

DECISION MAKING BY MANAGER IN CONTRACTOR'S  
ORGANIZATION

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## **DEDICATION**

This project report is dedicated to my husband, family for their support and encouragements throughout my program. Finally, the author wishes to thank all those who have provided assistance at various occasions in making this project a possible one.

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## ABSTRACT

There are many parties who were involved in the construction industry in Malaysia. Each party has their roles and responsibilities in ensuring that the projects completes on time, within the budget and the required quality. The parties have to make many decisions during the pre-tender stage, construction stage and commissioning stage. One of the main players in the construction industry is the contractors. Therefore, this study evaluates the decision made by managers at different levels in the contractors' organization. The objectives of the study are to study the decision making process in the contractors' organization, to investigate the types of decision made by the contractor, to evaluate the techniques of decision making in the contractors' organization and to identify the problems faced by contractor's in decision making. A total of 50 questionnaires were distributed but only 24 questionnaires were received duly answered. Interviews were also conducted on the respondents. The data collected were analyzed using statistical analysis and average index. From the finding, the decision making process involves 8 basic steps of which are definition of problem, determining the requirements that the solution to the problem must meet, establish goals that solving the problem should accomplish, identifying alternatives that will solve the problem, develop evaluation criteria based on the goals, select an effective decision-making tool, apply the tool to select a preferred alternative and check the answer to make sure it solves the problem. The techniques of decision making are brain storming, devil advocacy, Delphi technique and decision tree analysis. The problems faced by the contractor in decision making are financial constraint, lack of information and so on.

## ABSTRAK

Terdapat banyak pihak yang terlibat dalam industri pembinaan di Malaysia. Setiap pihak mempunyai peranan dan tanggungjawab dalam memastikan projek siap pada masa yang ditetapkan, dalam lingkungan bajet dan kualiti. Pihak-pihak terlibat perlu membuat banyak keputusan dalam peringkat pra-tender, peringkat pembinaan dan peringkat penyerahan. Salah satu pihak yang utama dalam industri pembinaan adalah kontraktor. Jadi, kajian ini menilai keputusan yang dibuat oleh pengurus dalam pelbagai peringkat dalam organisasi kontraktor. Objektif kajian ini adalah untuk mengkaji proses membuat keputusan dalam organisasi kontraktor, untuk menyiasat jenis-jenis keputusan yang dibuat oleh kontraktor, menilai teknik membuat keputusan dalam organisasi kontraktor dan untuk mengenalpasti masalah yang dihadapi oleh kontraktor dalam membuat keputusan. Sebanyak 50 borang soalselidik diedarkan dan hanya 24 borang soalselidik dijawab dan dipulangkan. Temubual juga dijalankan terhadap responden. Data dianalisis dengan menggunakan kaedah statistik dan purata indeks. Hasil daripada kajian, proses membuat keputusan mangandungi 8 peringkat iaitu mengenalpasti masalah, menentukan keperluan penyelesaian perlu capai, menentu tujuan penyelesaian perlu capai, mengenalpasti alternatif yang dapat menyelesaikan masalah, majukan kriteria penilaian bergantung kepada tujuan, memilih alat membuat keputusan yang efektif, menggunakan alat untuk memilih alternatif dan periksa jawapan untuk memastikan masalah selesai. Keputusan yang dibuat oleh kontraktor adalah keputusan yang diprogram dan keputusan yang tidak diprogram. Teknik membuat keputusan adalah pemerahan otak, advokat iblis, teknik Delphi dan analisa keputusan pokok. Masalah yang dihadapi oleh kontraktor dalam membuat keputusan adalah kekangan kewangan dan kurang maklumat dan lain-lain.

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#### **1.4 Scope of study**

The study focuses mainly on the decisions made by managers at different levels in the organization. The study will focus on one organization mainly the contractors' organization. The study will be carried out in the State of Johor.

## REFERENCES

- Argote, L., M. Seabright, and L. Dyer. (1986), *Individual and Group Use of Base Rate Information*, *Organizational Behavior and Human Decision Processes*, 38, 65-75.
- Baker, F. (2001). *The basic of item response theory*
- Christensen, R. (1968), *The nature of decision making*, *Journal of cooperative extension*, *Discussion Effects in Risk Decision Making*, *Journal of Personality and Social Psychology*, 52(5), 917-930.
- Drucker, P. (1966). *The Effective Executive*.
- Ghoshal, S. (2005), *Bad Management Theories Are Destroying Good Management Practices*, *Academy of Management Learning and Education*, 4(1) 75-91.
- Harris, R. (1980), *Introduction to decision making method*.
- Isaksen, S. G. (1998). *A Review of Brainstorming Research: Six Critical Issues for Research*. Buffalo: Creative Problem Solving Group. Monograph 302. Retrieved March 5, 2010
- Johnson, E. J., C. F. Camerer, S. Sen, and T. Rymon. (1992), *Behavior and Cognition in Sequential Bargaining*, Working Paper, Wharton School, University of Pennsylvania.
- Nast, J. (2006). *Idea Mapping*. New Jersey: John Wiley & Sons
- Osborn, Alex F. (1963). *Applied Imagination: principles and procedures of creative problem-solving*. New York: Scribner

- Patterson, K. Grenny, J. McMillan, R. Switzler, *Crucial Conversations: Tools for talking when stakes are*” .Review by Michael McRee (2007)
- Russo. J. Edward, and Paul J. H. Shoemaker. (1992), *Managing Overconfidence,* " *Sloan Management Review*, 33(2).
- Simon, H A (1997), *Administrative behavior: a study of decision-making processes in administrative organizations.* 4th ed. New York: Free Pre.
- Stukhart, G and Kirby. (1995), construction industry material management.
- Virine.L and Trumper,M.(2001),*The process of decision making.*
- Walker, A (2007), *Project management in construction.* 5th ed. Oxford: Blackwell.
- Whyte. Glen. (1993), *Escalating Commitment in Individual and Group Decision Making: A Prospect Theory Approach? Organizational Behavior and Human Decision Processes*, 54, 430- 434.
- Zahedi F., (1986), *The analytic hierarchy process - A survey of the method and its applications*, *Interfaces* 16(4), pp.96-108.