

DRIVERS AND BARRIERS
OF
PROJECT MANAGEMENT PRACTICES
IN
LOGISTIC INDUSTRY

FAIQAH MASTURINA BT ABD AZIZ

MASTER OF PROJECT MANAGEMENT

UNIVERSITI MALAYSIA PAHANG



SUPERVISOR'S DECLARATION

I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the Master of Project Management

(Supervisor's Signature)

Full Name : _____

Position : _____

Date : _____



STUDENT'S DECLARATION

I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

A handwritten signature in black ink, appearing to read "Faiqah M".

(Student's Signature)

Full Name : FAIQAH MASTURINA BINTI ABD AZIZ

ID Number : KPM 21004

Date : 5 JUNE 2022

**DRIVERS AND BARRIERS
OF PROJECT MANAGEMENT PRACTICES
IN LOGISTICS INDUSTRY**

FAIQAH MASTURINA BINTI ABD AZIZ

Thesis submitted in fulfillment of the requirements
for the award of the
Master of Project Management

Faculty of Industrial Management
UNIVERSITI MALAYSIA PAHANG

JUNE 2022

ACKNOWLEDGEMENTS

In the name of God, the most Beneficent and the most Merciful.

First and foremost, I sincerely express would like to give my warmest thanks and greatest gratitude to my supervisor, Dr Lee Chia Kuang who made this work possible. His guidance, advice and the support carried me through all the stages of writing this project. Without his support and encouragement, I won't be able to be at this level. I also would like to thank his tolerance and patience for the understanding my time constraint as I have also been working through out during my study.

I also would like to acknowledge and thank my panel and examiners for letting my defense for project 1 and project 2 be an enjoyable moment and for the brilliant comments and suggestions, again thanks to you Dr and fellow examiners.

I would also like to give a special thanks to my both of parents and my family as a while for their continuous support and understanding when undertaking this project and writing my project. At the first place also, this is also my parents' ambitions and make me more enthusiastic to finish this project. Your prayer and hope for me was what actually sustained me this far.

In addition, I would also like to give special mention to my classmate throughout this master and project that actually give a lot of support, sharing and guidance for me to finish this project. To Yana, Akmal, Farah, Syafiqah, Qusyairi, Fatihah and Naim , Thank you for the support and encouragement.

Last but not least, I would like to thank to God, for letting me through all the difficulties. I have experienced your guidance day by day. I will keep have faith and trusting you for my future endeavour.

ABSTRAK

Amalan Pengurusan Projek merupakan sebuah industri pengurusan dan teknik yang banyak diterapkan dalam semua industri baik Malaysia dan juga luar negara. Akan tetapi penggunaan amalan pengurusan projek amatlah kurang dan kurang dikenali dan plaigng penting sekali dalam kalangan industri logistik. Adaptasi penggunaan serta amalan pengurusan projek telah digunakan dalam banyak industri lain dan di luar negara. Malah penggunaan serta adaptasi pengurusan projek mula diiktiraf dan banyak industri mula sedar akan kepentingan penggunaan pengurusan projek. Objektif kajian ini adalah untuk mengkaji panduan serta halangan pengadaptasi amalan pengurusan projek dalam logistik industri. Terdapat beberapa faktor untuk halangan serta panduan yang membawa kepada pengadaptasi pengurusan projek di dalam logistik industri. Terdapat 4 faktor halangan serta 4 faktor panduan yang akan dibentang dalam kajian ini untuk mengetahui serta menganalisa penggunaan serta kepentingan pengurusan projek dalam industri logistik. Kajian ini juga dijalankan bagi mengenali serta mencari faktor - faktor yang mempengaruhi adaptasi pengrusan projek dalam industri logistik. Responden bagi kajian ini terdiri daripada individu yang mempunyai sekurang-kurangnya 10 ke 18 tahun pengalaman dalam bidang logistik industri atau mana mana industri yang berkaitan dengan logistik industri. Kajian ini juga menggunakan kaedah analisa DEMATEL bagi mengkaji hubungan antara panduan serta halangan dan nilai kepentingan setiap faktor. Peta hubungan impak dan faktor - faktor yang mempengaruhi pengurusan projek akan dihasilkan melalui nilai yang dianalisa menggunakan DEMATEL dan akan dijadikan asas kepada model yang dicadangkan. Analisa yang dijalankan juga menunjukkan pengetahuan dan kepakaran dalam pengurusan projek merupakan faktor paling penting diantara semua faktor lain. Model yang dicadangkan dalam kajian ini memberikan pengetahuan yang lebih dalam terhadap faktor yang perlu diberi keutamaan dan faktor yang menyebabkan impak paling tinggi terhadap faktor lain yang akan seterusnya meingkatkan pengaruh terhadapa pengadaptasi pengurusan projek. Idea model ini juga boleh digunakan sebagai panduan terhadap memperbaiki prestasi pengurusan projek ke arah yang lebih baik serta meningkantan penggunaan pengurusan projek dalam semua industri sama ada Malaysia serta luar negara.

