INCREASING THE ADOPTION OF PROJECT MANAGEMENT BEST PRACTICES IN JABATAN KERJA RAYA

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A capstone project report submitted in partial fulfilment of the requirements for the award of the degree of

Master of Project Management

Faculty of Civil Engineering Universiti Teknologi Malaysia To my beloved husband, children, family and friends.

Thanks for your never ending love and strong support.

May Allah S.W.T. bless you.

ACKNOWLEDGEMENT

First of all, in the name of Allah, the Most Gracious and the Most Merciful, Alhamdulillah, all praises to Allah for the strengths and blessing to complete this capstone project report. Thank you to my family and friends for their prayers and continuous support during my years of study.

I would like to express my sincere appreciation to my supervisor, Dr. Siti Uzairiah Binti Mohd Tobi, for encouragement and continued guidance to make this capstone project report a success. Not forgotten to my JKR Supervisor, Dr Hannerita Binti Mohamad Zainal for assisting me in giving information and advices.

I am also indebted to Jabatan Kerja Raya Malaysia (JKR) for giving me an opportunity to further my study in Master of Project Management and also funding my study. I wish to express my sincere thanks to all JKR officers who had participated in the survey. Their contributions are very much appreciated.

I would also like to dedicate a special thanks to my classmates and colleagues who had provided assistance at various occasions. Their views and tips are useful indeed.

ABSTRACT

A good project management practices will save cost and improve the chances of completing the project on time or ahead of schedule. Poor project management in any project phases will contribute to delays, cost overrun and failure to perform the quality expectation by the customers. Tools and techniques for project management best practices such as systems, guidelines, manuals, templates and training modules had been developed by Jabatan Kerja Raya (JKR) and expected to be adopted by all the staff for the government project implementation. Hence, this paper presents a comprehensive study on the implementation of project management best practices in JKR projects. The aim of this study is to increase the adoption of project management best practices in JKR project implementation towards excellent project delivery and to achieve the following objectives; (1) identifying the acceptance level of project management best practices in JKR, (2) assessing the adoption rates of project management best practices in JKR and (3) establishing factors to increase adoption of project management best practices in JKR. A structured questionnaire was used as the main tool and distributed to various respondents from JKR staff which includes Head of Project Team (HOPT), Head of Design Team (HODT) and Superintendent Officer (SO) at multiple branches in JKR. From the 335 distributed surveys, 93 responses were collected. The findings showed that acceptance of project management best practices as a general are at the high level but the adoption rates are at the medium level. The top management support and commitment, good leadership of senior management and appointing a project consultant was ranked the top factors that will increase the adoption project management best practices in JKR project implementation, hence improving the project delivery system.

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ABSTRAK

Amalan terbaik pengurusan projek akan menjimatkan kos dan meningkatkan peluang untuk menyiapkan projek tersebut pada masa yang telah ditetapkan atau lebih awal daripada jadual. Alat dan teknik amalan terbaik pengurusan projek seperti sistem, garis panduan, manual, template dan modul latihan yang dibangunkan oleh Jabatan Kerja Raya (JKR) telah disasarkan untuk digunapakai oleh semua kakitangan bagi pelaksanaan projek kerajaan. Oleh itu, kajian ini membentangkan mengenai pelaksanaan amalan terbaik pengurusan projek dalam projek-projek JKR. Tujuan kajian ini adalah untuk meningkatkan penggunaan amalan terbaik pengurusan projek dalam pelaksanaan projek JKR ke arah penyampaian projek yang cemerlang dan untuk mencapai objektif-objektif seperti berikut; (1) mengenal pasti tahap penerimaan amalan terbaik pengurusan projek di JKR, (2) menilai kadar penggunaan amalan terbaik pengurusan projek di JKR dan (3) mengenalpasti faktorfaktor yang dapat meningkatkan penggunaan amalan terbaik pengurusan projek di JKR. Soal selidik berstruktur digunakan sebagai alat utama dan diedarkan kepada responden yang terdiri daripada kakitangan JKR termasuk Ketua Pasukan Projek (HOPT), Ketua Pasukan Rekabentuk (HODT) dan Pegawai Penguasa (PP) di pelbagai cawangan di JKR. Daripada 335 kajian diedarkan, 93 maklumbalas telah dikumpulkan. Hasil kajian menunjukkan bahawa tahap penerimaan amalan terbaik pengurusan projek terbaik adalah pada tahap yang tinggi tetapi kadar penggunaan adalah pada tahap yang sederhana. Sokongan dari pengurusan atasan serta komitmen, kepimpinan yang baik daripada pengurusan kanan serta pelantikan perunding projek berada di kedudukan teratas bagi faktor-faktor yang dikenalpasti akan meningkatkan penggunaan amalan terbaik pengurusan projek dalam pelaksanaan projek JKR, dengan itu dapat meningkatkan sistem penyampaian projek.

