

**NON-PARAMETRIC SURVIVAL MODELLING OF TIME TO EMPLOYMENT  
AMONGST 09/10 COHORT OF MATHEMATICS GRADUATES**

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*To my beloved family*

*Sabari bin Md. Yassin, Zainab bt Atan,*

*Apai, Ajim, and Adib, infinitely supportive*

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## ABSTRACT

The length of waiting time to employment may be considered as the determinant of the employability of a graduate. Hence, this project aims to study the behaviour of waiting time to employment of mathematics graduates. In particular, this study analyzes the differentials of the factors levels as well as identifies the factors that may influence the waiting time to employment by applying the survival analysis techniques. This study involves 40 mathematics graduates from Department of Mathematical Sciences who graduated in October 2012 at Universiti Teknologi Malaysia. In this project, Kaplan-Meier estimator is used to estimate the waiting time to employment of the graduates while the logrank test is used to compare the difference between two or more groups of factors influencing the employability. Moreover, the other method which is Cox proportional hazard regression model is used to examine the relationship between the variables (covariates) with the hazard. There is evidence that residential, English communication skill and confidence level were the factors that influence the employability of the mathematics graduates.

## ABSTRAK

Tempoh masa menunggu sehingga mendapat kerja boleh dianggap sebagai penentu kebolehpasaran seseorang graduan. Oleh itu, projek ini bertujuan untuk mengkaji tabiat masa menunggu sehingga mendapat kerja graduan matematik. Secara amnya, kajian ini menganalisis perbezaan paras faktor dan juga mengenal pasti faktor-faktor yang mungkin mempengaruhi masa menunggu sehingga mendapat kerja dengan menggunakan teknik-teknik analisis survival. Kajian ini melibatkan 40 graduan matematik daripada Jabatan Sains Matematik yang telah tamat pengajian pada Oktober 2012 di Universiti Teknologi Malaysia. Dalam projek ini, penganggar Kaplan-Meier digunakan untuk menganggar masa menunggu sehingga mendapat kerja para graduan manakala ujian logrank digunakan untuk membandingkan perbezaan antara dua atau lebih kumpulan faktor yang mempengaruhi pekerjaan itu. Selain itu, kaedah lain iaitu model regresi Cox risiko proporsional digunakan untuk mengkaji hubungan di antara pembolehubah (kovariat) dengan risiko bahaya. Terdapat bukti bahawa kediaman, kemahiran komunikasi Bahasa Inggeris dan tahap keyakinan merupakan faktor yang mempengaruhi kebolehpasaran graduan matematik.