STUDY ON THE INFLUENCE OF HEAD OF PROJECT TEAM ROLE THROUGHT JKR PROJECT LIFE CYCLE

MOHD HAFIZ BIN MOHD ALI

UNIVERSITI TEKNOLOGI MALAYSIA

STUDY ON THE INFLUENCE OF HEAD OF PROJECT TEAM ROLE THROUGHOUT JKR PROJECT LIFE CYCLE

MOHD HAFIZ BIN MOHD ALI

A report submitted in partial fulfillment of the requirements for the award of the degree of Master of Science (Project Management)

Faculty of Civil Engineering Universiti Teknologi Malaysia

JANUARY 2015

To my dearest wife, Nor zalfarita Muhammad Nor, my children Adam Muhaimin, Farah Nur, Zulaikha and beloved parent, Mohd Ali Abdullah and Rahmah Idris

Thank you for your support and support

ACKNOWLEDGEMENT

I would like to take this opportunity to thank and express my feeling to everyone involved in completing this thesis. Firstly, special thanks to my supervisor Dr. Norazli Othman for his support, ideas and patience and guide me all the way along preparing and completing this thesis. Special thanks also to Faculty of Civil Enginnering, and Razak School of Engineering and Advance Technology.

Secondly, thanks to all my colleagues and friends for their cooperation, support and positive feedback

Lastly, I would like to express my appreciation towards my family, especially my wife and parent who has been with me all the way. Without their support, encouragement and love, this journey would not have been possible.

ABSTRACT

This study is conducted to identify the competency skills that a Head of Project Team (HOPT) should have to influence a successful project performance. HOPT as the project manager and lead person in project implementation, has full responsible towards the project outcomes and always constantly been pressured from internal and external stakeholder that share the same concern towards the successful of the project. As for this, top management of JKR feel that there is a need to identify what are the others competency skills that they had to acquire in order to become more competence and had greater influence towards the project life cycle and successful of the projects and the come out with recommendation to improve HOPT role. The aim of this research is to identify the competency skill that HOPT needs to acquire in order to influence the successful of the project through their role within project life cycle. Three objective were identified which are to identify project performance criteria, identify competency skills for HOPT and propose recommendation to improve HOPT role. This study used questionnaire form as the main approach, which were distributed equally to three sectors in JKR (HOPT, HODT & SO). The questionnaire survey was developed based on factors identified from literature to meet objective of the study. From the findings, the project performance criteria were identified and been group under few categories namely project management aspect, management aspect and team aspect. The competency skills identified were group into three categories namely management knowledge and skill, technical knowledge and skill and interpersonal knowledge and skill. Lastly, the recommendation to improve HOPT role were identified and been group into three categories which are understanding and knowledge, processes and practices and lastly organization

ABSTRAK

Kajian ini dilaksanakan bagi mengenalpasti kemahiran kompetensi yang diperlukan oleh Head of Project Team (HOPT) bagi mempengaruhi kejayaan sesuatu projek. HOPT sebagai pengurus projek dan berperanan mengetuai pelaksanaan projek, bertanggungjawab sepenuhnya terhadap kejayaan projek dan sentiasa menerima tekanan samada daripada pihak yang berkepentingan terdiri daripada dalaman atupun luaran yang berkongsi kebimbangan terhadap kejayaan sesuatu projek. Sehubungan dengan itu, pihak pengurusan tertinggi JKR merasakan terdapat keperluan bagi mengenalpasti apakah kemahiran kompetensi lain yang diperlukan dan dikuasai bagi memastikan mereka lebih kompeten dan mampu memberikan lebih pengaruh terhadap kitaran perjalanan dan kejayaan sesuatu projek beserta cadangan bagi penambahbaikan peranan HOPT. Fokus kajian ini adalah bagi mengenalpasti kemahiran kompetensi yang perlu dimiliki oleh HOPT bagi memberikan pengaruh terhadap kejayaan sesuatu projek melalui peranan mereka di sepanjang kitaran perjalanan projek. Tiga objektif telah dikenalpasti iaitu mengenalpasti kriteria prestasi projek, kemahiran kompetensi bagi HOPT dan cadangan bagi tujuan penambahbaikan peranan HOPT. Kajian ini menggunakan kaedah borang soal selidik sebagai kaedah utama dan ianya akan diedarkan sama rata kepada tiga sektor di dalam JKR (HOPT, HODT & SO). Borang soal selidik disediakan berdasarkan faktor yang dikenalpasti melalui kajian terdahulu bagi memenuhi objektif kajian. Berdasarkan keputusan, kriteria prestasi projek dikenalpasti dan disusun mengikut beberapa kategori iaitu aspek pengurusan projek, pengurusan dan aspek pasukan. Kemahiran kompetensi dikenalpasti dan disusun mengikut tiga kategori iaitu kemahiran dan skill pengurusan, teknikal dan juga interpersonal. Akhirnya, cadangan bagi penambahbaikan peranan HOPT dikenalpasti dan disusun kepada tiga kategori iaitu pemahaman dan pengetahuan, proses dan praktis dan juga organisasi.

