Preparation Project Managers to Achieve Project Success - Human Related Factor

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Abstract— The evolution in project management was triggered by the changes in management philosophy and practices in order to maintain competitive advantage and continuous success in the field. Large and growing body of literature focuses on the project manager’s technical issues while ignoring the so-called soft project management in the process of achieving project success. This study proposes a need to extend management practices for project managers from a human-related factor perspective by incorporating the cognitive style approach towards the accomplishment of project success. The study aims to introduce the concept of cognitive style in relation to project success. Based on extensive literature review, this theoretical paper adds to the “soft skill” research stream by proposing Knowing Style, Planning Style andCreating Style and their subsequent effects on project success which not being explored within the project management body of knowledge. The paper bases itself on literature review from established disciplines like project management, management studies, psychology, sociology and philosophy regarding cognitive style and project success in general. The analysis and synthesis of literature in the subject area a conceptual paper is utilized as the basis of future research to form a comprehensive framework for project managers in enhancing the project management competency form a human-related factor context.

Keywords-component; Cognitive Style, Project Managers, Project Success

I. INTRODUCTION

Practise of project management continuously having transformation where the evolution in the field was triggered by the changes in management philosophy and practices to sustain competitive advantage and continues success in the field. Scholars started to identify that organizations and individuals holding on a new perception on project management [1,2]. Organizations are relying more and more on project management to gain a competitive advantage [3]. In the global economy, it was estimated that annual spending on the projects to be in the billions of dollars [4] which indicates a significant and growing use of project management [5]. Even though the people have become a project–oriented society [6] the large volume in project works being done by organizations, “project results continue to disappoint stakeholders”[7].

As such, prior research has paid little attention to the project manager to assist in successful delivery of projects [8]. It is well documented that project managers are important to the success of a project [9,10,11,12] As can been seen, the competence of a project manager is in itself a factor in ensuring positive project outcomes which indirectly improved the organizational performance [13]. Ultimately, project managers are hold accountable for the project results by delivering project objectives safely, on schedule, within agreed budget and performance criteria or quality parameters determined by the client [14]. Similarly, in the construction industry, successful construction organizations now focus on ensuring that project managers acquire the core competencies required to be successful in their assignments [15]. This is due to the nature of the construction industry where it is the project manager who, at the centre of the project network, is responsible for orchestrating the whole construction process [16]. Possessing the core project management competence would help to define the ability of project managers to deliver good performance towards the attainment of project success [17]. Scholars in the project management area also confirmed that competent project managers are vital to project success, and several studies have highlighted critical skills [18,19,20] which is necessary for efficient project performance [15].

However, a large number of literatures focus on the project manager’s technical issues [21,22,23,24] while ignoring the so-called soft project management [25]. Human-related factors which usually deal with ‘soft’ issues have been identified as subjects that deal with the root cause of the problems in the construction industry but the topic has yet to garner much attention [26]. The importance of human-related factors are even notified since three decades ago, where March has urged, in order to understand the way individuals and organizations act, the softer sides of the human intellect should be increasingly considered [27]. This is where cognitive styles may come into play. Thus, the purpose of this conceptual paper is to draw attention to the importance of project manager’s cognitive style with respect to executing project successfully. As it pertains to personality dimension, this paper is concluded by making theoretical recommendations for project manager educational training, and future research.

II. BACKGROUND

This section will explore the literature review on the topics involved which will be conceptualized in a structural flow as shown below:
A. Project Management of Construction Industry in Global Context

The globalization and almost complete transparency of markets today, increasing competition, growing cost pressure, and the dynamics of customer needs certainly call for an increased use of project management. Increasing globalization calls for greater transparency, shorter product life cycle and an intensification of the competition. Factors such as speed, flexibility and progressive cost reduction move are becoming the focus of business processes. This means, the organizations have to continually react to the pressure of change. Strategies and structure have to constantly be considered and adapted. This development is expressed in the increased orientation towards projects [29]. Meanwhile, from the construction industry point of view, the complexity of today's project environments has created an even greater need to ensure that construction organizations have effective career development programmes to fill project management roles with the 'right' people for successful delivery. Furthermore in the recent article by [30] who stated that to meet this need, organizations have looked to supplement established programmes with impartial methods to profiling employee characteristics. Currently lacking from these approaches is a means to reflect both the structural changes incurred through management by projects and the underlying principles of workplace competency. The traditional management model can be described as consisting of three levels: first line supervisors and managers, middle managers and the executive [31]. Reference[32] suggest that project management has surpassed this traditional model of management in its effectiveness and efficiency for handling the complexity of today's organizational environments. Therefore, project based organizations must work to renounce the traditional model and consider the wider implications of project management as a legitimate, effective and perhaps dominant management model [32,33,34]. Therefore, a competent project manager is vital to project success, and several studies have highlighted critical skills[18,19,20]. Reference [35] also confirmed the industry's growing awareness of the relationship between achieving project success and construction project management competencies. Successful construction organizations now focus on ensuring that project managers acquire the core competencies required to be successful in their assignments [15].According to [36] the project manager has direct influence over 34–47% of project success. Based on these previous studies, it is clear that project managers play an important role in determining the success of a project in project management field.

