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Heuristics, Self-Leadership and Softwares for Effective Projects Decision Making

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Abstract: In order to make an effective and efficient project decision making, a combination of facts (hard evidence) and human elements (soft evidence). Heuristics decision making is focused on past experiences and cues that had gathered from past events that are used as indicators for future decision making given similar events that occur. However, self-leadership is more concern for making relevant decision by taking into consideration the human factors or people who will be affected by the decision made by the management. In addition, the elements of automation in decision making by using software are becoming pertinent in most project decision making literatures. As such, this study proposed an effective decision making for project managers or management in ensuring an effective project decision making will take place in the organisation. A process or framework for an effective decision making for project decision making forwarded at the end of this study which will combine the heuristics (IQ), self-leadership (EQ) and software/system (AI) in the framework.

Key words: Project management, decision making, self-leadership, heuristics, self-awareness, emotions, moods, affects

INTRODUCTION

Project management is the most critical process in any projects that includes construction, oil and gas, engineering and technology related industries. Most companies have been curbing project failures from happening due to the financial implications to the company that might lead to either growing or shutting of the business operation. Normally, 70% of the project finishes behind schedule or with additional costs or both and only 30% of the project completed on time or earlier than planned (Batselier and Vanhoucke, 2015). In Malaysia project failures includes, incinerator project incurred losses of RM 187.74 million (Hani and Kamalavacini, 2014) and Ministry of Education incurred losses of RM 3.71 million (Maria, 2011). Be it a construction industry or other type of industries, projects are alike in many ways, thus it is highly in need to fully understand the critical factors that will lead to project failures so as to reduce the propensity of project failures that will cause millions of RM to project owner. Hence, this study highlighted the application of self-leadership and heuristics for effective project management decisions.

Literature review: This study discusses on the difference between moods, emotions and affect that influence the leader's emotions in making decisions, heuristic for project management decision making and software for decision making (AI).

What is heuristic?: According to Gigerenzer and Gaissmaier (2011), heuristic is a strategy that ignores part of the information to isolate the most significant information (cues) from non-significant information to speed decision making process. In ensuring decision can be made more frugally. Frugally is defined as the number of cues that heuristics searches in making a solid decision. There are three basic rules for heuristic decision making by Gigerenzer that comprise of search

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Table 1: Five levels model of emotions in organisation

Level	Descriptions
Within person	Leader abilities to overcome negative mood due to negative events and create a positive affective events for followers and help the follower's change feelings of frustration to optimism
Between person	Effective leaders able to evaluate the gut feelings (somatic markers) and true value better than others. It will best for managers to control their emotions in making decisions in order to be more effective and efficient in the workplace
Interpersonal	Leaders have the ability to recognise other people emotions and able to develop trust and authentic relationships with others
Groups and teams	Leaders able to influence the team's emotions by expressing appropriate emotions in the situation such as enthusiasm, confidence and support. Successful leaders will choose team members with high emotional intelligence
Organisation wide	Leaders recognise the value of high job satisfaction and work to create positive emotional climates

Ashkanasay and Humphrey (2014) leadership and emotion; a multi-level perspective in day, D. (2014). The Oxford handbook of leadership and organisation, 1st edition, Oxford University Press

rules, stopping rules and decision rules. The heuristics work best when there are low uncertainty in the environment, less redundancy, less cues and less variability in weights. In heuristics decision making, decision making is based on the cues compiled from past events (less-is-more effects) (Gigerenzer and Gaissmaier, 2011). The ability to identify the cues requires strong cognition or Intellectual Quotients (IQ). Cognition styles might influence the decision makers in making a successful decision making (Cools and Broeck, 2008).

The difference between moods, emotions and affects: Engineers, managers, board members and management should know the difference between moods, emotions and affects that might influence their actions and decision at the workplace. Moods of an individual usually longer, weaker in intensity and not related to specific persons or events for it to occur and moods can be either positive or negative. Whereas, emotions are usually shorter in nature and can be felt intensely by the person or others around them, it is direct and caused by events, objects or person and can be positive or negative. An affect is actually a combination of moods and emotions that might influence the behaviour and action of any person or leaders (Ashkanasay and Humphrey, 2014; Humphrey, 2014). Hence, leaders with high emotional intelligence is significant towards high organisational effectiveness (Sadri, 2012; Bratton *et al*., 2011).

Five levels model of emotions in organisation: Ashkanasay and Humphrey (2014) had developed the five level models of emotions in an organisation that depicts on how successful managers control emotions in the workplace. This model is a useful model in handling emotions at the workplace and to guide managers in managing their own emotions and also employee's emotions (Table 1).

Self-leadership: Self-leadership is a self-influence process whereby you may achieve direction and self-motivation necessary to perform tasks (Humphrey, 2014). In order to lead, a leader must be able to lead their own inner self or 'self-leadership', there was a study conducted on an airline worker where the company was facing bankruptcy. From the study, researchers discovered that self-leadership influences performance whereby those attended self-leadership workshop able to perform well although, the company is facing financial turbulence. Those with self-leadership abilities to gain higher self-efficacy and job satisfaction in the November 2, 2017 workplace (Neck and Manz, 1996).