TABLE OF CONTENTS

CHAPTER		TITLE	PAGE
	DEC	LARATION	i
	DEDI	ICATION	ii
	ACK	NOWLEDGEMENTS	iii
	ABSTRACT		iv
	ABST	TRAK	v
	TABI	LE OF CONTENTS	vi
	LIST	OF TABLES	viii
	LIST	OF FIGURES	ix
	LIST OF ABBREVIATIONS		x
	LIST	OF PICTURE	xi
	LIST	OF APPENDIX	xii
1	INTRO	DDUCTION	1
	1.1	Introduction	1
	1.2	Statement of the Problem	3
	1.3	Aim of the Study	3
	1.4	Objective of the Study	4
	1.5	Scope of the Study	4
	1.6	Significance of the Study	4
2	LITER	ATURE REVIEW	6
	2.1	Introduction	6
	2.2	JKR Organization	6
	2.3	Head of Project Team Role	9

	2.4	Project Life Cycle	10
	2.5	Performance Criteria	12
	2.6	Competency Skills for Project Manager	16
3	RESE.	ARCH METHODOLOGY	21
	3.1	Introduction	21
	3.2	Research Design and Procedure	21
	3.3	Operational Framework	22
	3.4	Subjects or Data Sources	27
	3.5	Instrumentation and Data Analysis	27
4	RESU	LT AND ANALYSYS	29
	4.1	Introduction	29
	4.2	Method of Sampling	29
	4.3	Reliability Test	30
	4.4	Demographic Characteristic and Profile of Respondents	31
	4.5	Project Performance Criteria	40
	4.6	Competency Skills for HOPT	48
	4.7	Propose Recommendation for HOPT	56
5	DISCU	JSSION	60
	5.1	Discussion	60
	5.2	Understand and Knowledge	61
	5.3	Process and Practice	65
	5.3	Organization	66
6	CON	ICLUSION	70
	6.1	Conclusion	61
	6.2	Further Recommendation	
REFEREN	CES		72
Appendix			73

LIST OF TABLES

TABLE	TITLE	PAGE
2.1	Summary of Project Manager Responsibilities from Literature Other Researchers	10
2.2	Predominant Project Life Cycle Definition	12
2.3	Performance Criteria Base From Literature Others Researcher	14
2.4	Essential Skills Required For Project Manager	18
2.5	People Related Factor for Project Manager Leadership Role in Improving Project Performance	19
3.1	Operational Framework For This Study	22
3.2	Reliability Test and Interpretation	26
4.1	Reliability Test Result	31
4.2	Respondents Frequency and Percentage By Gender	33
4.3	Respondents Frequency and Percentage by Profession	34
4.4	Respondents Frequency and Percentage by Education Background	35
4.5	Respondents Frequency and Percentage by Working Experience	36
4.6	Respondents Frequency and Percentage by Current Position in Organization	37
4.7	Respondents Frequency and Percentage Sector In Organization	38
4.8	Respondents Frequency and Percentage by Nature Involvement of The Project	39
4.9	Relative Importance Index and Ranking for Perception of Project Performance Criteria in Practice	40
4.10	Relative Importance Index and Ranking for Essential Skills For HOPT	49
4.11	Relative Importance Index and Ranking For Recommendation to Improve HOPT Role	56

