CORE COMPETENCY OF SOFT SKILL TOWARDS PROJECT TEAM MEMBER

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A project report submitted in partial fulfilment of the requirement for the award of Master of Project Management

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DECLARATION

I hereby declare that this project report is based on my original work except for citations and quotations which have been duly acknowledged. I also declare that it has not been previously and concurrently submitted for any other degree or award at UTAR or other institutions.

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APPROVAL FOR SUBMISSION

I certify that this project report entitled "**CORE COMPETENCY OF SOFT SKILL TOWARDS PROJECT TEAM MEMBER**" was prepared by **KIM POH LAN** has met the required standard for submission in partial fulfilment of the requirements for the award of Master of Project Management at Universiti Tunku Abdul Rahman.

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ABSTRACT

Competitive market nowadays increases the complexity of the project. Therefore demanding of competitive team is increase. Besides technical knowledge as a hard skill, soft skills also play an important role to build an effective team to increase project success (Hills, 2018). Numerous research has been done on the understanding of soft skills but there is lack of research to the current performance in Malaysia's construction team. The purpose of this research conducted is to explore and examine the core soft skills in Klang Valley and Selangor's construction industry. The objective to be assessed in this research are as: to determine the core soft skills; to evaluate the current performance on soft skills and identify an effective way to improve soft skills for future preparation. The research instrument adopted in this research is quantitative with 5 points Likert scale. There is a total of 156 respondents from 3 different nature of business (developer, consultant, and contractor) which 7 various designations and across generation Y, X and baby boomers. From the collected data, it can be found that all the 16 identified soft skills are important towards project success. Soft skills such as communication, teamwork/engagement and coordination are the 3 most important factors for project success from the finding. Therefore the assessment of current performance is crucial to evaluate the strength and weakness of the team member. Whereas there is the competence gap between core soft skills and current performance. Diminishing or eliminate the competence gap is able to achieve via proper and appropriate improvement strategy which is the 3rd objective in this research. The finding tells that the soft skills able to improve or establish with appropriate strategies. However, there are no single approaches able to overcome all 16 identified soft skills in this research. In a nutshell, the purpose of this research is to provide a better understanding of the core soft skills and performance of the current team member. This is important to explore the appropriate and effective improvement strategies to minimise the competence gap in order to sustain in the competitive construction industry.

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LIST OF ABBREVIATIONS

RII	Relative Important Index
SV	Standard Deviation
I.I	Important Index
PAM	Pertubuhan Akitek Malaysia

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CHAPTER 1

INTRODUCTION

1.1 General Introduction

There are multiple stakeholders to every project and the stakeholders play an important role to increase the project success rate (PMI, 2017). Roseke, 2018 defines project success is the project complete with the goals within the acceptable boundary. Every stakeholder has a different perspective and perception of project success (Bannerman, 2008).

Generally, the perception of project success is to complete the project with quality and within the allocated time and budget. There is no denying that hard skills play an important role across all industries, especially to the construction industry. Generally, hard skills refer to a personal skill that the ability to perform the task.

Unlike hard skills, soft skills are non-technical. Soft skills refer to personal attributes. According to sociologists' definition, hard skills are described as intelligence quotient (IQ). Whereas, soft skills refer to the emotional intelligence quotient (EQ). Hard skills like knowledge, can be transferable or enhance through experience, training, or education. Adversely, soft skill is required to be nurtured.

Today, the competitive market increases the complexity of the project. Therefore, project management is an important skill for success. Hence, comprehensive makes the expectation of the effective team is higher. An effective team can be established with the partnering of soft and hard skills. Performance of the team would be affected by the absence of soft skills. This is because soft skills are considered a complement to hard skills (Kenton, 2020).

Strong soft skills can build understanding, motivation, and create a harmonious environment to run the operation effectively (Hills, 2018). Therefore, Hills (2018) stated that neglecting of soft skills development can impact the operation and directly affect the performance of the project.

To survive and sustain a business in a competitive market, it is beneficial to have both soft and hard skills. Building a project team with technical ability and interpersonal skills is a great competitive advantage (Omidvar *et al.*, 2011).

1.2 Importance of the Research

PMI, 2017 introduces a guide to project management to compile the necessity of hard skill. However, soft skills cannot be ignored. This research is to promote the importance and necessity of soft skills to increase the project success rate.

A survey conducted by Sumner and Powell, (2013) on the comparison of the importance and performance of both hard and soft skills. As a result, the most important ability is communication and follow with hard skills. However, there is about 28% difference in field performance. The survey reinforcement that communication will be the main soft skill in the future.

Whereby in Malaysia, a survey of soft skill's gap between employer's expectation and skills possessed of a graduate quantity surveyor student by Shafie, Syed Khuzzan and Mohyin, 2014. The most important of soft skills that employers targeted are critical thinking, problem-solving, and decision-making skills and follow by communication and language skills. However, there are ranks 10 and 8 respectively from the viewing of employers to graduate students in Malaysia. There is a huge gap between studies and the actual workplace. Result from Shafie, Syed Khuzzan, and Mohyin, 2014 is believed to be similar to the results to other project team members too.

Furthermore, Fung, (2015) demonstrates the establishment of project team effectiveness through the leadership of the project manager. This empirical study has proven that the leadership role of the project manager positively affects the effectiveness of the project team. However, the leadership of a project manager does not directly affect the efficiency of the project team. An effective team required team building and participation, it comprising of communication, promote mutual supportiveness and conflict resolution, to minimise the direct impact (Fung and Ali, 2011).

From the research of Sumner and Powell, (2013) and Fung and Ali, (2011), it is concrete that the soft skills are essential to the workplace. Therefore, research on soft skills competency is critical to project success.

Development and improvement of soft skills are crucial in this highly competitive industry. This research is focused on the assessment and familiar the weakness in soft skill to the project team member. Despite awareness of soft skills, this research comprising also the appropriate strategies on the improvement of soft skills to achieve a project goal. Which this is an important step in improving team performance to achieve project success.

1.3 Problem Statement

In this digital era, reliance on technology led to the neglect of soft skills. Technology is able to help with the insufficient of hard skills but technology unable to develop soft skills. Today's technology has made it easier to connect with people but fails in engagement. However, engagement is crucial to the project team's effectiveness.

A survey of 44% of American senior executives responded that soft skills were a serious gap in the workforce instead of technical and computer skills (CBIA, 2013). The survey involves multiple industries. In the studies, the 44% respondent said communication, critical thinking, creativity, and collaboration were important to the career path. Whereas, there are only 22% of respondents cited technical skills is contribute to the skill gap.

As with other countries, Malaysia also provides through education to develop technical knowledge of project structure and soft skills. However, Affandi *et al.*, (2012) found that there was no close relationship between universities and industry in improving student's soft skills. From the study, graduate student's soft skills can be developed through exposure and experience. This may cause the team's performance to be affected by the new members.

An effective project team is critical which will affect the consistency of subsequent final product quality. Therefore, to minimize the competence gap, it is critical to identify, develop, and implement soft skills.

1.4 Aim and Objective

This research aims to determine the required competencies of soft skills for project team members in construction project.

1. To determine the core soft skill competencies towards the project success.
2. To evaluate the current performance on soft skills in project team members.
3. To identify an effective way to improve soft skills for future preparation.

1.5 Scope and Limitation of the Research

The scope of this research is to demonstrate the soft skills are the heart of building a capable team and working effectively. Therefore, the goal of this research to address the soft skills of project team members through questionnaire. All range of construction activities within Klang Valley and Selangor are invited to participate in this research due to time constrain.