ABSTRACT

Project Management Practice is a management industry and set of procedures that is extensively used across all Malaysian sectors. However, the importance of project management approaches in the logistics business is becoming increasingly unknown. Numerous additional businesses and countries have followed use adaptation and project management approaches. In reality, the application and adaptation of project management are beginning to be acknowledged, and many sectors are beginning to grasp the significance of project management. This study's purpose was to investigate the recommendations and obstacles for implementing project management approaches in industrial logistics. There are a number of obstacles and guiding principles that lead to the application of project management in industrial logistics. This study will provide four hurdles and four guiding variables in order to examine the usage and significance of project management in the logistics sector. This research is also undertaken to determine the elements that impact the adaption of project management within the logistics business. This study's respondents were persons with at least 10 to 18 years of experience in industrial logistics or a similar industry. This study also used DEMATEL analysis to investigate the link between recommendations and obstacles, as well as the significance of each element. The values examined using DEMATEL will provide a map of the effect connection and variables impacting project management, which will serve as the basis for the proposed model. In addition, the data indicates that knowledge and competence in project management are the most significant element among all others. This study's methodology gives a more in-depth understanding of the elements that must be prioritised and the ones that have the greatest impact on other factors, hence increasing their influence on project management adapters. This model may also be used as a guide to enhance the usage of project management in all Malaysian and international businesses and to improve the performance of project management in a positive direction.

TABLE OF CONTENT

DECLARATION

TITLE PAGE

ACKNOWLEDGEMENTS.....ii

ABSTRAK.....iii

ABSTRACT.....iv

TABLE OF CONTENTv

LIST OF TABLESix

LIST OF FIGURESx

LIST OF ABBREVIATIONS xi

CHAPTER 1 INTRODUCTION 12

 1.1 Introduction 12

 1.2 Research Background 12

 1.3 Research Problem 16

 1.4 Research Gap 16

 1.5 Research Question 17

 1.5.1 Relationship Between Research Problem and Research Question 17

 1.6 Research Objectives 17

 1.7 Scope of Study 17

 1.8 Significance of Study 18

 1.9 Novelty of Study 18

 1.10 Summary 18

CHAPTER 2 LITERATURE REVIEW 19

2.0 Introduction	19
2.1 Overview about Project Management	19
2.1.1 Project Management	20
2.1.1.1 Project Management Constraints	21
2.1.1.2 PMBOK Knowledge Area	22
2.1.2 The Success of Project Management	24
2.1.3 Benefits of Project Management	26
2.1.4 Importance of Project Management	26
2.1.5 Overview about Project Management Practices	27
2.1.6 Project Management Practices in Logistics Industry	28
2.1.7 Project Management Implementation	28
2.1.7.1 Project Management drivers in organization and industry	29
2.2 Overview about Logistics Industry	30
2.2.1 Importance of Logistics Industry	31
2.2.2 Benefits of Logistics Industry	32
2.2.3 Challenges of Project Management in Logistics Industry	33
2.2.4 Drivers in Logistics Industry	34
2.2.5 Drivers of Project Management in Logistics Industry	35
2.3 Critical Drivers of Project Management Practices in Logistics Industry	36
2.3.1 Sustainability	36
2.3.2 Leveraging Technology	37
2.3.3 Enhanced Visibility & Communication	37
2.3.4 Speed Sufficient Time	37
2.4 Critical Barriers of Project Management Practices in Logistics Industry	38
2.4.1 Lack of Project Management Practitioner	38
2.4.2 Lack of awareness	39
2.4.3 Financial Resources	39