LIST OF FIGURES

TABLE	TITLE	PAGE
2.1	JKR Organization Structure	8
3.1	Research Flowchart	23
4.1	Percentage of Respondents by Gender	33
4.2	Percentage of Respondents by Profession	34
4.3	Percentage of Respondents by Education Background	35
4.4	Percentage of Respondents by Working Experience	36
4.5	Percentage of Respondents by Current Position in Organization	37
4.6	Percentage of Respondents by Sector In Organization	38
4.7	Percentage of Respondents by Nature Involvement In Project	39
4.8	Identified Project Performance Criteria Focus Group	42
4.9	Identified Competency Skills for HOPT. Focus Group	51
4.10	Identified Propose For Recommendation Focus Group For Questionnaire Set Up Question	59
5.1	Recommendation of Focus Area to Improve HOPT Role.	61

LIST OF APPENDIX

APPENDIX	TITLE	PAGE
A	Survey Questionnaire	76

CHAPTER 1

INTRODUCTION

1.1 Introduction

The construction industry is vital for the development of any nation. In many ways, the pace of the economics growth of any nation can be measured by the development of physical infrastructures, such as building, roads and bridges. Construction projects development involve numerous parties, various processes, different phases and stages of work and a great deal of input from both the public and private sectors (Takim, R and Akintoye, A., 2002). The life cycle of the construction project globally had become shorter than before due the increasing of demand for the infrastructure to support national agenda for developing the nation and economic growth. Thus, it is important to have a good project management practice to ensure the scope, cost and quality of the project are within the control and meet its target. Project management is a task derived from an organization that enables professional project managers to use their skills, tools and knowledge to plan, execute and control a unique project within a limited lifespan by meeting the specification requirement of the organization (Arti et. al, 2013). It is undeniable than a project manager play a vital role towards the project success. They are the one whose actively involve throughout the entire the project life cycle from planning until the closing stage of the projects. In JKR, the role of the project manager is play by the Head of Project Team (HOPT) in the Business Sector which their main role is to lead and manage the project to the needs and expectations of the clients.

JKR had been trusted to deliver the national development of the infrastructure project and become single point reference for construction reference. According to Unit Pengurusan Prestasi Projek JKR for the status of the project implement under RMK 10 until Mei 2014, JKR responsible for 661 project worth more than RM70 billion. From this amount, a total of 333 projects had been launched in the preconstruction stage and 328 projects are under construction stage. It's been reported up this date, the design of 400 projects should be completed by 30th April 2014 but only 23% or 91 projects had been completed while 77% or 309 projects behind schedule.

A total of 75 projects should be at the procurement stage but only 22 projects or 29% had been advertised, while another 53 project or 71% projects behind the schedule. A total of 102 projects should be completed and, but only 46 of the projects or 44% had been issued a Certificate of Completion (CPC), while another 58 projects represent by 56% were behind the schedule. It also been reported that from the total of 327 projects, only 70 projects or 21% were on schedule while another 257 projects or 79% were behind the schedule (Unit Pengurusan Prestasi Projek JKR, 2014).

From the statistics, it shows that JKR need to improve their performance. As for the clients, they were pointing the finger on the JKR for this late delivery of the projects. By delaying the original or agreed delivery date, it will affect a lot of stakeholder mostly the clients and the real end users. This issue has been top priority for top management of the JKR. They were continuously looking an area to improve so that it will help better project deliverable. One of the areas that they think should be focus on is the role of the HOPT as project manager. They are the one who have an influence throughout the entire project life cycle and responsible for the integration process among the stakeholders. They should direct the project team towards the organization goal by leading and managing them through proper and well coordination. Hence, it is important to identify the competency skill that HOPT should have to influence a successful of project performance throughout entire project life cycle.