Project team members are a group of individuals working together on a project to achieve a goal. Therefore, this research not only invited implementation team, but also invite planning and monitoring teams like consultant to participate in this research. This is because engage a professional team for planning and monitoring is a common practice to private construction work.

Every research has potential limitation. Quantitative method is adopted to this research. The characteristic of questionnaire is concentrated in a single concern or feedback. Therefore, the potential of root cause might be neglected. For this research, personal character and working attitude are the key factors in the development of competency. Therefore, this may affect the effectiveness of the proposed strategies.

Accordance to Fung (2015), exposure or experience and soft skills have positive interrelationships. The empirical information and exposure of team members that might be the main contributions to building soft skills. However, project background experience unable to be identified thorough questionnaire.

Furthermore, positive attitude is another blind spot in questionnaire. Accordance to (Fredrickson, 2004), positive attitude is generated from positive emotion. With the ample supply of positive emotion, soft skills like creativity, resilience are able to be nurtured.

In a nutshell, the limitation of this research would be the understanding of the background to the respondent. And this is a challenge to include in the research within the short time frame. It would benefit and improve the reliability of the proposed strategy while including the above considerations in the future study.

1.6 Contribution of the Research

Many organisations focus on the development of hard skills (technical knowledge) and neglect the importance of soft skills. With that, promote the importance of soft skills to increase understanding and executing in construction industry is essential.

Both Ur Rehman *et al.*, 2020 and Tahir, 2019 emphasized the importance of soft skills for project manager. However, inspire by Fung and Ali, 2011, project team members play an important role too.

Therefore, this research has certain reference value to the project team or an organisation, which this ability to help the team discover the deficiency and improve skills. This is because the research involved not only the identification of competency, but also the evaluation between current performance and needs.

To sustain in the competitive industry, an adequate strategy is required after assessment and familiar to the weakness. Development of soft skills to the project manager is insufficient to achieve the project's success, it required a team. Therefore, soft skills of the team members are important to improve team effectiveness and achieve the project goals.

1.7 Research Gap

There are numerous research include Seetha, (2014) address the importance of soft skills in the workplace. However, in the construction industry, team members have limited resources for individual soft skill performance. Therefore, it is important to have a better understanding of the current performance to both team and the members. However, insufficient of relevant performance information and appropriate strategies limited the criticality of the results obtained from the respondents' feedback. This is a challenge that requires a comprehensive study to explore the appropriateness of strategies to develop and enhance the capabilities of team members and contribute back to the construction industry.

1.8 Outline of the Report

The structure of the report is presented as follow:

Chapter 1 INTRODUCTION

This chapter comprising of general introduction, importance of the research, problem statement, aim and objective, scope and limitation of research and contribution of the research. This chapter mainly introduces and enables the reader to understand the intention and expectation of this research.

Chapter 2 LITERATURE REVIEW

This chapter is a review of relevant research work related to this topic. The relevant literature comprising of definition, concept of soft skills, core competencies, important of soft skills, challenge and improvement strategy. The source of literature review is from the published journal, article, books and etc. Hence, this the chapter to formulate the research instrument.

Chapter 3 RESEARCH METHODOLOGY

This is the chapter to formulate the instrument and quantitative is preferred to this research. Chapter comprising of questionnaire design, measure scale, sampling method and size. Analysis method approached after the data collection is included in this chapter.

Chapter 4 DATA COLLECTION

This the chapter tabulate the feedback and result by using the systematic research method. The interpretation of data is processed with descriptive and inferential statistic approaches.

Chapter 5 DATA ANALYSIS

This is the chapter discuss and analysis the result obtained in chapter 4. To evaluate the finding of the result and study towards the research objective.

Chapter 6 CONCLUSIONS AND RECOMMENDATIONS

This the chapter include the research limitation, implication and recommendation. In addition, this the chapter to conclude the research and define the achievement of the research objective.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

An empirical study to the soft skills related to this research. This chapter comprising of the definition, and list of soft skills which to be studied in this research. Furthermore, this chapter captured also the importance and challenges of implementation soft skills and improvement approaches.

2.1.1 Definition of Project Success

Project success factors traditionally defined as projects complete within a stipulated schedule and budget. However, in this competitive environment, the definition of project success gradually evolved. It has been redefined as meets the project objective beyond the targeted schedule and budget (Siles, 2020) or achieves the project objective (PMI, 2017). Hence, the condition of quality to the outcome is not affected or should be improved.

Success is the accomplishment of an intended goal or purpose. Therefore, project deliverable is required to evaluate to meet stakeholder satisfaction. However, most of the project has multiple stakeholders, and perception and expectation are different. Therefore, a method of measuring project success indispensable.

Siles, (2020) cited that project success is defined across project completion success, result success, and development success. Project completion success refers to the deliverable meets the predetermine criteria of cost, schedule, quality, and project scope. Result success refers to the operational and functionality of the completed product. Whereas development success addresses the value or beneficiaries of the deliverable that contributes to the organization or society. Siles, (2020) believe that consistent, repeatable, and predictable approaches are the key criteria for project success. Whereas, these key competencies can be developed through learning and improving team effectiveness.

Furthermore, there is a multilevel project success framework presented by Bannerman, (2008). There are five levels presented in the studies, which the success area comprising of process, project management, deliverable, business, and strategic. Level 1 - process success refers to the effective implementation of interdisciplinary

technical and management processes, methods, tools, and techniques to achieve project objectives. Level 2 - successful project management refers to the scope of a project accomplished with the expected schedule and budget beyond the set goals are met. This is similar to the theory of The Iron Triangle from Atkinson, (1999).

Level 3 – product success refers to the quality of deliverables. The Requirement and functionality of the deliverable shall meet the satisfaction and expectation of the client or user. Level 4 – business success, the motivation for investment. This is a measure of an organization's benefit or advantage in investing. Profits make business sustainable. Last, level 5 – strategic success, future of the organization. Reputation and recognition are key to the future of an organization. The decision of business expansion generally from strategic success.

In a nutshell, the criteria for project success should accommodate a multi-perspective approach (Bannerman, 2008). It is because the expectation and perspectives of different stakeholders are various. Therefore, mutual understanding of stakeholder requirements able to increase project success.

2.1.2 Definition of Project Team Member

Stakeholder is a group of people involved, might influence and potential impact to the project performance (PMI, 2017). Although stakeholders may influence the success of a project, stakeholders and project team members are different.

Stakeholders may be an external or internal group of people who are directly or indirectly involved in a project. Whereas, project team members refer to a group of people assigned to perform under a project.

Background and capability of project team members are varying. A team generally comprising of consultants, planning, monitoring, and implementation team. Therefore, this research focus on the performance of project team members. This is because the performance of the team members will affect the efficiency of team, which directly affects the success of the project.

Talent and collaboration of project team members are important to a project. Without an effective team, the project might not able to run smoothly (Villanova University, 2020).

A project is a team effort. Therefore, teamwork and knowledge sharing are required to accomplish a project although the expertise and role of each team member are varying.

2.1.3 Definition of Competency

Accordance to International Atomic Energy Agency, (2016), competency framework consists of core and functional competency. Core competency is to describe the behaviours that should be presented to team members, which may vary depending on job assignments and positions. Whereas, functional competency refers to job specific competencies. International Atomic Energy Agency, (2016) also clarify that a team member with three to five functional competencies able to perform well in any task given.