2.4.4 Lack of Top Management Supports	40
2.5 Research Framework	40
2.5.1 The relationship of Sustainability, D1	41
2.5.2 The relationship of Leveraging Technology, D2	41
2.5.3 The relationship of Enhanced visibility & Communication, D3	42
2.5.4 The relationship of Speed Sufficient Time, D4	42
2.5.5 The relationship of Lack of Project Management Practitioner, B1	42
2.5.6 The relationship of Lack of Awareness, B2	42
2.5.7 The relationship of Financial Resources, B3	42
2.5.8 The relationship of Lack of Top Management Supports, B4	43
2.6 Summary	43
 CHAPTER 3 METHODOLOGY	44
3.1 Introduction	44
3.1.1 Research Methodology	44
3.2 Population & Sampling	45
3.3 Data Collection Method	45
3.3.1 Non-Probability / Purposive Sampling	45
3.3.2 Reliability test	46
3.4 DEMATEL	46
3.5 Summary	51
 CHAPTER 4 RESULTS ANALYSIS AND FINDINGS	52
4.1 Introduction	52
4.2 Evaluation of the Critical Drivers and Critical Barriers Factors	53
4.2.1 The Average Matrix, Z / Direct Relation Matrix	53

4.2.2 Normalized Direct Relation Matrix, D	54
4.2.3 Total Relation Matrix, T	55
4.2.4 Sum of rows and columns of Matrix, T	56
4.2.5 Threshold value is set (α).....	58
4.2.5.1 Total Relation Matrix with relations that exceeded threshold value	58
4.2.6 The Impact Relationship map	59
4.3 Evaluation of Interrelationship between the Critical Drivers Factors	59
4.3.1 The Impact relationship map	62
4.4 Evaluation of Interrelationship between the Critical Barriers Factors	63
4.5 Data Reliability & Consistency	66
4.6 Summary	67
 CHAPTER 5 DISCUSSION AND CONCLUSION	68
5.1 Introduction.....	68
5.2 The Critical Drivers of Project Management Practices in Logistics Industry	68
5.3 The Critical Barriers of Project Management Practices in Logistics Industry	69
5.4 The Impact of Drivers on the Barriers of Project Management Practices in Logistics Industry	69
5.5 Limitation and Recommendation for Future Study	70
 REFERENCES	72
 APPENDIX A QUESTIONNAIRE	78

LIST OF TABLES

Table 4.1	The Average Matrix, Z	55
Table 4.2	Normalize Matrix, D	56
Table 4.3	Total Relation Matrix, T	56
Table 4.4	Sum of Rows and Columns	57
Table 4.5	Sum and Diff of Row and Columns	58
Table 4.6	The Total Relation Matrix that exceeded the threshold value	59
Table 4.7	The Average Matrix, Z	60
Table 4.8	Normalize Matrix, D	60
Table 4.9	Total Relation Matrix, T	61
Table 4.10	Sum of Rows and Columns	61
Table 4.11	Sum and Diff of Row and Columns	61
Table 4.12	The Total Relation Matrix that exceeded the threshold value	62
Table 4.13	The Average Matrix, Z	64
Table 4.14	Sum of Rows and Columns	65
Table 4.15	Sum and Diff of Row and Columns	65
Table 4.16	The Total Relation Matrix that exceeded the threshold value	66

LIST OF FIGURES

Figure 2.1	Project Management Life Cycle	20
Figure 3.1	DEMATEL Procedure	37
Figure 4.1	Impact relation map for Driver that influenced Barriers	59
Figure 4.2	Impact relation map for the Drivers	63
Figure 4.3	Impact relation map for the Barriers	66
Figure 4.4	The Cronbach's Alpha Formula	67
Figure 4.5	The Reliability of this study	67