1.2 Statement of the Problem

This study is conducted to identify the competency skills that a HOPT should have to influence a successful project performance. There are various element how the project performance are measured but it is agreed that towards the end of the project the successful of the project are measured when it is completed within agreed scope, time and cost. It is always been a challenge even for the experience project manager while handling a project in order to make it is according to the schedule, budgeted plan and meets the scope. HOPT as the lead person and front liner in the JKR project implementation whose has full responsible towards the project outcomes always constantly been pressured from internal and external stakeholder that share the same concern towards the successful of the project. Their performance will have a direct relationship with JKR key performance index which is to deliver project on time within agreed budget and scope.

As for this, top management of JKR feel that there is a need to identify what are the others competency skills that HOPT should acquire in order to become more competence and had greater influence towards the project life cycle and successful of the projects and the come out with recommendation to improve HOPT role.

1.3 Aim of the Study

The aim of this research is to identify the competency skill that HOPT needs to acquire in order to influence the successful of the project through their role within project life cycle.

1.4 Objectives of the Study

Followings are the objectives proposed for this study: -

- (1) Identify the project performance in practice.
- (2) Identify the competency skills for HOPT.
- (3) Recommendation to improve HOPT role.

1.5 Scope of the Study

To achieve the objective of the study, the respondents were choose among Head of Project Team (HOPT), Head of Design Team (HODT) and Superintendent Officer (SO) from Management Sector who is currently actively involved in the implementation of the new development or upgrading building projects under RMK 10 allocation.

1.6 Significance of the Study

As the rapid change of the nature of construction environment today, JKR need to adopted with these changes and move along as they were represent the biggest technical infrastructure development agencies in government sector. Therefore, good practice of project management is needed to ensure the goal is achieve. To do so, HOPT represent the role of project manager should be more effective and have a better influence among the project team member deliver the deliverable throughout the project life cycle. Thus, the significance of this study is to

show how HOPT can help to improve project delivery through their role through the entire project life cycle. This study later will be submit to JKR top management so it will be academic reference for them to do a planning which area need to be focus on to improve the roe of the HOPT and their influence throughout project life cycle will be more significance to the contribution of the success factor of the projects.

REFERENCES

- Arti J. Jari, Pankaj, P.Bhangale (2013). To Study Critical Factors Necessary for a Successful Construction Project. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*
- Atkinson, A.A., Waterhouses, J.H, and Wells, R.B (1997). A Stakeholder approach to strategic performanse measurement. *Sloan Management Review; Cambridge*, 38(3), pp. 25-37.
- Baker, B.N., Murphy, D.C., and Fisher, D. (1983). Factors affecting project success. In: D.I. Cleleand, (ed) *Project Management handbook*. New York: Van Nostrand Reinhold.
- Boyatzis, R.E. (1982). Competencies for Hotel managers: Industry expectations of education. *International Journal of Contemporary Hospitality Management*. 2(4): 13-16.
- Cleland, David (1995). Leadership and the Project Management Body of Knowledge. *International Journal of Project Management*. 13:2 (1995), pp. 83-88.
- Day, R. M (1998). Leadership of Fast Track Projects. *IEEE Aerospace Conference Proceeding, NASA Goddard Center.*
- Economic Planning Unit, Prime Minister's Department, Malaysia (2006), "The Ninth Malaysian Plan: The First Step in National Mission".
- Harold Kezner (2003). Project Management 'A Systems Approach to Planning