In general, competency is defining as a combination of skills, knowledge, attributes, and behaviour that make the individual performed well in the task. Competent team member has a clear understanding of organization goal and achieves it through expected performance

In a nutshell, it is believed that well structure and framework of competency is a key to achieve organization goal through project success.

2.1.4 Definition of Soft Skill

Soft skills refer to the interpersonal skills that describe the relationship between people (Kenton, 2020). Soft skills are intangible, hard to quantify, it refers to a human's emotional, interactive ability, and attitude. Practically, human drives project success. Hence, engagement, teamwork, and ability to manage (to leader), execution (team members) are the key driver.

The term "soft skills" was presented by Dr. Whitemore in the year 1972. The report presented the performance of a group of soldiers in training depends on how the group has been led. Although soft skill is not acquired knowledge which been teach in studies, it is job-related skills. It is involving the actions which affecting the team achievement and relationship. Therefore, both hard skills and soft skills are essential to the workplace.

Soft skills are a character trait, attitude, and behaviour instead of technical competence or knowledge. Therefore, Robles, (2012) explained that softs skills are more than interpersonal skills. Soft skills shall:

Soft skill = interpersonal (people) skill + personal (career) attributes

Strong soft skills are able to communicate well, building trust with other stakeholders and achievement in career.

2.2 Concept of Soft Skill

Soft skill refers to a wide range of skills, abilities, attitude, and behaviour which enable team members navigate, work, and excel in the workplace (Lippman *et al.*, 2015). Therefore, soft skills comprising of three primary elements which consist of people, social and personal attitude. The World Health Organization's, 2005 define that life skills and social skills are an important soft skill to overcome the challenges environment. Therefore, life, social, and people skills are key soft skills that support our daily activities.

Life skill is the abilities of adaption and positive attitude. Social skills are a kind of social interaction, and communication to establish relationships. Whereas people skills are as personal effectiveness and interaction skills.

Table 2.1 tabulated the key element of each life, social and people skills for better understanding.

Table 2.1 Key Element of Life, Social and People Skill

Life skill	Social skill	People skill
Decision making	Coaching	Understand
Problem-solving	Persuasion	Empathize
Critical thinking	Negotiation	Building trust
Self-management	Coordination	Communication

2.2.1 Life Skill

Life skill is a kind of ability to adapt and act positively, enable individual effectively to address the needs, and face the challenge of life (WHO, 2005). Life skills are psychosocial competence. The concept of life skill as a link between knowledge motivators, attitudes, values, and positive behaviour. The transformation of the link is from "what is known?' to "what is believe or though?" and conclude with "what or how to do?" (Chan and Briceño, 2019).

WHO, (2005) presents that the life skill comprising of communication and interpersonal skills, decision making and critical thinking and coping, and self-management skills. Skills to build confidence and manage emotions and stress are critical to overcoming the competitive environment. In conclusion, life skills as an interpersonal skill, that build relationships among team members is essential to establish an effective and harmonious team.

2.2.2 Social Skill

Social skills are the ability to get along with people (Lippman *et al.*, 2015). It is important to build and bridge the relationship among the stakeholder. Besides, strong social skills do not only beneficial to the organization or career path, it also improves individual lifestyle.

Strong social skills, good at communication, and create good interpersonal relationships, enables build a harmonious environment. Social skills include coordination, negotiation, persuasion, and coaching. Having basic social skills is not only needed in interpersonal communication but also contributes to the development of an effective team (Peterson *et al.*, 1995).

While team members have strong social skills and relationships have been established, cross-sharing and learning will build an effective team. Team members will use their respective expertise to support each other and work together towards the project goals. In a pleasant working environment, team spirit has quietly started, and this is the key a project success.

2.2.3 People Skill

People skill to describe the abilities that allow to inspire others and spread positivity. People skill is unlikely competencies, people skill is influence instead of leadership. People skills commonly presented are listening attentively, positive attitude, being articulate, power of influencing, being supportive and motivational, being adaptable, and flexible. (Apodaca, 2019)

Emotional intelligence (EQ) reflect individual performance and behaviour (Team FME, 2014). Self-awareness and self-management are effectively interacting with other team members to understand and recognizing others' feelings. Positive thinking and attitude will influence and lead the team positively. Whereas negative influence will demotivate the team.

Not only EQ, Team FME, (2014) highlight also the ability to empathize. Seek first to understand, then to be understood by Stephen Covey’s book (The 7 Habits of Highly Effective People) is a perfect explanation to empathize. Recognition is vital to building an effective team.

As the nature of job changes, soft skills are an important skill and shall implement into daily life. Therefore, team members should develop skills in a way to keep a competitive advantage. Knowledge is the basic skill for a team member.

However, cross-functional skills such as problem-solving, and social skills are critical and may affect team performance (Peterson *et al.*, 1995).

Shippmann *et al.*, 2000 cited that competency able to distinguish the performance between general and high in terms of knowledge, skills, abilities, and other characteristics. In other words, competence is a means of determining the skill and knowledge level of team members.

In conclusion, soft skills cultivate a competent person. An effective team established by a competent team member is an important contribution to the success of the project.

2.3 Awareness of Soft Skill

A preliminary study conducted by Seetha, (2014) found that 83% of respondents in Malaysia believed soft skills are important for a career path. In addition, only 12% of respondents were satisfied with their soft skills. This brings a message of soft skill awareness to the workplace. Key soft skill highlighted in the research consists of communication (28%), positive attitude (24%), teamwork (17%), interpersonal social (16%), analytical and problem-solving (9%), and leadership (6%). Seetha, (2014) present that communication is a core competence which will indirectly enhance the remaining soft skills studied.

Literature research by Peterson *et al.*, (1995) shows that the role of team members is to transform the raw materials into a useful product. During the period of transformation and process, there is the basic skill required to drive the project. From study, transform process required skills of problem-solving, technical skills (which including working will together with technology), social skill (interaction with stakeholders), resource management, and system skill (socio-technical skill, which is interaction between people and technology skill). Whereas, process skills involve critical thinking and monitoring.

A report from (Schwab, 2018) examined the potential challenge by employees under the pressure of new technologies. From the report, the top ten list of demanded soft skills is tabulation in Table 2.2.

Table 2.2 Top Ten Demanded Soft Skills (Source: Schwab, 2018)

Year 2018	Trending, 2022
Analytical thinking and innovation	Analytical thinking and innovation
Complex problem-solving	Active learning and learning strategies
Critical thinking and analysis	Creativity, originality, and initiative
Active learning and learning strategies	Technology design and programming
Creativity, originality, and initiative	Critical thinking and analysis
Attention to detail, trustworthiness	Complex problem-solving
Emotional intelligence	Leadership and social influence
Reasoning, problem-solving and ideation	Emotional intelligence
Leadership and social influence	Reasoning, problem-solving and ideation
Coordination and time management	Systems analysis and evaluation

From the demanded list, it is found that attention to detail, trustworthiness, and coordination, and time management have been replaced by technology design and programming and system analysis and evaluation. However, analytical thinking and innovation remain high demanded. Whereas the rapid growth of active learning and creativity, originality, and initiative are increasing significantly.

Similar to Schwab, (2018), another survey conducted by the World Economic Forum's Global Agenda Council reflects the high expectation of the artificial intelligence machine by the year 2026. The impact of technology, demographic, and social-economic make the skill requirement for employment change (World Economic Forum, 2016). The report shows the top ten soft skills (tabulated in Table 2.3) are refreshed to sustain in the challenging workplace as compared to the year 2015.