B. Project Management of Construction Industry from Malaysian Perspective

Meanwhile, in the Malaysian construction industry, this service sector is the largest contributor to the nation’s economy, accounting for almost 58% of Gross Domestic Product (GDP). Under the 10MP, the Government targets this sector to contribute 60% of GDP by 2015 which was announced by the Prime Minister of Malaysia, YAB Dato’ Sri Mohd Najib Tun Abdul Razak in budget 2012 speech. Unfortunately, there are many challenges facing the industry today including enhancing quality and productivity besides high labour and material prices, inefficient and ineffective methods and practices, inability to attract and develop local workforce, inability to provide total integrated solutions and difficulty in securing timely and adequate funding. According to [37] the common issues and problems associated with construction process lie in the ill considered procurement selection, traditional separation of design from construction, lack of integration/organization of the project members and poor communication channels, uncertainties in design and construction, changing internal and external environment, project complexity and characteristics, as well as contractual and commercial matters. In order to overcome those issues and problems so as to achieve excellence in managing construction project, it is therefore paramount that the elements or ingredients in project managing.

There is therefore the need to ensure that the setbacks and problems are eliminated or mitigated by effective management of the construction process in order for the projects to be successful. Furthermore, there is a need for information and assessment throughout the construction life cycle. It is therefore important that there be an evolution in the knowledge and attitudes of all those involved. It has been clearly stated that this will be possible by overcoming traditional boundaries to enhance project performance through innovation in organizations, management, marketing and technology which creates more value for interested parties and end-users and contributes towards a better quality [38].

C. Human Management of Construction Industry in Global and Malaysian Context

In the previous sections, an overview of the current issues of project management in construction industry has been
reviewed generally and it can be concluded that the changing markets, new technology and rising clients’ expectations are stimulating reviews on how construction process and practices can be re-engineered to enhance performance. Hence, this section will explore how human management could help in upgrade and enrich the skills and competency levels of construction workforce as an alternative channel to ensure that the construction projects are completed at a reasonable cost and in the specified time frame, using the best practices and processes in planning and implementation.

Recent research has explored successful project management and raised interesting assertions about the competencies of successful project managers that need to be incorporated into any discussion of how to develop master project managers. Shared leadership; social competence and emotional intelligence; communication; skills in organizational politics; and the importance of visions, values, and beliefs have emerged as competencies that are required from project managers in complex environments [39]. Therefore, managing projects successfully therefore requires a mixture of skills including interpersonal ability, technical competencies, and cognitive aptitude, along with the capability to understand the situation and people and then dynamically integrate appropriate leadership behaviors [40]. Reference [41] suggested that effective administration rests on human skills, conceptual skills and technical skills which can be developed independently. Reference [42], adds that the human skills of project managers have the greatest influence on project management practices and technical skills the least.

Meanwhile, the topic of human management in construction industry in Malaysian context remains scarce by its approach and application even though one of the main strategic thrusts of Vision 2020 for Malaysia is to become a fully developed country emphasis the development of the nation human resource, in which both the public and private sectors have important roles to play. Human resource development as an important element was emphasized, as well-trained workforce would have the necessary skills and knowledge to carry out quality, productive and efficient construction works. Furthermore, in the recent findings by [43] on the project success factors from Malaysian Construction Industry perspective, the author justified time, cost, quality, and stakeholders’ appreciation as main four factors effecting Malaysian construction’s industry performance. Interestingly, among the four factors from the study, the result revealed that Human Management is dominant critical in the construction industry to ensure project success. However there seems to be a knowledge gap on how Human management can be critical in the construction industry to ensure project success. Thus, this will highlight from the perspective of cognitive style in the human management context and how this dimensions can influence the achievement of project success in Malaysian construction industry. The primary focus will be on the Project Managers because the Project Manager is at the centre of everything relating to a project. Furthermore, it has been agreed that Project Manager, at the center of the project network, is responsible for orchestrating the whole construction process. Possessing the core project management competence would help to define the ability of project managers to deliver good performance towards the attainment of project success[17].

Since project managers play an important role in the success of construction projects, it is therefore essential to identify the critical knowledge and skills that a project manager needs to effectively execute construction projects. Therefore in such situations, the implementation of cognitive style approach in achieving project success by project managers is crucial in the context of Malaysian construction industry. By doing so, the project managers are engaged in the activity that involves them in constructing their own soft skills in facilitating the projects effectively in the achievement of project success through Human Management approach.