- Scheduling and controlling (8 the add.)
- Jack Gido, James P. Clements (2003). Successfull Project Management.
- Jugdev Kam, and Ralf Miller (2005). A retrospective Look at Our Evolving Understanding of Project Succes. *Project Management Journal*, 33.3, pp. 5-15.
- John A. Kuprenas (2003). Department od Civil Engineering, University od Southern Califirnia, Los Angeles. Implementation and performance of a matrix organization structure. *International Journal of Project Management*.
- Katz, R. (1974). Skills of an effective administrator. *Harvard Business Review*. 52(5): 90-102.
- Laporan Status Projek Dalam Rmke10 Bil. 08/2014, Unit Pengurusan Prestasi Projek, PROKOM JKR.
- Laporan Tahunan JKR, 2011.
- Larson, Erik W, and David H. Gobeli (1989). Significance of Project Management Structure on Development Success. *IEEE Transaction on Engineering Management*, 36:2, pp. 119-125.
- Love, P.E.D., and Holt, G.D (2000). Construction business performance measurement: the SPM alternative: *Business Project Management Journal*, 6(5), pp. 408-416.
- Manual Sistem Pengurusan Bersepadu, Jabatan Kerja Raya 2011.
- Melvin R. Weber, Dori A. Finley, Alleah Crawford and David Rivera, Jr (2009). An explatory study identifying soft skill competencies in entry level managers. *Tourism Hospitality Research*. Vol 9, 4, 353-361.

- Morris, P.W.G. and Hough, G.H. (1987). The Natomy of Major Projects; A study of the reality of project management. Chichester: John Wiley & Sons.
- Mullaly, Mark E (2004). PM Success in organizations, Trends, Best Practices and Next Steps. *Proceedings of the IPMA 2004*.
- Pillai, A.S., Joshi, A., Rao, K.S. (2002). Performance easurement of R&D projects in multi-project, concurrent engineering environment. *Internation Journal of Project Management*, 20(2002), pp. 165-177.
- Pinto Jeffrey K, and John E. Prescott (1987). Variation in Critical Success Factors Over Stages in the Project Life Cycle. *Journal of Management*, 14;1, pp. 5-18.
- Pinto Jeffrey K, Dennis P.Slevin (1987). Critical Success Factor in Project Implementation. *IEEE Transactions on Engineering Management*, 34:1, pp. 22-27.
- Potts, K. F (2000). The People and Technology Balance: Getting it Right for Larger Projects. *Engineering Management Journal*, 10:2, pp. 61-64.
- Project Management Institute Guide to the project management body knowledge (PMBOK@Guide) 5th ed. Newton Square. Project Management Institute, 2008.
- Sandwith, P. (1993). A hierarchy of management training requirements: *The competency domain model. Public personnel Management*. 22(1): 43-52.
- Schultz Randall L, Dennis P. Slevin, and Jefrey K. Pinto (1987). Strategi in Tactics in a Process Model of Project Implementation. *Interface: Institute of Management Sciences*, 17:3, pp. 34-46.
- Smith, Gordon (2001). Making the Team. IEEE Review, 47:5, pp. 33-36.

- Slevin, D.P. and Pinto, J.K. (1986). The Project Implementation Profile: a new tool for project managers. *Project Management Journal*, 17(4) 57-70.
- Takim, R and Akintoye, A (2002). Performance indicators for successful construction preject performance. In: Grrenwood, D (Ed), 18th Annual ARCOM Conference, 2-4 September 2002, University f Northumbria. Association of Researchers in Construction Management, Vol. 2, 545-55.
- Thamhain, Hans J (2004). Linkages of Project Environment to Performance: Lesson for Team Leadership. *International Journal of Project Management*, 22, pp. 533-564.
- Turner, R.J. (1993). *The Handbook of Project Based Management*. London: McGraw Hill Companies.
- Vittal S. Anantatmula (2010). Project Manager Ledership Role in Improving Project Performance. *Engineering Management Journal*. Vol.22 No.1
- Wateridge, J. (1998). How can IS/IT projects be measured for success. *International Journal of Project Management*, 16(1), pp. 59-63.
- Weiss, J. W (2001). Project Management Process in Early Stage e- Business: Strategies for Leading and Managing Teams. Proceedings of the 34th Hawaii International Conference on System Science, IEEE Computer Society.
- Rudner, L.M., & Schafer, W.D. (2001). Reliability. ERIC Database. 9 April 2008 from http://www.eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ICServlet?