REFERENCES

- Armitage, P., Colton, T. (2009). Encyclopedia of Biostatistics. John Wiley & Sons.
- Bitner, M. J., Hubbert, A. R. (1994). Encounter satisfaction versus overall satisfaction versus quality:
- Bowersox, D.J., D.J. Closs, M.B. Cooper, and J.C. Bowersox. 2013. Supply Chain Logistics Management. 4th ed. New York, NY: McGraw-Hill.
- Brealey, R.A., S.C. Myers, and F. Allen. 2017. Principles of Corporate Finance. 12th ed. New York, NY: McGraw-Hill.
- BTRE (2001) Logistics in Australia: A Preliminary Analysis. Bureau of Transport and Regional Economics, Canberra, .
- Chea, A. 2011. "Activity-Based Costing System in the Service Sector: A Strategic Approach for Enhancing Managerial Decision Making and Competitiveness." International Journal of Business and Management 6, no.11, pp. 3–10.
- Cooper, R., and R.S. Kaplan, 1988. "Measure Costs Right: Make the Right Decisions." Harvard Business Review 66, no. 5, pp. 96–103.
- "Canadian Forces Logistics Museum". Montreal Museums. Retrieved 20 June 2019.
- Chang, Y.H. (1998) Logistical Management. Hwa-Tai Bookstore Ltd., Taiwan.
- Cooper, M.C., Lambert, D.M. and Pagh, J.D. (1997) Supply chain management: more than a new name for logistics, International Journal of Logistics Management, Vol. 8, No. 1, 1-13.
- Council of Logistics Management (1991) Definition of Logistics. .
- Chang, K.-H., Cheng, C.-H. (2011). Evaluating the risk of failure using the fuzzy OWA and DEMATEL method. Journal of Intelligent Manufacturing 22(2):113–129.
- Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. Journal of Marketing Research 16(1):64–73.

Cohen, R. J., Swerdlik, M. (2001). Psychological Testing and Assessment: An Introduction to Tests and Measurement. 5th ed. Boston, MA: McGraw-Hill.

Drucker, P.F. (2001) Management Challenges for the 21st Century. Harper Business.

Fair, M.L. and Williams, E.W. (1981) Transportation and Logistics. Business Publication Inc., USA.

Ho, J.K. (1997). What can contemporary systems thinking offer to logistics management as a management discipline, European Journal of Purchasing and Supply Management, Vol. 3, No. 2, 77-81.

Krumwiede, D.W. and Sheu, C. (2002) A model for reverse logistics entry by third-party providers, Science Direct, Vol. 30, 325-333.

Potrol (2003) Inner freight transport and city logistics. Potrol transport teaching material.

Reynolds-Feighan, A.J. (2001) Air freight logistics. In A.M. Brewer, K.J. Button and D.A. Hensher (eds.), Handbook of Logistics and Supply-Chain Management. Elsevier Science Ltd., UK, 431-439.

Rogers, D.S. and Tibben-Lembke, R.S. (1998) Going backwards: reverse logistics trends and practices. The University of Nevada, Reno.

Ross, D.F. (1998) Competing through Supply Chain Management: Creating Marketwinning Strategies through Supply Chain Partnerships. Chapman and Hall, New York.

Raue, Jan Simon; Wieland, Andreas (2015). "The interplay of different types of governance in horizontal cooperations". The International Journal of Logistics Management. 26 (2): 401–423. doi:10.1108/IJLM-08-2012-0083.

Taniguchi, E., Thompson R.G., Yamada, T. and Duin R. (2001a) Introduction. In City Logistics: Network Modelling and Intelligent Transport Systems. Pergamon, 1-15.

Taniguchi, E., Thompson, R.G. and Yamada, T. (2001b) Recent advances in modelling City Logistics. In E

Taniguchi and R.G. Thompson (eds.), City Logistics II. Institute of Systems Science Research, Japan, 3-33.

Taniguchi, E., Thompson, R.G. and Yamada, T. (2003) Visions for city logistics. Proceedings 3rd International Conference on City Logistics, Institute for City Logistics, 3-17.