From the survey, it is found that both Schwab, (2018) and World Economic Forum, (2016) highlight the importance of analytical thinking and creativity. Analysis skills not only required expertise knowledge (tangible knowledge), it required experience and understanding the requirement of stakeholder (intangible knowledge) to solve the challenge of excellence. Similar to analytical, creativity required an understanding of a competent and challenging market.

Table 2.3 Top Ten Soft Skills (Source: Future of Jobs Report, World Economic Forum)

Rank	Year 2020	Year 2015
1	Complex problem solving	Complex problem solving
2	Critical thinking	Coordinating with others
3	Creativity	People management
4	People management	Critical thinking
5	Coordinating with others	Negotiation
6	Emotional intelligence	Quality control
7	Judgement and decision making	Service orientation
8	Service orientation	Judgement and decision making
9	Negotiation	Active listening
10	Cognitive flexibility	Creativity

In a nutshell, soft skills are irreplaceable by technology. Instead, it increases the necessity of soft skills. Despite the future industry is unknown, it is important to prepare for the future. Develop, enhance, and improve soft skills to team members will be a major challenge to an organization.

2.4 Competence of Soft Skill

IAEA, (2016) presents a framework of competency to identify the capabilities required for their respective professional roles. The framework consists of core values, core competencies, and functional competencies. Core values are the behavioural principle that needs to adhere to by the entire team.

Core competencies are described as the base of the framework, which the basic competence required by the team member. Whereas functional competencies refer to the additional necessity competencies that are identified by the level of responsibility or seniority of the role. Table 2.4 tabulate the list of both core and functional competencies presented in the studies.

Table 2.4 List of Core and Functional Competencies (Source: IAEA, (2016))

Core competencies	Functional competencies
Communication	Leading and supervising
Teamwork	Analytical thinking
Planning and organizing	Knowledge sharing and learning
Achieving results	Judgement / decision making
	Technical / scientific credibility
	Change management
	Commitment to continuous process improvement
	Partnership building
	Client orientation
	Persuasion and influencing
	Resilience

Numerous studies highlight the importance and enhancement of soft skills to the workplace and the studied competencies summaries and presented in Table 2.5. Most studies emphasize and focus on soft skills similar to IAEA, (2016) capability set.

Table 2.5 Summary of Studied Soft Skills

Item	Author	Studied competencies
1.	Kurse, (2020)	Creativity, persuasion, collaboration, adaptability, emotional intelligence
2.	Foster, Wiczer and Eberhardt, (2019)	Communication, enthusiasm, teamwork, networking, problem-solving, critical thinking, professionalism
3.	Lavender, (2019)	Teamwork, communication, work ethic, flexibility or adaptability, time management, empathy, self-confident, positive attitude
4.	Apodaca, (2019)	Communication, empathy, adaptable and flexible, assertiveness, problem-solving, leadership, negotiation
5.	Low, Gao and Ng, (2019)	Resilience, curiosity, adaptability, insight, empathy, emotional sensing, entrepreneur-thinking, pursuing conviction, vision
6.	Zuo *et al.*, (2018)	Communication, leadership, conflict management, motivation, teamwork
7.	Gray, (2016)	Complex problem-solving, coordination, people management, critical thinking, negotiation, quality control, service orientation, judgement and decision making, active listening, creativity

8.	IAEA, (2016)	Core competency: communication, teamwork, planning, and organizing, achieving results Functional competency: leading and supervising, analytical thinking, knowledge sharing, and leaning, decision making, persuasion and influencing, resilience
9.	IPMA, (2015)	Personal integrity & reliability, self-management, communication, relationships & engagement, leadership, teamwork, negotiation
10.	Jha, (2015)	Leadership, communication, problem-solving, conflict resolution, negotiation
11.	Awan, Ahmed and Zulqarnain, (2015)	Communication, interpersonal skill, coordination, team building, delegation skill, problem finding, analysing & solving
12.	Zakaria *et al.*, (2015)	Communication, problem-solving, decision making, team building, conflict resolution, planning and goal setting, sense of responsibility, time management
13.	Mishra, (2014)	Communication, problem-solving / conflict solver, interpersonal skill, teamwork
14.	Seetha, (2014)	Communication, positive attitude, leadership, analytical and problem-solving, teamwork, interpersonal & social
15.	Sumner and Powell, (2013)	Communication, leadership, conflict resolution skill, planning and organizational, influence, skills for dealing with human factor
16.	Zhang, Zuo and Zillante, (2013)	Conflict management, teamwork, and cooperation, change management, impact and influence, leadership
17.	Robles, (2012)	Integrity, communication, courtesy, responsibility, interpersonal skill, positive attitude, professionalism, flexibility, teamwork, work ethic
18.	Babic and Slavkovic, (2011)	Enthusiasm, teamwork, flexibility, communication, coordination and organization, time management, creativity, negotiation, analytical skill, leadership
19.	Dainty, Cheng and Moore, (2005)	Team building, leadership, decision making, mutuality and approachability, honesty and integrity, communication

2.4.1 Core Competence

With the assistance of soft skills, technical skills can be performed effectively and efficiently (Manmohan Joshi, 2017). Changes in economic and workplace environments increase the demand or expectation for soft skills.

Soft skills are identified as the most critical skills to nail a job in a fast-moved era of technology as in today and this also applies to project management. As stated by Gulati *et al.*, (2020), the success criteria for project management has been changed where a project manager nowadays also should manage a business and strategic component of projects instead of just pure completion of the project.

With the development of project management principles, the need for soft skills in project management has become the key to project success. In addition, project management can be social behaviour and person-to-person interaction to achieve goals. Therefore, to effectively manage a project, a combination of hard skills, the use of tools and techniques, and soft skills are necessary. A study by Awan, Ahmed and Zulqarnain, (2015) highlights the important contribution of soft skills to project success. Which soft skills positively influence the outcome of the project.

Therefore, it is concluded from numerous studies that there are 16 soft skills that this study focuses on, namely communication, teamwork/ engagement, problem-solving, creativity, collaboration, adaptability/ flexibility, emotional intelligence, understanding/ empathy, negotiation, motivation, persuasion, leadership, enthusiasm/ positive attitude, critical thinking, and coordination.

Creativity

Competence of creativity is essential. This is important to think out of the box to manage and execute the project towards success. Creativity is associated with technical and insight (Teerajetgul and Chareonngam, 2008). Accordance to (Manmohan Joshi, 2017), there are two steps of creativity, which is thinking and producing. Consider an approach different from others or completely new and put into practice.

Persuasion

Persuasive power to convince the adoption of a new strategy or suggestion. To increase the rate of success of persuasion, clear ideas expression is essential. In addition, persuasion plays an important role in obtaining the commitment of internal or external

stakeholders to achieve effective results (IAEA, 2016). Focus on the benefit and understand the stakeholder needs is crucial to success in persuasion.

Collaboration

Collaboration is a group of team members who work together to contribute their expertise to project goals and tasks. Collaboration is a process of teamwork (Moseley Corey, 2019). The ability to collaborate brings team members closer together and a key to cross-learning. Cross learning between team members exposes the opportunity to learn a new skill. Workplace is a platform to gain knowledge from surround either is technical or experience. Moseley Corey, (2019) share the important of collaboration, which comprising of:

i. Fast and easier to spot the problem and solute through brainstorming.
ii. Build healthy relationship and work closer together.
iii. A good platform to cross-sharing and cross-learning.
iv. Establish open communication.
v. Increase teamwork and high engagement.
vi. Establish an effective team

Adaptability / Flexibility

Be willing to be flexible and open when new information or ideas are important for team members to deal with unfamiliar and comprehensive projects. Adaptability and adaptability refer not only to the production of a different perspective, it is also referred to the adaption of the approaches (Teerajetgul and Chareonngam, 2008).

