



Development a new costing structure using time driven activity-based costing for palm oil plantation

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Abstract- Palm oil is one of the world's most traded farming commodities. The Malaysian palm oil industry is without a doubt to the nation's pride. However, there are few problems currently happen in this plantation which are no establishment of time equation to interpret deviation of activities, the rate establishment did not properly illustrate the correlation between supplied resources and practical capacity, and the manager did not have a tool to monitor the unused capacity. The aim of this work is to develop a new costing structure for a better accuracy specifically at nursery. Time-driven activity-based costing (TDABC) was applied because it can effectively measure the time efficiency, accurately identifies the idle capacity and separately lists the used and unused capacity. It also provides more comprehensive understanding of practical resources and its associated costs while measuring processes and encouraging quality improvement. The plantation located at Pahang which has three main divisions and this work was focusing on nursery only. This work found that a precise process mapping for nursery was developed to understand their specific sequence which contributes to time equations. Subsequently, the total used capacity and capacity cost rate (CCR) for pre-nursery was successfully developed with 98220 minutes and 0.168 RM/minute respectively. Eventually, the manager can observe that actually the unused capacity was 37515.31 min which can be used to systematically develop the capacity planning on the pre-nursery.

Indexed Terms- Palm oil plantation, time-driven activity-based costing, capacity cost rate, time equation, traditional cost accounting.

I. INTRODUCTION

In 2018, Malaysia's oil palm industry showed an unfavourable performance as against the 2017 performance. Fresh fruit bunch yields, crude palm oil production and palm oil exports decreased while imports of palm oil increased and palm oil stocks closed higher. Higher carry-over stocks, higher palm oil imports and lower exports pushed palm oil stocks to reach above 3 million tonnes as at the end of December 2018. Technology adoption can be observed throughout the different areas of research and it is clearly driving agricultural and process improvement and simultaneously ensuring the sustainable development of the industry [1]. [2] stated that top management, quality control and organizational capabilities are really important towards sustainable services on green practices. Somehow, adoption happened due to the improper costing structure with lack of financial understanding. traditional standard cost systems were popular until the 1980s became less useful because the direct labour content of products declined. [3] suggested a new economic model should be introduced to create high income to society, sustainability and inclusiveness which lead to better quality of life. The application of the traditional method based on a single basis such as direct working hours contributes less accurate and simply no longer reflected economic reality. Suppose that the costs of the activities carried out and then orders, products and customers to develop a better costing structure. Activity based costing (ABC) is a costing methodology proposed by Cooper and Kaplan assumes that multiple products consume the same activities and these activities require resources in different proportions [4]. It provides more accurate