Self-awareness: Self-awareness is divided into two which are self and social. Self-awareness on self is concerning the ability to recognise one's emotions and its effects that include internal states, preferences, resources and intuitions (Boyatzis, 2011; Nicol and Sparrow, 2010). Whereas, self-awareness on social is concerning on one's ability to manage relationships as well as being aware of other's feelings, needs and concerns (Boyatzis, 2011; Tekleab *et al*., 2007). According to Young and Dulewicz (2007), self-awareness allows a person to perform self-evaluation and able to understand a person's performance better. In a study written by Kaplan and Kaiser (2010), they had found that most managers are lacking of self-awareness on their strengths and weaknesses, hence unable to comprehend positive and negative feedback given to them by either top management or co-workers. Hence, with self-leadership, managers able to monitor their moods and emotions that will affect their decision in the workplace. Since, they are aware the implications of their decisions towards themselves and should be able to maintain healthy emotional relationships in the organisation (Zamahani and Rezaei, 2014; Higgs and Rowland, 2010).

Artificial intelligent for effective project decision making: For year 2000's the concerned about project management expanded towards decision making methods and methods to eliminate project failures. The integration of artificial intelligence (Pich *et al*., 2002) and fuzzy theory (Abbasianjahromi *et al*., 2014) were utilized to speed up decision making process in a project. In addition, several methods had been developed and tested to eliminate

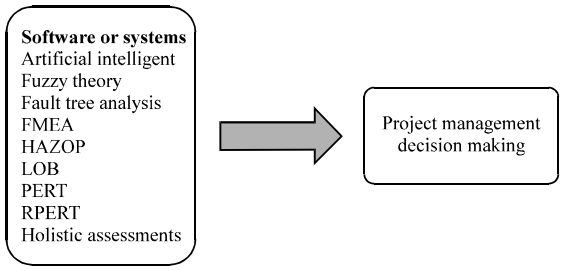

Fig. 1: Latest trend in project management decision making process

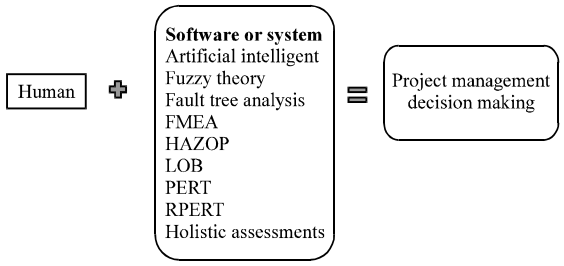

Fig. 2: Human and softwares for projects decision making

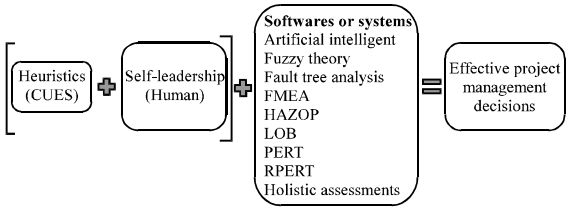

Fig. 3: Proposed an effective project management decision making

project failures such as Fault Tree Analysis (FTA) (Regazzoni and Russo, 2011), Failure Mode and Effect Analysis (FMEA) (Regazzoni and Russo, 2011), hazard and operability analysis (HAZOP) (Regazzoni and Russo, 2011), Line of Balance technique (LOB) (Aziz, 2013a,b), Program Evaluation and Review Technique (PERT) (Aziz, 2014) and Repetitive Project Evaluation Review Technique (RPERT) (Aziz, 2013a,b) and holistic assessment (Werschkun *et al*., 2014). An illustration of the latest study on project management decision making as illustrated in Fig. 1.

Self-leadership for projects decisions making: In this study, it is proposed that in order to make an effective project management decisions, engineers, managers, board members and management will required to identify and analyse heuristics or cues critical to the success of the project. The difference between average and outstanding performers or managers depending on the competencies which are cognitive (system thinking and recognition of patterns), emotional intelligence (self-awareness and emotional control) and social intelligence competencies (social awareness, empathy and teamwork) (Muller and Turner, 2010; Boyatzis, 2008). In decision making, human factor is the most critical factors that contribute to either project success or failure. Hence, the element of self-leadership among decision makers are crucial to ensure that the employees or implementers have similar understanding on how to run the project effectively and efficiently and the rationale to complete the project on time (Muller and Turner, 2010; Polychroniou, 2009; Boyatzis, 2008). Figure 2 illustrates the heuristics or cues and self-leadership to ensure effective project management decision that will lead towards project success.

However, in increasing effectiveness in project management decision making, it requires the incorporation between non-human decisions (decision generated from the system) with human decision making (self-leadership with self-awareness) to further increase the effectiveness of the decision (Fig. 2).

Heuristics and self-leadership for projects decisions making: For an effective decision making, it requires critical thinking in the identification of cues from past experience which can be identified as Intelligent Quotient (IQ), that should be paired with the Emotional Quotient (EQ) and the system that require Artificial Intelligent or AI. Hence, by having and integrated intelligent in place that include thinking (IQ), Emotional (EQ) and systems or Automation (AI) will ensure an effective project management decisions that will reduce project failures. In a study by Muller and Turner (2010) on project manager's success, it intellectual quotients and emotional quotients, plays role in project success rather than managerial quotients. However, in this study, it is to highlight the human factors such as IQ and EQ and also machine or system automation AI is essential for effective project management decisions. Figure 3 summarises the effective project management decisions that comprise of IQ, EQ and AI components that can be depicted in the following equation:

Effective project management decisions (f) = (IQ+EQ)+AI

CONCLUSION

Most of the time, engineers, managers, board members and management teams are too technical in their decision making that lead emotional stress at the workplace due to ineffective decision making related to project management. Hence, it is about time for project managers, engineers, board members and management teams to be more human and include human factors in identification of

cues (heuristics) that are critical for project success. In addition, incorporating self-awareness in self-leadership will enable to boost emotional intelligent among decision makers for higher organisational effectiveness (Fisher, 2011).

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