Audiences of TRIZ Application in Malaysian Academic and Industry

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ABSTRACT

This paper explores the approaches between academic and industry in adopting TRIZ into their respective organization. The study used PRICE2 project management perspective as a baseline to analyze how TRIZ is adopted as project throughout starting-up phase, initiation phase, managing phase and closing phase. A survey is deployed to 153 practitioners from various organization and 45 valid responses were received through email. The results showed that the majority agree that formal planning, tangible measures, expert support, organization formal support, knowledge sharing is among of important elements in adopting TRIZ as project management requirement. The findings showed that common approach is important to synergies innovation improvement for academic and industry in adopting TRIZ method. The limitation of the study is the type of analysis used that leads to a recommendation to adopt new approach or complex data analysis. This may add more value in exploring the adoption of TRIZ in academic and industry, or additional scope of different type organization.

KEYWORDS

Academic, Approaches, Industry, Innovation, Organization, Project Management, TRIZ

INTRODUCTION

TRIZ is a systematic innovation methodology that focuses on problem-solving and creating innovation in a system. TRIZ stands for Russian acronym, ‘teoriya resheniya izobretatelskikh zadach’ or normally known in English as theory of inventive problem-solving. The theory developed on a foundation of extensive research covering hundreds of thousands of inventions across many different fields to produce a theory which defines generalization of patterns in the nature of inventive solutions and the distinguishing characteristics of the problems that these inventions have overcome (Barry, Domb & Slocum, 2010). The opportunities and strength of TRIZ attract various types of organization around the world to adopt it into their system.

The most active organizations that adopt TRIZ in their system are the academic and industry (Klatt & Marquardt, 2009). The most famous TRIZ tool is ‘contradiction matrix’ that focuses to solve problem that have conflicting parameters and change how to develop solution with no or little trade-off. Another powerful TRIZ tools used in an organization are ‘function analysis’ and ‘trimming’, where the tools help to see system through functional perspective and improve the system towards simplicity (Tomiyama, Gu, Jin, Lutters & Kind, 2009). In this study the scope is defined organization as academic and industry.

DOI: 10.4018/IJKBO.2016100104

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One of the most significant current discussions in TRIZ proliferation is the effectiveness of adopting the methodology in the academic and industry (Cheong, Lenyashin, Kynin, Feygenson, Lee & Han, 2008). The approaches use to adopt TRIZ is increasingly are important area in academic and industry (Nakagawa, 2000). In Malaysia, recent progress of TRIZ proliferation in academic and industry have shown an increased interest in adopting TRIZ in both organizations (Yeoh & Hoo, 2014). Despite of increased growth in numbers of Malaysian TRIZ practitioners, questions have been raised about the approach of TRIZ adoption in academic and industry.

Both academic and industry may have different approach and system in TRIZ adoption in their respective organization. The type of approach employed is critical to the effectiveness of TRIZ practice in the organization. This research assessed the logic and the practicality of implementing TRIZ in organizations. This able to understand how organization approaches in adopting TRIZ into their organization. This study looks on the perspective of project management approach in adopting TRIZ using PRINCE2 project management framework. The PRINCE2 (an acronym for PRojects IN Controlled Environments) is a de facto process-based method for effective project management. Used extensively by the UK Government, PRINCE2 is also widely recognized and used in the private sector, both in the UK and internationally.

The PRINCE2 method is in the public domain, and offers non-proprietorial best practice guidance on TRIZ project management (Cruickshank & Evans, 2012). Key features of PRINCE2 focus on business justification, defined organization structure for the TRIZ project management team product-based planning approach, emphasis on dividing the project into manageable and controllable stages (Rosemann, 2015). The baseline of PRINCE 2 project management framework helps to identify elements of approaches use by the organization to adopt TRIZ in four main phases (Wideman, 2002), as showed in Figure 1. A survey is developed based on those project management phases (Phase 1-Starting-up, Phase 2- Initiation, Phase 3- Managing, and Phase 4-Closing). The data collected from the survey provided input on how both academic and industry introduce TRIZ in their respective organization.

TRIZ APPROACHES IN THE ORGANIZATION

In recent years, there has been an increasing amount of literature on the application and research of TRIZ methodology published by academic and also industry (Wits, Vaneker & Souchkov, 2010). Although, TRIZ methodology is originated from Russia by the founding father, Genrich Altshuller, the knowledge and application are spreading to America, Europe and Asia, including South Korea,
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