D. Cognitive Style and Project Success

1. Cognitive Style

Cognitive Styles is defined as, “individual differences in how people perceive stimuli and how they use this information to guide their behaviour (i.e., thinking, feeling, actions)” . The cognitive style has been chosen as a one of the important soft skill in project management practitioners because the supremacy of ‘intuition’ and ‘analysis’ approach that being explored in the correlation of individual performance. Reference [45] propose that cognitive style are concerned with the form rather than the content of activity and state that they refer to individual differences in how people perceive, think, solve problems, learn and relate to other. Another reason that supported the reason why identifying the type cognitive style is crucial in playing as one of the important factor in enhancing professional performance is because of the long lasting dilemma of whether effective managerial action is better served by analytical or intuitive judgments in project management [47] remains questionable. The cognitive experiential self-theory (CEST) put forward by [48] is helpful in conceptualizing and explaining the rational and intuitive facets of managerial cognition. In this theory, the authors explained that the rational system (analytical) is conscious, deliberative, abstract, and affect free meanwhile the experiential system (intuitive) is preconscious, automatic, concrete, holistic and affect laden .The rational and intuitive systems, and the extent to which an individual relies upon one or the other, may be thought of as preferred ways of processing information and decision making (sometimes referred to as cognitive styles or thinking styles[49]. Interestingly, [50] suggested that the cognitive style have a potential value in the study of organizational behavior and the understanding of management problems. Thus there can be no doubting in evaluating the cognitive style as a crucial factor...
that promotes soft skill performance in project management professionalism by project managers.

There are a number of instruments used in business and management research provide a systematic and rigorous assessments of individual’s cognitive style such as Myers Briggs Type Indicator (MBTI), Kiton Adaptation-Innovation Inventory (KAI), Cognitive Style Index (CSI), Rational-Experiential Inventory (REI), Cognitive Style Indicator (CoSI) and finally the Linear/Non-linear Thinking Styles Profile (LNTSP) [52]. Among the 6 identified instruments, the Cognitive Style Indicator (CoSI) by [44] still at earlier stage of use and development but the instrument demonstrated some promising and supportive findings to be used in both academy and practice. However, for the purpose of this study, a forced-choice question from Cognitive Style Instrument (CoSI) is proposed. The CoSI is a self-report questionnaire which is based on three cognitive styles: knowing style, planning style and creating style. The styles are described in the following paragraphs.

Planning style categorized by a need for structure who prefer to organise and control in a well-structured work environment [44]. The planners also make decision in a structured way and focus in the process of preparation and planning to reach targeted objectives [52]. On the other hand, Knowing Style is labelled as individuals who have strong analytical skills; prefer a logical, rational and impersonal way of information processing; and make informed decisions on the basis of a thorough analysis of facts and figures and rational arguments [53, 54]. Finally, individuals who categorized in creating style lean to be creative and prefer experimentation where they treat problems as opportunities and challenges [44]. They also possess other interesting characters such as making decision based on intuition (‘gut-feel’) in unconventional ways and creative, like to work in flexible environment and have a strong imagination [52].

2. Project Success

Nowadays, companies are increasingly using projects in their daily work to achieve company goals. The only way organizations can be driven to achieve excellence is by keeping an eye on competition and world best practice in all aspects of the business [55]. Recently more and more organizations are recognizing that translating corporate strategies into actions requires project management. Consequently, it is vital that projects are successful [56]. Critical success factors are important influences that contribute to project success. So, critical success factors are the set of circumstances, facts or influences which contribute to the project outcomes. According to [57] to increase the chances of a project succeeding it is necessary for the organization to have an understanding of what are the success factors, to systematically and quantitatively assess these factors, anticipating possible causes and effects, and then choose appropriate methods of dealing with them. Once identified, the success of the project can be achieved. Generally, the success of a construction project depends on a number of factors, such as project complexity, contractual arrangements, and relationships between project participants, the competency of project managers, and the abilities of key project members [58]. Reference [16] in his report said that successful project delivery requires the concerted effort of the project team to carry out the various project activities, but it is the project manager who, at the center of the project network, is responsible for orchestrating the whole construction process. Possessing the core project management competence would help to define the ability of project managers to deliver good performance towards the attainment of project success. Others researcher, [59] identify a set of project success factors; project team commitment, contractor’s competencies, risk and liability assessment, client’s competencies, end-users needs and constraints imposed by end user [17]. In the most recent findings by [43] on the project success factors from Malaysian Construction Industry perspective, the author justified time, cost, quality, and stakeholders’ appreciation as main four factors effecting Malaysian construction’s industry performance. Therefore, PSQ (Project Success Questionnaire) is proposed to measure the project success construct. It was based on [60] project implementation profile that uses a model of project success consisted of two key themes: the project and the client total.