Thomas, D.J. and Griffin, P.M. (1996) Invited review coordinated supply chain management, European Journal of Operational Research, Vol. 94, 1-15.

Thompson, R.G. and Taniguchi, E. (2001) City logistics and freight transport. In A.M. Brewer, K.J. Button and D.A. Hensher (eds.), Handbook of Logistics and Supply Chain Management. Elsevier Science Ltd., UK, 393-405.

Tilanus, B. (1997) Information Systems in Logistics and Transportation. Elsevier Science Ltd., UK

Turner , A. N. (1982). Consulting is More Than Giving Advice. Retrieved from Harvard Business Review web
site:<https://harvardbusinessonline.hbsp.harvard.edu/b01/en/commerce/permissions/courseInfo.jhtml>.

Tsai, W.-H., Chou, Y.-W., Lee, K.-C., Lin, W.-R., Hwang, E. T. Y. (2013). Combining decision making trial and evaluation laboratory with analytic network process to perform an investigation of information technology auditing and risk control in an enterprise resource planning environment.

Tsai, W.-H., Hsu, W. (2010). A novel hybrid model based on DEMATEL and ANP for selecting cost of quality model development. Total Quality Management & Business Excellence 21(4):439–456.

Tzeng, G. H., Chiang, C. H., Li, C. W. (2007). Evaluating intertwined effects in e-learning programs: A novel hybrid MCDM model based on factor analysis and DEMATEL. Expert Systems with Applications 32:1028–1044.

Kestel, J. W. (2006). Successfully manage your projects and your client's expectations: consultants' secrets. Paper presented at PMI® Global Congress 2006—North America, Seattle, WA. Newtown Square, PA: Project Management Institute

Karten, N. (2006). Improving Your Consulting Skills. Retrieved 06/05/2006 from Karten Associates web site: <http://www.nkarten.com/consk.html>.

Managing Client Expectations. (Semptember 2002). Webizus Technologies Journal. 1(6). Retrieved 04/02/2005 from Webizus Technologies web site: <http://www.webizus.com/newsletter.html>

MALAYSIA FREIGHT AND LOGISTICS MARKET - GROWTH, TRENDS, COVID-19 IMPACT, AND FORECASTS (2021–2026). (2021). <Https://Www.Mordorintelligence.Com/Industry-Reports/Malaysia-Freight-Logistics-Market-Study>. <Https://www.mordorintelligence.com/industry-reports/malaysia-freight-logistics-market-study>

- M., Fukuhara, S., Kaasa, S. (1998). Tests of data quality, scaling assumptions, and reliability of the SF-36 in eleven countries: Results from the IQOLA Project. *Journal of Clinical Epidemiology* 51(11):1149–1158.
- Hensher, D. A., Stopher, P. R., eds. (1979). *Behavioural Travel Modelling*. London: Croom Helm.
- Hsu, C. Y., Chen, K. T., Tzeng, G. H. (2007). FMCDM with fuzzy DEMATEL approach for customers' choice behavior model. *International Journal of Fuzzy Systems* 9(4):236–246.
- Javali, S. B., Gudaganavar, N. V., Raj, S. M. (2011). Effect of varying sample size in estimation of coefficients of internal consistency. *WebmedCentral BIOSTATISTICS* 2(2):WMC001649.
- Jolliffe, I. (1986). *Principal Component Analysis*. New York: Springer Verlag.
- Kaplan, R. M., Saccuzzo, D. P. (2001). *Psychological Testing: Principle, Applications and Issues*. 5th ed. Belmont, CA: Wadsworth.
- Kelley, T. L. (1925). The applicability of the Spearman-Brown formula for the measurement of reliability. *Journal of Educational Psychology* 16(5):300–303.
- Kothari, C. R. (1985). *Research Methodology: Methods and Techniques*. New Delhi: Wiley Eastern.
- Lenth, R. V. (2001). Some practical guidelines for effective sample size determination. *The American Statistician* 55(3):187–193.
- Lin, W.-R., Wang, Y.-H., Hung, Z.-E. (2012). Selecting mobile banking system service for consumers by using a combined DEMATEL and ANP approach. *Journal of Accounting, Finance & Management Strategy* 7(1):1–14.
- Liou, J. J. H., Tzeng, G. H., Chang, H. C. (2007). Airline safety measurement using a hybrid model. *Journal of Air Transport Management* 13:243–249.
- Li, A., Zhao, P., & Zhao, Y. (2015). Empirical analysis on the relationship between logistics industry and economic growth in Xuzhou. *Management & Engineering*, (20), 80.
- Maberly, N. C. (1967). Characteristics of internal consistency estimates within restricted score ranges. *Journal of Educational Measurement* 4(1):15–19.

