

# An Investigation on Tacit Knowledge Transfer Among Aircraft Engineer: Malaysia Experience

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**Abstract**—Transfer of gained experience, skills and know-how in aircraft maintenance from experts to trainees assures the organizational learning in providing quality of service. Taking survey method, this paper presents an early investigation on effective mechanism of knowledge transfer among aircraft engineers in Malaysia and a proposal on its implementation within the aviation domain.

**Keywords** - tacit knowledge, knowledge transfer, organizational learning, aircraft maintenance, Malaysia

## I. INTRODUCTION

LAE or Licensed Aircraft Engineers are licensed persons who are responsible in carrying out maintenance works to ensure that aircrafts are airworthy in accordance with local and international aviation standards. To be an LAE, one must acquire theory and practical knowledge of a typical aircraft. This is followed by an apprenticeship period which usually takes a minimum of 5 years experience (for self obtained license) before they become an expert. In contrast to the theory part, the practical knowledge can only be acquired by seeing through action. On job training (OJT) is among the popular approach for knowledge transfer from experts to trainee in aircraft domain [3]. The knowledge transfer ensures smooth continuity of good services that result from knowledgeable staffs through organizational learning [7].

Airports in Malaysia has gained popularity throughout the world and KL International Airport (KLIA) has been awarded as the best international airport for several years. For instance, KLIA has received The Brand Laureate 2008-2009 for Corporate Branding i.e. Best Brands in Transportation Airports[10]. This scenario opens more airline companies to fly to Malaysia. These organizations sometime do request maintenance staffs from local experts to maintain their aircrafts during transits or night stops. Apart from that, local Maintenance Repair Organizations (MRO) also requires LAEs to support their ever expanding fleet of aircrafts. For this reason, more LAEs are required to support the local and international airline demands.

The question is, "Have these LAEs gain enough training or have they gained the right knowledge to serve those companies?" Hence, this paper presents a survey that has been circulated among the Licensed Aircraft Engineer (LAE) in

Malaysia to identify the current practices of knowledge transfer mechanism and the effectiveness use of OJT.

Next we will present the background of this study which directly motivates this study. Section III describes the survey design as the research method. Section IV presents and discusses the results found. Section concludes the paper.

## II. BACKGROUND

Embracing Bennet and Bennet's definition of embodied tacit knowledge which is often linked to experiential learning which can be generally be learned by mimicry and behavior skill training[1]. Kinesthetic and sensory convey conscious awareness that is exhibited in responses to take effective action. However, as individuals develop competence in a specific area, more of their knowledge in that area becomes tacit, making it difficult or impossible for them to explain how they know what they know.

A similar work in aircraft domain that has encouraged this study is the work by McNichols [2]. The survey looks on Examination of Intergenerational Knowledge Transfer within an Aerospace Engineering Community. The underlying motivation of the research is that knowledge transfer are absolutely needed among the aerospace engineer as the industry might experience the shortage of critical technical capabilities from the retiring baby boomer aerospace engineers, especially in Generation X. Based on the research, McNichols had identified some of the knowledge transfer methods that are perhaps can be applied to avoid from the same issue happens endlessly; and the proposed methods are "Pairing of Junior and Senior Engineers", mentoring as well as the teamwork. Mentoring is the idea of facilitating the exchange, whereby the mentor and mentee should be in close physical proximity to each other for the sake of knowledge sharing [2].

## III. RESEARCH METHOD

### A. Questionnaire design

The questionnaire consists of four parts – every part has several types of questions which include both structured and unstructured questions. In part A, questions are mainly more on the LAE's background that requires the candidates to specify their period of working in aviation industry, the organization size that they are currently working in as well as their job nature that describes the scope of their job. This followed with Part B that allows the candidates to choose the best answer based on the selection answers given. Some of the questions