Coordination

Coordination is important skills that enable team members are involved and work together in an organised way to improve team effectiveness. Well coordination brings harmony relationship and encourage team spirit, and it is not only to the team members, is within the team (Awan, Ahmed and Zulqarnain, 2015). Therefore, the ability to organize and tailor activities to the needs of the project with a competent team member is essential.

Emotional Intelligence

Zuo *et al.*, (2018) presented that emotional intelligence is a combination of personality traits and emotional competencies, which enable them to perform excellently in the workplace. Unlike intelligence quotient (IQ), emotional intelligence able to develop and improve. Emotional intelligence is the ability to understand and manage feeling, which this is not limited to own feeling, but also recognize and understand the feeling of other stakeholders (Higgs and Dulewicz, 2014).

Communication

M.Buhler and Worden, (2011) excerpted the report of David Grossman that a company would suffer a heavy loss due to inadequate communication. From the survey of Seetha, (2014) conducted within Kuala Lumpur, communication was voted the most critical soft skills at the workplace. Effective communication is essential in daily activities, whether formal or informal, written, or verbal. A platform of sharing ideas and concerns is important to improve the work efficiency.

The basic communication skills are understanding and writing, and the ability to communicate or process writing. In addition, be able to understand and be understood in everyday spoken conversation. Communication is two-way, effective communication can be defined as transmitting, and receiving information is in the same way. Effective communication may not be possible if the focus is on the fluent language or province. Whereas, it able to be achieved by body language, such as a smile.

Teamwork/ Engagement

Teamwork ranked number three in the survey of Seetha, (2014). Construction project is like a basketball team, it requires teamwork. Every team member works hard, take responsibility for their role for a perfect shot. Engagement and teamwork are interrelated. The higher the engagement of team members, the more teamwork. Teamwork or team spirit is built while team members are passionate and committed to the job.

Problem-solving / Conflict management

Construction project able to be described as a combination of technology and human interaction to transform raw material into a useful product. Therefore, in this transition process, solving problems play a crucial role. This is the skills of information gathering,

knowledge is required to evaluate the future consequences of the current action (WHO, 2005).

Model of problem-solving skills presented by Peterson *et al.*, (1995) shows as Figure 2.1. The process from problem identification to decision making, required relevant expert knowledge, evaluation of the problem, and the proposed idea.

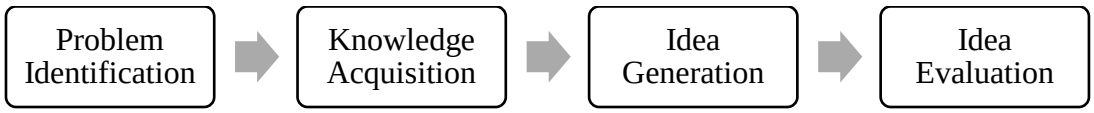


Figure 2.1 Model of Problem-Solving Skills (Source: Peterson *et al.*, (1995))

The focus point of problem-solving is on solution, rather than problem. Solution-oriented mindset is essential. Keep calm and simplifying the problem is crucial in the process of problem-solving (Manmohan Joshi, 2017). In short, both problem-solving and conflict management are the ability to identify and gather problem information from multiple sources and draw reasonable conclusions (Lippman *et al.*, 2015).

Critical thinking / Analysis

Critical thinking is a process of analysing the information to obtain the best solution. This is the ability to distinguish reality from reality by identifying or logic analysing strengths and weaknesses before making a decision (Peterson *et al.*, 1995). A good critical thinker does not blindly listen to what others say, he or she will identify the significant and relevant information. Therefore, logical thinking is essential for critical thinking. It is important to think about positive and negative to each idea, generate brainstorm idea by discussion non-working, newspaper

Understanding / Empathy

Truly understanding team members and how they feel, and giving appropriate feedback on their reactions and emotions, can build an effective team (Lavender, 2019). Consider team member perspectives and listen carefully to understand the message throughout the communication process is key to develop empathy at work. Understanding and empathy help to gain trust among team members. Whereas, trust-building helps create a positive workplace, which is an important key to project success.

Leadership

Leadership and management team are different, leaderships affect organization performance rather than management. Leadership style is varied, different nature of the business, different leadership styles required. Redmond, (2010) present that the leadership behaviours are task-centred and people-centred. Task-centred behaviour refers to emphasis roles and task, plan and schedule work, and set performance standards and procedure.

Whereas people-centred behaviour refers to friendly and supportive, present trust and confidence, concerned with team member's welfare. To have strong leadership, a balance between task-centred and people-centred behaviour is necessary.

Enthusiasm / Positive Attitude

Positive attitude is important to build a positive culture and this is important to increase team effectiveness. Team members with enthusiasm and a positive attitude are generally eager to work and friendly, which is the basis of motivation.

Negotiation

This is the skill that resolves the disagreement towards a mutual agreement to achieve a win-win solution (Trivellas and Drimoussis, 2013). It is not necessary to accept all the requisition, refusal skill is required. Negotiation not only refers to the cost bargaining but also applies to operational negotiation (Peterson *et al.*, 1995). Negotiation is an interactive process to optimize the effectiveness of team members to achieve results. The negotiation commonly has the model of win-win, win-lose and lose-lose. As named, win-win refers to both parties benefit; win-lose refers to one party benefit and opposite party dissatisfied; lose-lose refers to both parties do not benefit from the outcome. Both win-lose and lose-lose are consider negotiate failure, as there is only single party or none of party enjoy the benefit from the negotiation process. Therefore, win-win model always the priority during negotiation.

Motivation

Motivation is the internal drive to get the job done. It required intrinsic enthusiasm. Generally, there are two types of motivation which are intrinsic and extrinsic. Intrinsic motivation is from internal without other external rewards from others. Personal achievement and pleasure at work are motivators. Whereas extrinsic is induced by external rewards, it might achieve through reward. Motivation is a key factor in increasing team members' engagement (Souders, 2020).

Decision Making

Decision making refers to a process of making a decision through a collection of information, evaluation of resources and alternative resolutions Dartmouth, (2018). Addition, there are the steps that covert the decision to effective practises presented by (Dartmouth, 2018) are as follow.

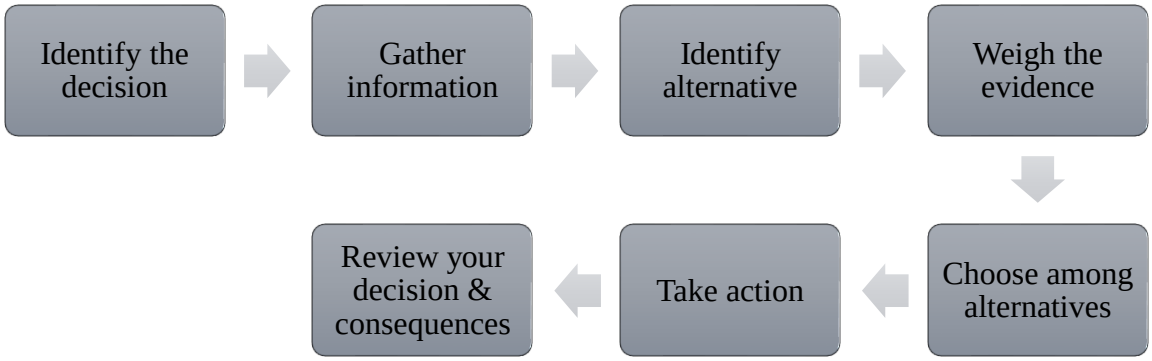


Figure 2.2 Process of Decision Making (Source: (Dartmouth, 2018))

The types of decision making commonly use in the workplace are institutional and strategy decision (Manmohan Joshi, 2017). Institutional decision-making includes scheduling and policies, which are the daily activities or plans of an organization. Whereas strategy decisions refer to the executions of institutional decision.