Magnani, R. (1997). Sampling Guide, IMPACT Food Security and Nutrition Monitoring Project. Virginia: Arlington.

Niemi, D., Wang, J., Wang, H., Vallone, J., Griffin, N. (2007). Recommendations for Building a Valid Benchmark Assessment System: Second Report to the Jackson Public Schools. CRESST Report724. Los Angeles, CA: National Center for Research on Evaluation, Standards, and Student Testing.

Nunnally, J., Bernstein, I. (1994). Psychometric Theory. New York: McGraw-Hill.

Orloci, L. (1966). Geometric models in ecology: I. the theory and application of some ordination methods. *Journal of Ecology* 54(1):193–215.

Saaty, T. L. (2008). Decision making with the analytic hierarchy process. *International Journal of Services Sciences* 1(1):83–98. Downloaded by [Tulane University] at 06:31 05 December 2015

Shieh, J.-I, Wu, H.-H., Huang, K. K. (2010). A case of applying DEMATEL method in identifying key success factors of hospital service quality. *Knowledge-Based Systems* 23(3):277–282.

Sezer, S., & Abasiz, T. (2017). The impact of logistics industry on economic growth: An application in OECD countries. *Eurasian Journal of Social Sciences*, 5(1), 11-23.

Yennie Tan, Partner and Deals Strategy Leader, PwC Malaysia. (2018, October). Logistics in Malaysia: Market overview and M&A trends. [Https://Www.Pwc.Com/My/En/Perspective/Deal-Strategy/181003-Logistics-Malaysia-Market-Overview-Mna-Trends.Html](https://Www.Pwc.Com/My/En/Perspective/Deal-Strategy/181003-Logistics-Malaysia-Market-Overview-Mna-Trends.Html). <https://www.pwc.com/my/en/perspective/deal-strategy/181003-logistics-malaysia-market-overview-mna-trends.html>

Ware, J. E., Brook, R. H., Williams, K. N., Stewart, A. L., Davies-Avery, A. (1980). Conceptualization and measurement of health for adults in the Health Insurance Study. Vol. I. Model of Health and Methodology. California: RAND Corporation.

Wei, P.-L., Huang, J.-H., Tzeng, G.-H., Wu, S.-I. (2010). Causal modeling of web-advertising effects by improving SEM based on DEMATEL technique. *International Journal of Information Technology & Decision Making* 9(5):799–829.

Winston, W. L. (2004). Operations Research Applications and Algorithm. Belmont, CA: Brools/Cole Thomson Learning.

Wu, H.-H., Chen, H. K., Shieh, J.-I (2010). Evaluating performance criteria of employment service outreach program personnel by DEMATEL method. *Expert Systems with Applications* 37(7):5219–5223.

Wu, H.-H., Tsai, Y.-N. (2011). A DEMATEL method to evaluate the causal relations among the criteria in auto spare parts industry. *Applied Mathematics and Computation* 218(5):2334–2342.

Wu, H.-H., Tsai, Y.-N. (2012a). An integrated approach of AHP and DEMATEL methods in evaluating the criteria of auto spare parts industry. *International Journal of Systems Science* 43(11):2114–2124.

Wu, H.-H., Tsai, Y.-N. (2012b). Using AHP to evaluate the criteria of auto spare parts industry. *Quality & Quantity* 46(1):359–364.

Zhou, Q., Huang, W., Zhang, Y. (2011). Identifying critical success factors in emergency management using a fuzzy DEMATEL method. *Safety Science* 49(2):243–252.