IS systems to be positive and significant in my daily tasks
11. IS of RMCD have a positive impact on me.

3.2 Mediating Variable– System Quality (C1)

After performing the factor analysis on the first Mediating Variable -System Quality, it produced one dimension. The total number of items measuring system quality was 7 items. This dimension was analysed using factor analysis to check for its validity. Using most of the criteria discussed before, the analysis extracted one dimension. In the process of getting this one dimension, four items had to be removed due to low communality value. Appendix 7.2 presents the result of factor analysis for this independent variable of the study. The items were:

Items
1. circulars of information systems easier to use
2. it is user friendly
3. it is easy to learn
4. it enables user to become more proficient
5. it was design to meet customer needs
6. it operates efficiently
7. its' reliability is at convincing level

The Eigen values for factor was greater than one. The Kaiser-Meyer-Olkin (KMO) value was .871 and Bartlett's test of sphericity was significant. The one factor extracted from the factor analysis was named System Quality.

3.3 Mediating Variable– Information Quality (C2)

The second independent variable was Information Qualityand consisted of 9 items. These include:

Items
1. IS produce clear information
2. IS produces accurate information
3. IS produces sufficient information
4. IS produces information that is constantly updated
5. IS produces very useful information
6. IS produce quality output format
7. IS produces information content meets the needs of the officer
8. IS produce information within the time needed
9. IS produce reports as needed.

From the factor analysis table in Appendix 7.3, only one item (C2.1) that should be deleted since its value is less than 0.7. Whereas, the eigen values for factor external R&D was greater than one. The Kaiser-Meyer-Olkin (KMO) value was .900 and Bartlett's test of sphericity was significant. The one factor extracted from the factor analysis was named Information Quality.

3.4 Mediating Variable-User perception (C3)

The third moderating variable was user perceptionand consisted of 6 items. These items includes

Items
1. information system of RMCD is very easy to use
2. IS facilitates the necessary information
3. IS make officers became more skilled, the system is easy to learned
4. many benefits gained from the use of RMCD information systems
5. IS provides useful among officers job performance
6. IS produces reports as needed by officers.

From the factor analysis table in Appendix 7.5, the eigen values for factor user perception was greater than one. The Kaiser-Meyer-Olkin (KMO) value was .878 and Bartlett's test of sphericity was significant. The one factor extracted from the factor analysis was named user perception.

3.5 Mediating Variable -User satisfaction (C4)

The fourth moderating variable was user satisfactionand consisted of 6 items. These items includes

Items
1. Satisfied with the quality of RMCD information systems
2. Satisfied with the performance of RMCD information systems
3. The circulars of information systems is efficient
4. IS circulars information system is effective, it meets the requirements of information processing tasks
5. responsibilities related to officers
6. Satisfied with the information systems used by RMCD.

From the factor analysis table in Appendix 7.6, the eigen values for factor user perception was greater than one. The Kaiser-Meyer-Olkin (KMO) value was .855 and Bartlett's test of sphericity was significant. The one factor extracted from the factor analysis was named user satisfaction.

3.6 Factor Analysis Summary

The reliability test for each dimension emerged after factor analysis was performed. Table 3.1 shows the results of reliability test. Cronbach's alpha coefficient is a widely adopted as a measure of reliability. A value of 0.7 in the Cronbach's alpha is considered adequate to ensure reliability of the internal consistency of the questionnaire (Nunnally, 1978). Therefore, the scales were satisfactory for subsequent analysis. Note that there were a few items that had been deleted. The item was C2.1:

C2.1	Information system of RMCD produces clear information.

The reason for deletion was that the instrument of this study would have achieved a higher reliability. The SPSS output analyses for the four variables are provided in Appendix 7.

Table 4: Factor analysis summary

Variables	No. of items	No. of items deleted	Cronbach's Alpha
Dependent variable- D	11	-	.920
Mediating variables -			
C1	7	-	.871
C2	9	1	.900
C3	6	-	.878
C4	6	-	.855

4. DISCUSSION

The variables discussed above best matched the research framework. Therefore, the research variable fulfilled its validity and reliability criteria. Although there have been previous work on effects of information success towards employee performance, system quality, information quality, user satisfaction, and user satisfaction to develop the scales and relationship of certain operational dimensions, this current research has developed a comprehensive measurement model that links all the five dimensions.

The empirical findings by validating the variables simultaneously has culminated in a comprehensive framework from the conceptual models to a managerial framework of effects of information success towards employee performance, system quality, information quality, user satisfaction, and user satisfaction thus potentially providing practitioners the ability to

become more flexible in meeting organisation and employee performance.

When IS success get positive remarks from the employee performance, this creates value-added characteristics to the organisation. At the same time, employee performance would be able to improve organisational efficiency. The positive result from relationship of system quality, information quality, user satisfaction, and user satisfaction toward effects of information success on employee performance signals a different role played by employee performance in that relationship. Thus it is expected that there is some mechanism that could yield in better employee performance from IS success within that relationship.

Secondly, from the survey, the finding has added to the body of knowledge by providing empirical evidences according to the research framework, which is supported by the hypothesised conceptual models. Since the empirical evidence was acquired from RMCD executives, this model can be replicated and tested on other organisations, companies, government agencies or any other industry. This adds value to future researcher as foundation and insights for further study on IS success towards employee performance.