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LIST OF ABBREVIATIONS

JKR Jabatan Kerja Raya

HODT Head Of Design Team

HOPT Head Of Project Team

SO Superintendent Officer

SPSS Statistical Package For Social Sciences

PMBOK Project Management Book Of Knowledge

PROKOM Cawangan Pengurusan Projek Kompleks

CPM Critical Path Method

RII Relative Important Index

VM Value Management

RMP Risk Management Plan

PMP Project Management Plan

ACAT Acquisition Categorisation

GN Gerbang Nilai

PHC Project Health Check

SKALA Sistem Kawal Lapor Dan Selia

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CHAPTER 1

INTRODUCTION

1.1 Background Of The Study

Jabatan Kerja Raya (JKR) is a technical agency in Malaysia with over a century's experience has been entrusted to implement development projects and infrastructure maintenance across the country such as government building, roads, airports, jetty and others. The clients of JKR are all the government ministries, departments, authorities and states. JKR always strive to provide the best service to the customers by ensuring the organization running efficiently and effectively in order to achieve its objectives, vision and mission.

Project Management is one of JKR core business. JKR is towards outstanding project delivery by inculcating project management best practices in JKR projects implementation. JKR have developed products such as systems, guidelines, manuals, templates, training modules and others to increase the adoption of best practices in project delivery system.

The project management best practices for JKR project implementation had been introduced so that it can be adopted in the organization. These products will ensure that the project management best practices are standardized and provide consistency in the ways projects are managed for effective project delivery.

1.2 Statement Of The Problem

Delays, failure to perform to the quality expectations and cost overrun are some issues that have been identified for government projects under the 9th Malaysia Plan. Inefficient and ineffective project management is one of the main reasons because the same mistakes are repeated by the new staff and even by the senior staff who are not aware of the right procedure because a common practice is not necessarily the best practice.

JKR has identified the practice gaps and close them with the implementation of project management best practices. The project management best practices developed by JKR such as Project Management Plan, Value Management, Project Scheduling and Risk Management Plan are tools and techniques that expected to be adopted by JKR staff for the government project implementation.

The tools and techniques of best practices has been introduced and exposed to JKR staff through implementation of awareness program, training courses and workshops. The application of these tools and techniques will guide the JKR staff towards better chance of project success.

Under the 10th Malaysia Plan, the government project implementation is seen as facing the same issues in completing the projects. Many statements in the newspapers have been highlighted regarding these issues. It seems unclear how well the acceptance level and commitment by JKR staff in adopting the project management best practices that have been developed by JKR. Hence, the acceptance level and commitment by JKR staff in adopting the project management best practices is still in question.

1.3 Aim Of The Study

To increase the adoption of project management best practices in JKR project implementation towards excellent project delivery.

1.4 Research Question

Followings are the research questions for this study;-

- a) What is the current acceptance level of project management best practices in JKR?
- b) What are the adoption rates of project management best practices in JKR?
- c) What factors influence the adoption of project management best practices?
- d) How to increase the adoption of project management best practices in JKR?

1.5 Objectives Of The Study

To achieve the aim of the study, the following objectives have been identified;-

- a) To identify the acceptance level of project management best practices in JKR.
- b) To assess the adoption rates of project management best practices in JKR.
- c) To establish factors to increase adoption of project management best practices in JKR.