2.5 Important of Soft Skill towards Workplace

Inequality in the development of hard and soft skills in the education sector. Balcar, (2016) emphasizes that recognition and attention shall align with the organisation needs and goals. Productivity performance required hard skills because specific capabilities are involved. However, it is not enough to rely on hard skills alone. Soft skills are needed. It is necessary to have certain soft skills to make hard skills valuable.

Seetha, (2014) conclude that there is a room of improvement on the soft skills to meet an organization's need. The expected idea combination is hard skills equipped with soft skills, and the competence shall balance across all levels (position or designation) of the organisation.

In this technology era, soft skills needed are not only for personal growth but also for organization growth. Several benefits would bring to an organization with the development of soft skills.

Strengthen Project Team

A strength and competence project team is essential in the journal of project success. Strengthen the team members is crucial to team effectiveness. Instead of improving the weakness, reinforce the existing skills are more efficient (Clark, 2014). Right people do the right job makes the delegation of works more valuable. Furthermore, self-confidence and motivation are achieved through excel performance to the right task given. Optimism and stay positive to face the challenge is vital to establish a stronger project team as every obstacle meets will reward by the improvement of personal growth. (Pappas, 2019)

Create a Positive Workplace Culture

Atmosphere would affect the attitude of team members. Strong and unique culture builds a collaborative team. Whereas, dry and meaningless create a group of robots, and may directly affect the sustainability of the organisation (Kluwgant, 2018). According to a survey conducted by (Dana Fields Muldrow, 2012), the majority of respondents believe that workplace culture, rather than business strategy is critical to business success.

In conclusion, a positive work environment nurtures team members' pride and feeling of ownership. While a positive attitude developed, trust and motivation are to be built between team members. Furthermore, team members are willing to hard work for organisation and create an opportunity for success (Agarwal, 2018).

Building Relationship

Relationship is an art of connecting with people and benefit from it. There is no one person able to complete everything by himself specially to construction projects. Despite business relationship hereby means as a personal relationship. Cross-sharing and cross-learning are huge gains and benefit from a good relationship. There are numerous platforms to maintain a relationship, such as social media, chat groups, email, and virtual meetings. However, the most effective and long-last connection as traditional method, face-to-face. It is not difficult to find that the strong interpersonal skill team members have more competent to build and maintain a relationship with all the stakeholders. This is essential to perform a given task.

Preparation for Tomorrow

Evolution of technology and artificial intelligence (AI) is advancing rapidly. However, soft skills are irreplaceable (World Economic Forum, 2016). The major difference between AI and soft skills is feeling or emotion, which is hard to create. Even we required assistance from technology to generate data, it is impossible to rely solely especially on decision making. Positive attitude and adaptive is effectively face the challenge no matter in daily life or career (Succi, 2015). Therefore, the improvement of soft skills is essential as opportunities are for those who are prepared.

The cultivation and improvement of personal soft skills are not only beneficial to individuals. It is also important for the growth of the organization. Organisation is established by a range of team members. Therefore, the contribution of team members to the work is crucial.

2.6 Challenge of Soft Skill

Soft skills bring a competitive advantage in this technology era. However, nothing is perfect. As highlight, everyone has their personality. Therefore, it will be the challenge of developing soft skills. Generally, the challenge comes from a different generation, here called a generation gap, educational background, and work experience.

Generation Gap

Most companies have several generations work in the same workplace. Generally, an organization has five generations, which are baby boomers (born between 1946 and 1964), generation X (born between 1965 to 1979), generation Y (also called Millennials, born between 1980 to 1995), and generation Z (start from 1996).

Different generation has different personalities, values, and priorities. According to a survey by Asghar, (2014), more than 45% of respondents feedback that baby boomers and millennials having the challenge to work together. Approximate 21% respondent feedback that baby boomers and generation X had the most conflict. Another 13% feedback the conflict was between generation X and millennials. Therefore, generation gap to be paid attention to establish an effective team.

Kelly, (2014) found the root cause of the challenge brought by working together with multigeneration. Baby boomers having a mindset of younger generation (generation X and millennials) are lack of self-discipline and arrogant generation X. Whereas generation X not preferable resistance to change, lack of creativity baby boomers. Furthermore, generation X gives the impression of poor problem-solving skills and slow response. Accordance to Bursh and Kelly, (2014) generation X perform better flexibility and communication than generation Y.

In fact, it is a great opportunity for cross-learning. Intangible knowledge such as experience and technology knowledge to be cross-sharing in an appropriate platform, a perfect team able to establish.

Educational Background

As discussed, there is a group of team members that consists of various designation roles. Therefore, the level of literature is different. There is no statement that the educational background will affect the development of soft skills. However, a way of

communication shall be concerned. It is because a certain group of team members prefers mother-tongue as unfamiliar with other languages.

Work Experience

Work experience and exposure to hard skills are interrelated. As highlight, experience is intangible knowledge which not educated in school. Therefore, contribution of experienced team member to project success is strongly influenced. Refer to the generation gap, experience team member categories in generation baby boomer, which majority of the position of the top management team.

On the other hand, total work experience (age reference) and specific job experience is another challenge for problem analysis and solution. From here, people skills play an important role to overcome the challenge.

2.7 Soft Skill Improvement Strategy

They are always a common misunderstanding on the possess of soft skills, which are soft skills that are born in nature. Another misunderstanding is extravert must good with soft skills, and age limits the new skills development. All the three statements are wrong, it is never too late and no limitation to develop soft skills. Understand the necessity and weakness, develop and improve it to enhance both career and personal lifestyle. Generally, improvement of soft skills can be achieved in the way of training, mentorship programme, buddy programme, appraisal, and reward.

Training

Understand that soft skills are not easy to learn or taught, but they can be trained and nurture. We might not be born in soft skills, but it can be developed via educational training or self-learning or self-developing. Awareness of investment in training to improve the team member's performance has increased as team member is a bloodstream to an organization (Imran, 2013). This is because the performance of team members drives the growth and success of the organization.

Training need analysis presented by Anderson, (1994) is a process to determine the skills gaps. It is important to fully understand the weaknesses and the need for skills before participating in the training. Despite outsider, self-learning or self-developing is another good choice. However, it needs strong self-discipline. This can be achieved by

practice. Self-awareness is the first step to fully understand the environment and analyse the root cause. Subsequent captured the weakness and worked on it.

A tailoring and suitable training will increase the participation and involvement of team members, which will significantly increase the effectiveness of training (A1Yahya and Mat, 2013).

Mentorship Programme

Mentor, an experienced person who able to provide guidance or training to another. itraining expert.com, (2016) presents that coaching and mentoring able to maximise the potential.

A mentorship programme studied to the audience of nurse by Zhang *et al.*, (2019) highlight that one-to-one mentorship able to promote confidence and self-efficacy. This is because role of mentor plays an important to both guidance on professional knowledge and mentor support.

However, studies from Arora and Rangnekar, (2014) have found that psychosocial guidance is more effective than career guidance in areas that are important for career resilience. Therefore, consideration of mentorship programme might be achieved the improvement of soft skills.