E. Purpose of Inquiry and Inquiry of Questions

To author’s knowledge there are no previous studies that have specifically examined the role of cognitive style in the context of project management. The aim of this research was to examine the type of cognitive styles practised by construction project managers in performing their respective tasks in a project environment. This study helps the researcher in predicting project manager’s behaviour in which manager’s cognitive styles may lead successful project outcomes. The specific research questions that this study sought to answer were: (1) What is the relationship does Cognitive Style has on Project Success?; (2) What is the relationship do the individual Cognitive Style attributes have on Project Success? Therefore, the following section demonstrated the conceptual framework proposed for future research.

F. Summary of Conceptual Framework

This conceptual paper proposed cognitive style as explanatory variable towards the achievement of project success from project manager’s perceptions. Reference [61] asserted that even though a model is not typically used for explaining complicated process, it does help by simplifying the process and making it more understandable. This proposed conceptual model is significant because it will explore the soft skill from behavioral perspective towards the achievement of project success and make recommendations for future research. Please refer to the Fig. 2 to the summary of proposed
conceptual model.

![Figure 2: Conceptual Model](image)

G. Limitations and Delimitations

This proposed conceptual paper is delimited by several elements. Firstly, is on the cognitive style approach. Considerable attention has been devoted to cognitive style – individual preferences in perceiving and processing information – since the beginning of the previous century. This interest led to the development of a wide diversity of cognitive style theories. Cognitive styles also gained prominence in the organizational behavior and management literature the last decades as they are relevant addition to the personality and ability constructs. The myriad of cognitive style models and the growing number of cognitive style measures have resulted in a complex field of study. Different researchers have tried to create order by categorizing the diversity of theories [44]. Thus, for the purpose of this study, issues dealt with (1) the theory of cognitive style, (2) the measurement of cognitive style and (3) the practical relevance of cognitive style in project management will be discussed in detail.

Secondly, is on the topic of project success. With respect to project success, the remaining issue remains scarce due to concept of project success which seems difficult to define. The definition of the concept of success remains very broad [62]. Project success has long been considered the ability to fall within time, cost, and quality constraints. The “time /cost/ quality triangle” or “iron triangle,” or the “golden triangle,” that some professionals call the “Holy Trinity” or the “triangle of virtue” sufficed as a definition of project success [62,63,64]. Somehow, in the recent findings by [43] on the project success factors from Malaysian Construction Industry perspective, the author justified time, cost, quality, and stakeholders’ appreciation as main four factors effecting Malaysian construction’s industry performance. Thus, this paper will be highlighting on the four factors only and how this factors being influenced by cognitive style by construction project managers.

III. Conclusion and Implications

In project environment, as a project leader, project manager’s primary responsibility is to achieve project objectives. In view of this, leaders need a different attitude regarding the classic management functions of control, coordination, communication, and the setting of performance standards. Reference [65] have identified that to be successful; leaders need both cognitive and behavioral complexity and flexibility. This means, leaders need a behavioral repertoire and ability to select the right role for the situation. Thus, the cognitive style attribute come into play where it comes to the issue of selecting the right style for the entire execution process includes the decision to allow successful project execution. But somehow, there are no previous studies that have specifically examined the role of cognitive style towards achievement of project success in the context of construction industry.

It became apparent from discussions in the preceding sections that further empirical research is required to inform on how the approach of cognitive style could be effectively managed in ensuring the achievement of the project success by project managers in the project management context. Furthermore, the question of whether projects managers’ ability to understand and manage their cognitive style as one of the cognitive competencies that is vital in dynamic with high complexity and uncertain project environments is an intriguing one for future research from the management perspective. As it pertains to personality dimension, it is a point of argument for including cognitive styles as a topic for discussion in every project manager’s training in order to carry forward this human behaviour subject ‘out of the closet’ and ultimately this so called ‘soft skill’ may be better understood and more effectively managed. In order to achieve this, continuous professional development could play vital role in alerting this professional group of people become more aware of important qualities in themselves and others leading to measurable benefits in performance. Professional body is the best place to convey to the members that entry to the profession does not signify the end of learning but rather a place to help project managers to identify personal qualities which contribute to the efforts in discovering potential ways of enhancing projects and project management performance. Therefore, this is where the Cognitive Styles approach may come into play.

In addition, discussion on the cultural findings would be great input to debate about the proposed concepts which may provide a basis to develop appropriate training and development program that would allow training to be appropriately targeted and delivered for efficient continuous professional development through educational training for Malaysian construction project managers. The authors have so set their sights and will report the findings once available.
REFERENCES