1.6 Scope Of The Study

To simplify and narrow the field of study, several scopes of the study have been determined to ensure the objectives are achievable. The scope of the study will focus on the following items;-

- a) This study will look at the acceptance level, adoption rates and factors to increase the adoption of project management best practices developed under the JKR's strategic plans.
- Analysis of the study will be on the project management best practices tools and techniques that have been developed by JKR. This study will also focus on an existing project management best practices in JKR which is Project Management Plan (PMP). PMP had been developed to be utilized at the most phases of project implementation and closely related to the main constraints of project management which is time, cost and quality.
- c) All respondents will come from JKR staffs which include the Head of Project Team (HOPT), Head of Design Team (HODT), Superintendent Officer (SO) at multiple branches in JKR.

1.7 Significance Of The Study

i) For JKR

The study will assist JKR to improve their strategies so that the project management best practices can be widely practiced among JKR staff to enhance the project delivery.

ii) For JKR staff

The study will manage the JKR staff's expectation and needs in tools and techniques for project implementation.

1.8 Summary

This chapter explained on the overview of this study. Furthermore, it explains on the problem statement, aim, objectives and scope of the study.

REFERENCES

- Abdullah, W., Maimun, W., & Ramly, A. (2007). Does successful project management equates to project success.
- Ajelabi, I., & Tang, Y. (2010). The Adoption of Benchmarking Principles for Project Management Performance Improvement. *International Journal of Managing Public Sector Information and Communication Techniques*, 1(2), 1-8.
- Alpert, S. A., & Hartshorne, R. (2013). An examination of assistant professors' project management practices. *International Journal of Educational Management*, 27(5), 541-554.
- Ahmad, M. O., Markkula, J., & Oivo, M. (2012). Factors influencing the adoption of e-government services in Pakistan. In *Proceedings of the 9th European, Mediterranean & Middle Eastern Conference on Information Systems*.
- Ashton, C. (1998). Measures Of Best Practices. *Measuring Business Excellence*, 2(2), 36-41.
- Atkinson, R. (1999). Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria. *International journal of project management*, 17(6), 337-342.
- Attarzadeh, I., & Ow, S. H. (2008). Project management practices: the criteria for success or failure. *Communications of the IBIMA*, 1, 234-241.
- Bakar, A., Hassan, A., Abd Razak, A., Abdullah, S., & Awang, A. (2009). Project management success factors for sustainable housing: a framework
- Bendell, T., Boulter, L. and Kelly, J. (1998), *Benchmarking for Competitive Advantage*, Pitman, London.
- Cawangan Pengurusan Projek Kompleks, *Business Plan 2013-2014*, 2012
- Cawangan Pengurusan Projek Kompleks. (2011, September 14). *Initiative*, Retrieved from https://www.jkr.gov.my/prokom/

