

**CONTRACTOR'S PERCEPTION OF THE USE OF STATISTICAL
APPROACH IN THE TENDER PROCESS AT THE PUBLIC WORKS
DEPARTMENT, MALAYSIA**

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**MASTER OF SCIENCE
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By

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Putra Malaysia, in Fulfilment of Requirements for the Degree of
Master of Science**

February 2006

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra
Malaysia sebagai memenuhi keperluan untuk Ijazah Master Sains

**PENGGUNAAN KAEDAH STATISTIK DI DALAM PEMILIHAN
KONTRAKTOR**

Oleh

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Ogos 2005

Pengerusi: Ir. Salihuddin Bin Hassim

Fakulti : Kejuruteraan

The usage

Abstract of thesis presented to the Senate of Universiti Putra Malaysia
in fulfilment of the requirement for the degree of Master of Science

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Chairman: Ir. Salihuddin Bin Hassim

Faculty : Engineering

Contractor selection is one of the main activities of clients. Without a proper and accurate method for selecting the most appropriate contractor, the performance of the project will be affected. The usage of statistical method is implemented by Public Works Department as a better tool for the selection of suitable contractor. This method would avoid a personal preference during selection of contractor for government project. Furthermore, this method will ensure the price submitted by the tenderer is reflective of the current market conditions.

The statistical method uses mean, standard deviation and coefficient variation and this has been applied via a computer programme based

on Microsoft Excel for ease of calculation. Previously the contractor selection process is based on the lowest price or as compared to the Quantity Surveyor's estimate and this method exhibit an inherent weakness. Result from the survey questionnaire shows that the contractors agreed that the government has implemented a systematic approach using statistical method.

One sample *t*-test was conducted to further validate the perception of the contractors to the new practice of tender selection using statistical method and the results from the respondents show that on the average, all the contractors agreed to the new practice of tender selection using statistical method.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra
Malaysia sebagai memenuhi keperluan untuk Ijazah Master Sains

**PANDANGAN KONTRAKTOR- KONTRAKTOR TERHADAP
PENGUNAAN KAEDAH STATISTIK DI DALAM PROSES TENDER
DI KEMENTERIAN KERJA RAYA, MALAYSIA**

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Pemilihan Kontraktor adalah antara aktiviti terpenting bagi pihak klien. Tanpa menggunakan kaedah pemilihan yang sesuai dan tepat untuk pemilihan kontraktor, prestasi projek akan terganggu. Penggunaan kaedah statistik yang dilaksanakan oleh Jabatan Kerja Raya, merupakan kaedah yang terbaik dan sesuai untuk pemilihan kontraktor. Penggunaan kaedah ini dapat mengelakkan kepentingan peribadi seseorang semasa pemilihan kontraktor untuk projek kerajaan. Selain daripada itu ia juga dapat menentukan bahawa harga tender yang ditawarkan oleh kontraktor adalah kompetitif berbanding dengan harga pasaran.

Kaedah statistik yang digunakan adalah min, sisihan piawai dan pekali ubahan dan kaedah ini dipermudahkan pengiraan dengan menggunakan program komputer yang berdasarkan 'Microsoft Excel'.

Proses pemilihan kontraktor sebelumnya adalah berdasarkan harga yang terendah ataupun anggaran Jurukur Bahan dan penggunaan kaedah ini banyak menimbulkan keburukan. Keputusan daripada kajian selidik yang telah dijalankan menunjukkan pihak kontraktor bersetuju bahawa pihak kerajaan telah melaksanakan kaedah yang sistematik melalui pemilihan kontraktor berdasarkan statistik.

Satu 't-test' yang dijalankan untuk pengesahan terhadap pandangan kontraktor terhadap kaedah pemilihan kontraktor yang terkini menggunakan kaedah statistik dan hasil daripada responden menunjukkan secara purata, kesemua kontraktor bersetuju terhadap kaedah yang terbaru pemilihan kontraktor menggunakan kaedah statistik.

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Much appreciated are the useful contributions of staffs at Public Works Department, Kuala Lumpur for their information regarding tendering procedure and provided their documents and cost data for this research, very helpful staff at Master Builders Association Sdn. Bhd. for giving me opportunity to conducting survey at their seminar and eminent construction managers who participated in the survey. Special thanks for their cooperation in this research.

Last but not least, my beloved family for their support and encouragement to complete this research.

THANKS YOU

I certify that an Examination Committee has met on 28 February 2006 to conduct the final examination of Faridah Bt. Muhamad Halil on her Master of Science thesis entitled “ Contractor’s Perception of the Use of Statistical Approach in the Tender Process at the Public Works Department, Malaysia” with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree)

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DECLARATION

I hereby declare that the 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 UPM or other institutions.

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