Buddy Programme

Unlike with mentorship programme, top-down relationship, buddy system refers to a parallel relationship. Lesk and Montaldo, (2018) focus their research on matching international and local students so that paired students can quickly adapt to the new school environment. Srimannarayana, (2016) study showed that 67% of respondents feedback that the buddy programme is an effective system in adaption to a new environment.

Similar to concept applies in the workplace, where cross-learning is practised. The improvement could be more effective. Compared with the mentoring programme, pressure from buddy programme is minimal.

Appraisal

Appraisal is a measurement to evaluate the performance of the individual. Soft skill competence is intangible, so they are hard to measure. However, it is impossible to know about improvement without measuring techniques. Therefore, evaluation is essential. It is because reviewing the performance is significant step for improvement.

Key Performance Indicator (KPI) is not a new measurement technique in Malaysia. Hence, this is effectively transforming from intangible to measurable. Performance measure is important to construction performance (Lee, Syuhaida Ismail and Mohammad Hussaini, 2013). To effectively evaluate the competencies, progress, or performance of the project could be a reference as a guideline.

Reward

There is no denying that rewards bring motivation. Reward is a token of appreciation. Appropriate rewards can maintain team spirit. It can be in monetary or recognition. Rewards system can be derived from the performance evaluation.

A reward system study from Khan, Waqas and Muneer, (2016) mainly studied two main types of rewards, namely intrinsic reward and extrinsic reward. From the results, there is a strong relationship between team performance and reward. Furthermore, finding from Obicci, (2015) that both extrinsic and intrinsic rewards are conducive to improve employee engagement.

Extrinsic Rewards

Extrinsic rewards are physical, which is concrete reward. Extrinsic rewards are the realization of external factors, not limited to bonuses, benefits, increments and promotions (Khan *et al.*, 2016). In Khan, Waqas and Muneer, (2016) study, extrinsic rewards support the basic need, which is satisfaction of individual need. Monetary might not bring personal satisfaction, but increment of lifestyle is a great motivator. (Obicci, 2015) points out that the incentives to attract and retain team members, and suggested to have a competitive incentive scheme.

Intrinsic Rewards

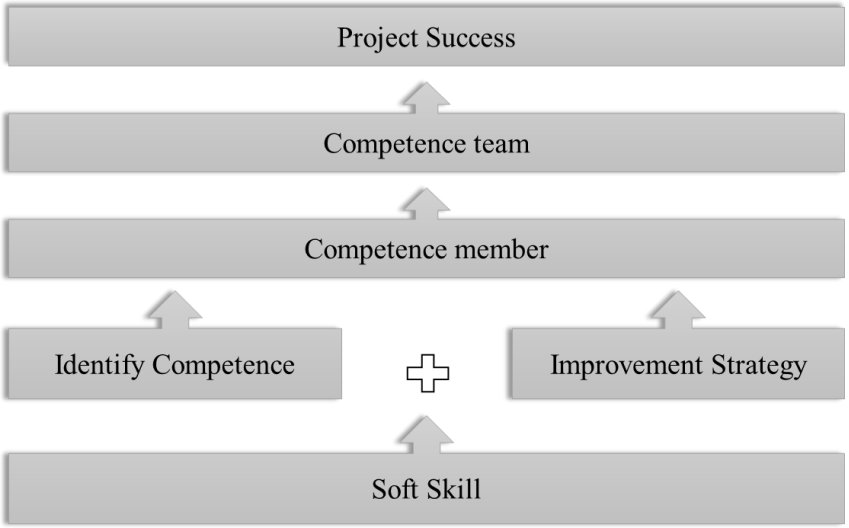
Intrinsic rewards are non-physical, which is a sense of achievement. Intrinsic reward also refers to psychological reward (Khan *et al.*, 2016). Despite the existence of extrinsic rewards, Luthans, (2000) argues that non-financial rewards such as recognition are effective and efficient. In the study, recognition shall immediate and delivered personally after achievement to concrete and reinforce the value. Inevitably, the reward should be valuable and meaningful rewards designed according to the needs of the receiver

Extrinsic rewards focus on the team's performance in achieving organizational goals. Whereas intrinsic approached make team members feeling better in the organization. It is also able to define that extrinsic approaches are quantitative in nature and intrinsic rewards are qualitative. In a nutshell, both financial and non-financial able to enhance the team members engagement.

2.8 Conceptual Framework

To increase project success, Figure 2.3 maps the framework of this research. From the literature review, soft skills are important to increase the project success. Partnering with identification of current competence and appropriate improvement strategy able to increase the competence of team member. And individual ability is the key to build a competent team. In conclusion, the improvement of soft skills contributes to the establishment of a competent team, and a competent team is a big step in improving project success through team effectiveness.

Figure 2.3 Conceptual Framework



2.9 Summary

In the past ten years, the level of education has been constantly improved. The expert knowledge, technology, and hard skills are improving and enhancing. Hence, the social perception of soft skill to the workplace increase tremendously too (Schulz, 2008). Therefore, it is the right time to develop and enhance the soft skills to create a positive and healthy organization. Soft skill is important to shape team member's personality, and this is irreplaceable by hard skills or expert knowledge.

In a nutshell, every team member should have several adequate soft skills instead of technical knowledge to create or remain the competitive advantage in this competitive industry.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a systematic approach to collecting information from the public as data to determine the reliability or validity. This can serve as a reference for decision making because the data collected is persuasive. The data collected would go through a process of organization, evaluation, and analyses before the conclusion. Therefore, defining the root cause or proposing an effective solution can be done through the research which is important to this research. The purpose of this research is to find out the facts, unknown and unrevealed facts to increase the success rate of the construction project through the improvement of soft skill.

3.2 Quantitative Research

Generally, data collected able to be analysed by both quantitative and qualitative. Whereas, quantitative approach which questionnaire adopted to this research. This is because quantitative analysis is using statistical or numerical data to seek for the frequency, mean, and correlation (Scribbr, 2000), which is suitable for this research due to time constraint.

Acharya, (2010) cited Babbie, 1990 that questionnaire is a set of document that consisting of questions to collect information for analysis purposes. Structured questionnaire instead of unstructured is preferred to minimise the discrepancies and increase the consistency. Thus, structured questionnaire is only easier for data management with the assistant of digital, it is also providing convenience and easiness to the respondent. Therefore, data able to be administered with cost and time effective.

It is understood that the structured questionnaire is a close-ended question that requires respondents to respond to pre-determined information. This research adopts the five-point Likert scale, this is because the results are easy to understand, and the accuracy of information analysis also increases.

Google Form is adopted for online questionnaire survey to facilitate distribution and monitoring. Online questionnaire can be distributed quickly and conveniently over email or social media. This may increase the response rate as the questionnaire can be accessed by using digital device at any available time.

3.2.1 Questionnaire Design

This is a close-ended questionnaire comprising of five sections as listed in Table 3.1.

Table 3.1 Questionnaire Design

Section	Description
A	Respondent's background
B	Identify the required soft skill competencies which contribute to the project success
C	Self-assessment of key competencies
D	Evaluate the performance of the current team
E	Effective way to improve key competencies

Section A is the common demographic of respondent, it is comprising of age group, organization nature, work experience, position, educational background. Respondents are required to choose the most suitable among the selection.

The questionnaire design is consistent with the objectives of this research which emphasis in Chapter 1.4. Section B is focusing on the soft skill required for project success. Questions are designed to identify the soft skill that leads to project success as emphasis to the first objective.