- Chapman and Ward (2004), "Why Risk Efficiency is the Key Aspect of Best Practice Projects, International Journal of Project Management 22 pp. 619–632
- Cullen, J., O'Connor, M., & Mangan, J. (2004). Matching management tools and techniques with management challenges. *Strategy & Leadership*, 32(3), 27-30.
- Deshpande, A. S., Salem, O. M., & Miller, R. A. (2011). Analysis of the Higher-Order Partial Correlation between CII Best Practices and Performance of the Design Phase in Fast-Track Industrial Projects. *Journal of Construction Engineering and Management*, 138(6), 716-724.
- Drob, C., & Zichil, V. (2013). Overview Regarding The Main Guidelines, Standards And Methodologies Used In Project Management. *Journal Of Engineering Studies & Research*, 19(3).
- Fahmi, Z., Hamzah, A., Muhammad, M., Yassin, S. M., Samah, B. A., Silva, J. L. D., & Shaffril, H. A. M. (2013). Involvement in agro-tourism activities among communities in Desa Wawasan Nelayan villages on the East Coast of Malaysia. *Asian Social Science*, 9(2), p203.
- Garcia, S. (2005). How standards enable adoption of project management practice. *IEEE* software, 22(5), 22-29.
- Gallion A., 2000. A comprehensive model of the factors affecting user acceptance of information technology in a data production environment. Unpublished Thesis (D. Sc.), George Washington University.
- Georgieva, S., & Allan, G. (2008). Best practices in project management through a grounded theory lens. *Electronic Journal of Business Research Methods*, 6(1), 43-52.
- Harris, P., Rettie, R., & Cheung, C. K. (2005). Adoption and usage of m-commerce: a cross-cultural comparison of Hong Kong and the United Kingdom. *Journal of Electronic Commerce Research*, 6(3), 210-224.
- Hayrol, A.M.S, Jeffrey, L.D., Bahaman, A.S., Norsida, M., Jegak, U., & Azmariana, A. (2012). Acceptance towards sustainable agriculture among contract farmers and its impingement factors, *American Journal of Environmental Sciences*, 8 (3), 297-303
- Ilieş, L., Crişan, E. & Mureşan, I. N. (2010). "Best Practices in Project Management", Review of International Comparative Management, Volume 11, Issue 1, March 2010
- Jabatan Kerja Raya, Strategic Framework 2012-2015, 2011
- Kerzner, H. R. (2009). Project Management: A Systems Approach To Planning, Scheduling, And Controlling. John Wiley & Sons.

- Kerzner, H. (2004). *Advanced project management: Best practices on implementation*. John Wiley & Sons.
- Maylor, H., (1999), Project Management, 2nd edition, London, Financial Times, Pitman Publishing
- Majid, T. A., Azman, M. N. A., Zakaria, S. A. S., Yahya, A. S., Zaini, S. S., Ahamad, M. S. S., & Hanafi, M. H. (2011). Quantitative analysis on the level of IBS acceptance in the Malaysian construction industry. *Journal of Engineering Science and Technology*, 6(2), 179-190.
- M. I., Zawawi, M., & Nekooie, M. A. (2009). Implementing industrialised building system (IBS) in Malaysia: Acceptance and awareness level, problems and strategies. *Malaysian Journal of Civil Engineering*, 21(2), 219-234.
- Mohd Nazira Mohd Nasir (2011), "The Effectiveness of Monitoring and Control on Risk Management Practices in Jabatan Kerja Raya", Thesis Sarjana Pengurusan Projek Universiti Teknologi Malaysia.
- Olateju, Olawale I., Ibraheem A. Abdul-azeez, and Salimonu A. Alamutu. "Project Management Practice In Nigerian Public Sector—An Empirical Study." *Australian Journal of Business and Management Research* 1.8 (2011): 01-07.
- Oxford English Dictionary. 2005. Oxford University Press.
- PMI. A guide to the Project Management Body of Knowledge. Project Management Institute. (2004).
- Prabhakar, G. P. (2008). Projects and their management: A literature review. *International Journal of Business and Management*, 3(8), P3.
- PMI. A guide to the Project Management Body of Knowledge. Project Management Institute. (2008).
- Raz, T., Shenhar, A.J., and Dvir, Dov (2002), "Risk Management, Project Success and Technological Uncertainty", R&D Management 32, 2 pp. 101-109
- Sawalhi, N., & Enshassi, A. (2012). Application of Project Time Management Tools and Techniques to the Construction Industry in the Gaza.
 Strip. Australasian Journal of Construction Economics and Building, 5(1), 1-8.
- Sekaran, U. (2003). Research Methods for Business. John Wiley and Sons. USA.
- Schein, E. (1996). Culture: The Missing Concept In Organizational Study, Administrative Science Quarterly, 41 (2), 229-241
- Söderlund, J. (2004). Building theories of project management: past research, questions for the future. *International journal of project management*, 22(3), 183-191.

- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management science*, 46(2), 186-204.
- Wang, Y. S., Wang, Y. M., Lin, H. H., & Tang, T. I. (2003). Determinants of user acceptance of Internet banking: An empirical study. *International Journal of Service Industry Management*, 14, 501–519.