

**UNIVERSITI TEKNOLOGI MARA**

**NETWORK FLOW PROGRAMMING  
(NFP) MODEL FOR SYARIAH-  
COMPLIANT TRANSFER OF  
ISLAMIC INHERITANCES**

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## ABSTRACT

The absence of *Syariah* Court (SC) from the new IIT system has promoted the development of a *Syariah*-compliant Islamic inheritance transfer (IIT) system for inheritance at Small Estates Distribution Units (SEDUs) using Theory of Inventive Problem Solving (TRIZ). This system is capable of differentiating claim activity path followed by Islamic estates from non-Islamic estates. Ignorance of Islamic inheritance laws and claim procedures among Muslims has attributed to claim delays. Order and precedence relations in the modified TRIZ IIT system became the basis to establish a flow guideline network model for more effective IIT management (i.e. time and cost saving) at SEDUs or SCs. No quantitative approach using the shortest path algorithm has ever been applied to solve the delays in claim activities. Adapting Floyd's algorithm into the formulation of the IIT Network Flow Programming (IIT-NFP) model has presented the viability of a quantitative approach through the model at minimizing delays in the claim processes. IIT-NFP model's ability to clearly exhibit precedence relations between activities in a claim process can be used to explain the unique flow of claim activities for both Islamic and non-Islamic estates as well as to help Muslims better manage claim activities. This model has become the foundation for computing the shortest path and minimum total completion time for IIT. Non-normality of data distribution has endorsed the use of  $Median \pm bMAD$  adapted from Leys et al (2013) to flag out extreme outliers and moderate outliers with  $b$  as magnitude of  $MAD$ . Computational experiments using PHP programming has found thresholds ( $b = 2$  and  $3$ ) and ( $b = 1$  and  $2$ ) can best achieve total completion time less than the minimum benchmark of 300 days set by Bakar (2006) at Ipoh and Kuala Kangsar respectively. Shortest paths for all stages were the same in both areas. Identified delayed paths may imply time management issues at SEDUs and Valuation and Property Services Department. Optimization model has rarely been applied to solve Islamic muamalat problems, thus it is recommended for the IIT-NFP model to be applied to *zakat* and *wakaf* management besides expanding its use to Islamic and non-Islamic estates under stricter conditions such as testate accounts, jointly-acquired accounts, and also non-Islamic estates which abide by the Federal Laws.

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# CHAPTER ONE

## LONG-STANDING ACCUMULATION OF UNCLAIMED ESTATES IN MALAYSIA

### 1.1 INTRODUCTION

Quantitative approach to solving age-old delay issues in inheritance claims in Malaysia is relatively unexplored in literatures. This thesis introduces a new direction to the current approach of managing transfers of Islamic estates. Administrative reforms during the 150-year British colonisation era were aimed to displace Islamic laws including Islamic laws on inheritance (also called “*Faraid*”) and to impose English laws in the Malay States (Ibrahim, 2000; Nasohah, 2004; Shuaib, 2008). Objection raised by majority of Muslims against the effort managed to save *Faraid* from extinction. However, not many Islamic estates were claimed during this period and also the period following the independence of the Federation of Malaya in 1957. Consequently, the number of unclaimed estates have grown incessantly until today.

Estates can be categorized as simple, normal or small estates. A simple estate is composed wholly of movable estates. Normal and small estates may consist of only immovable estates or both movable and immovable estates valued at less than two million ringgit Malaysia but small estates are not testate estates (estates with valued will) (Alma’amun, 2010; Mahamood, 2006a; Wan Harun, 2009). At present, majority of estates are small estates (Rosli, 2016; Shafie et al., 2014). In addition, *Syariah* courts (SCs) were stripped of their authority to distribute small estates after independence in 1957 (Abdul Rahman, 2008; Mahamood, 2006a). Although management of Islamic or non-Islamic small estates abide by different sets of laws and statutes, they undergo the same set of activities in the current transfer system at Small Estates Distribution Units (SEDUs) throughout Malaysia (JKPTG, 2013b; Small Estates (Distribution) Act 1955 (Act 98), 2012).

It was necessary to distinguish the paths used by claim activities for Islamic estates within the current transfer system before a solution for the claim delays can be found. In accordance with this, the study has developed a function model to define a *Syariah*-compliant system via the current transfer system using Theory of Inventive