Thirdly, the measurement instruments have been rigorously tested and validated. The instrument developed in this research captures five important aspects, namely IS success towards employee performance that captures organisation IS performance, system quality dimensions that could evolve into IS success, information quality that captures how it contribute to the organisation IS success, user perception in supporting IS success, and user satisfaction that creates value to IS success.

5. CONCLUSION

One key contribution from this research is the combination of the four dimension of IS success towards its effects on employee performance that offers a new perspective to the field of Information system practices. Particularly, none other studies being done in evaluating the effects of the implementation of IS success towards employee performance in government agencies. This creates value to the implementation of any information system of this organisation.

Future researchers on information system practices can leverage these measurement tools for IS success or employee performance studies, complementing the earlier problem statement on the RMCD. The review on the implementation of IS success applied by the government agencies can become as a benchmark that could create a guideline for the future practices of other companies, government agencies, or any other industries.

REFERENCES

[1] Boon-itt, S., &Himangshu, P. (2006). A study of supply chain integration in Thai automotive industry: A theoretical framework and measurement. Management Research News, 29(4), 194-205.

[2] Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette& L. M. Hough (Eds.), Handbook of industrial and organizational psychology 1, 687–732.

[3] Cooper, D. R., & Schindler, P. S. (2001). Business research methods. New York: Irwin McGraw-Hill.

[4] DeLone, W.H., & McLean, E. (1992). Information systems success: The quest for the dependent Variable, Information Systems Research, 3(1), 60-95.

[5] Farhoomand, A. F. & Drury, D. H. (1996). Factors influencing electronic data interchange success, Database for Advances in Information Systems, 27(1), 45-57.

[6] Gichoya, D. (2005). Factors Affecting the Successful Implementation of ICT Projects in Government, The Electronic Journal of e-Government, 3(4), 175-184.

[7] Hesketh, B. & Neal, A. (1999).Technology and performance.In D. R. Ilgen & E.D. Pulakos (Eds.), The changing nature of performance. Implications for staffing, motivation, and development, 21–55. San Francisco, CA: Jossey-Bass.

[8] Hussey, J., & Hussey, R. (1997).Business research: A practical guide for undergraduate and postgraduate students. New York: Palgrave.

[9] Krejcie, R.V., & Morgan, D.W. (1970).Determining sample size for research activities. Educational and psychological measurement, 30, 607-610.

[10] Neuman, W. L. (1997). Social research methods. Qualitative and quantitative. NY: John Wiley and Sons Inc.

[11] Malaysia Federal Government Treasury Annual Economic Report, 2008 and 2009

[12] Molla, A., & Licker, P.S. (2001). E-Commerce System Success: An Attempt To Extend And Respecify. The Delone and McLean Model of IS success. Journal of Electronic Commerce Research, 2(4), 131-141.

[13] Millman, Z. &Hartwick, J. (1987).The Impact of Automated Office Systems on Middle Managers and Their Work.MIS Quarterly, 11(4), 479-490.

[14] Nunnally, J. (1978) Psychometric theory. New York: McGraw Hill.

[15] Sekaran, U. (2005). Research methods for business. A skill building approach(4th ed.).

[16] Survey system (2012).Survey system. Retrieved on February 13, 2012, from http://www. surveysystem.com/sscalc.htm

[17] SPA (2013).SuruhanjayaPerkhidmatanAwam Malaysia.

[18] Thi, L. S. (2006). Electronic commerce adoption among manufacturing SMEs in Malaysia. Unpublished PhD dissertation, University Utara Malaysia.

APPENDIX

Appendix 7.1: Result of the Factor Analysis for System Quality.

Component Matrix[a]

	Component
	1
C1.1	.868
C1.2	.892
C1.3	.748
C1.4	.841
C1.5	.874
C1.6	.843
C1.7	.841

Extraction Method: Principal Component Analysis.

a. 1 components extract

Appendix 7.2: Result of the Factor Analysis for Information Quality.

Component Matrix[a]

	Component
	1
C2.1	.207
C2.2	.826
C2.3	.865
C2.4	.896
C2.5	.781
C2.6	.822
C2.7	.871
C2.8	.850
C2.9	.808

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
C1.1	.868
C1.2	.892
C1.3	.748
C1.4	.841
C1.5	.874
C1.6	.843
C1.7	.841

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Appendix 7.4

Result of the Factor Analysis for User perception.

Component Matrix[a]

	Component
	1
C3.1	.853
C3.2	.778
C3.3	.895
C3.4	.840
C3.5	.887
C3.6	.887

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Appendix 7.5
Result of the Factor Analysis for User Satisfaction.

Component Matrix[a]

	Component
	1
C4.1	.912
C4.2	.915
C4.3	.903
C4.4	.931
C4.5	.829
C4.6	.936

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
C4.1	.912
C4.2	.915
C4.3	.903
C4.4	.931
C4.5	.829
C4.6	.936

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Appendix 7.6

Result of the Factor Analysis for Effects of Information Success RMCD towards Officer Performance.

Component Matrix[a]

	Component
	1
D1	.828
D2	.861
D3	.867
D4	.893
D5	.865
D6	.859
D7	.770
D8	.845
D9	.852
D10	.910
D11	.825

Extraction Method: Principal Component Analysis.
a. 1 components extracted.