Second objective of this research is to assess the current performance of soft skills to project team members. Team performance determines the ability of team members. Therefore, self-assessment is included in this questionnaire in Section C. Whereas section D is allowed respondents to rate for the current team performance.

There is a similar list of question in section C & D after analysis shown in Table 3.4 This is because a similar question is able to determine the required competencies directly. There is a summary of the list of competencies from Table 2.5 for the past decade. From the summary, it is found that several competencies have emerged in the last five years, which are persuasion, emotional intelligence, understanding/empathy, and motivation. Performance and capability of the newly emerged competencies shall be evaluated to improve team effectiveness.

Table 3.2 (Frequency) List of Competencies, From Year 2016 to Year 2020

Author | Competencies	Kurse, (2020)	Foster, Wiczer and Eberhardt, (2019)	Lavender, (2019)	Apodaca, (2019)	Low, Gao and Ng, (2019)	Zuo *et al*., (2018)	Gray, (2016)	International Atomic Energy Agency, (2016)	Total (Frequency)	Frequency (%)
Creativity	1						1		2	4.65%
Persuasion	1				1			1	3	6.98%
Collaboration	1								1	2.33%
Adaptability / flexibility	1		1	1	1			1	5	11.61%
Coordination							1		1	2.33%
Emotional intelligence	1				1				2	4.65%
Communication		1	1	1		1		1	5	11.63%
Teamwork / engagement		1	1			1		1	4	9.30%
Problem solving / conflict management		1		1		1	1		4	9.30%
Critical thinking/ analysis		1					1	1	3	6.98%
Understanding / empathy			1	1	1				3	6.98%
Leadership				1		1		1	3	6.98%
Enthusiasm / positive attitude		1	1						2	4.65%
Negotiation				1			1		2	4.65%
Motivation						1			1	2.33%
Decision making							1	1	2	4.65%

Table 3.3 (Frequency) List of Competencies, From Year 2011 to Year 2015

Author | Competencies	IPMA, (2015)	Jha, (2015)	Awan, Ahmed and Zulqarnain, (2015)	(Zakaria *et al.*, 2015)	Mishra, (2014)	Seetha, (2014)	Sumner and Powell, (2013)	Zhang, Zuo and Zillante, (2013)	Robles, (2012)	Babic and Slavkovic, (2011)	Total (Frequency)	Frequency (%)
Creativity										1	1	2.22%
Persuasion											-	0.00%
Collaboration								1			1	2.22%
Adaptability / flexibility									1	1	2	4.44%
Coordination			1							1	2	4.44%
Emotional intelligence											-	0.00%
Communication	1	1	1	1	1	1	1		1	1	9	20.00%
Teamwork / engagement	1		1	1	1	1		1	1	1	8	17.78%
Problem solving / conflict management		1	1	1	1	1	1	1			7	15.56%
Critical thinking/ analysis						1				1	2	4.44%
Understanding / empathy											-	0.00%
Leadership	1	1				1	1	1		1	6	13.33%
Enthusiasm / positive attitude						1			1	1	3	6.67%
Negotiation	1	1								1	3	6.67%
Motivation											-	0%
Decision making				1							1	2.22%

Table 3.4 List of Competencies in Questionnaire Section C&D

Competencies	From Year 2016 to Year 2020	From Year 2011 to Year 2015	Different of Importance	Adoption to this questionnaire
Creativity	4.65%	2.22%	2.43%	✓
Persuasion	6.98%	0.00%	6.98%	✓
Collaboration	2.33%	2.22%	0.11%	✓
Adaptability / flexibility	11.61%	4.44%	7.17%	✓
Coordination	2.33%	4.44%	-2.11%	✓
Emotional intelligence	4.65%	0.00%	4.65%	✓
Communication	11.63%	20.00%	-8.37%	✓
Teamwork / engagement	9.30%	17.78%	-8.48%	✓
Problem solving / conflict management	9.30%	15.56%	-6.26%	✓
Critical thinking/ analysis	6.98%	4.44%	2.54%	✓
Understanding / empathy	6.98%	0.00%	6.98%	✓
Leadership	6.98%	13.33%	-6.35%	✓
Enthusiasm / positive attitude	4.65%	6.67%	-2.02%	✓
Negotiation	4.65%	6.67%	-2.02%	✓
Motivation	2.33%	0.00%	2.33%	✓
Decision making	4.65%	2.22%	2.43%	✓

Team efficiency is the key factor in project success. Also, team efficiency can be increased through the development or improvement of soft skills. Therefore, another objective of this research is to identify effective ways to improve the required soft skills. The questionnaire list in section E is referring to the improvement strategy as discussed in chapter 2.7 and tabulated as follow.

Table 3.5 List of Improvement Strategy in Questionnaire Section E

Improvement Strategy		Sources
Training		(Imran, 2013), (A1Yahya and Mat, 2013)
Mentorship programme		(Zhang *et al.*, 2019), (Arora and Rangnekar, 2014)
Buddy programme		(Lesk and Montaldo, 2018), (Srimannarayana, 2016)
Appraisal		(Lee, Syuhaida Ismail and Mohammad Hussaini, 2013)
Reward	Extrinsic	(Khan *et al.*, 2016), (Obicci, 2015)
	Intrinsic	(Khan *et al.*, 2016), (Luthans, 2000)

3.2.2 Research Instrument

Quantitative method of five-point Likert scale is adapted to this research. A study from Dawes, (2008) found that five and seven-point scales produce the same score after the data re-scale. In addition, five-point scale provides sufficient scale and able to minimise the conflicting of the respondents' rating. As inspired by Vagias, 2006, the anchors of Likert scale to each section are different. The Likert-scale to this research is listed as Table 3.6.

Table 3.6 Likert-type Scale Response Anchors

Section	**Response Anchors**				
B	Measure: Identify the required soft skill competencies which contribute to the project success Level of Agreement				
	1	2	3	4	5
	Strongly disagree	Disagree	Neither	Agree	Strongly agree
C	Measure: Self-assessment of key competencies Level of Quality				
	1	2	3	4	5
	Poor	Fair	Good	Very good	Excellent
D	Measure: Evaluate the performance of the current team Level of Quality				
	1	2	3	4	5
	Poor	Fair	Good	Very good	Excellent

E Measure: Way to improve soft skill

Level of Appropriateness

1	2	3	4	5
Absolutely inappropriate	inappropriate	Neutral	Appropriate	Absolutely appropriate

In conclusion, the final goal of this study is to identify the competencies that team members can improve team efficiency. This is another new benchmark for the organization to establish an effective team.

3.3 Sampling Method

Target population is the priority steps of the research. This is because a small number of people are elected to represent the entire industry. The method of sampling refers to the method of selecting a person from the population who need to be sampled.

Generally, there are two sampling methods to quantitative research, which are probability and non-probability. Discrepancy between probability and non-probability sampling refers to the degree of participation of the respondents.

In simple terms, probability sampling is every individual has an equivalent opportunity to participate in the survey. Whereas non-probability sampling refers to targeted with relevant expertise to participate in the survey. Therefore, the non-probability sampling method is preferred to this research as the target respondent refers to construction project team members.

Both Taherdoost, (2016) and McCombes, (2019) has a similar list of non-probability sampling method, which shown in Table 3.7.

.

Table 3.7 Types of Non-Probability Methods

Taherdoost, (2016)	McCombes, (2019)
Quota sampling	Convenience sampling
Snowball sampling	Voluntary response sampling
Judgement sampling	Purposive or judgement sampling
Convenience sampling	Snowball sampling

Consideration of sampling method is essential as the accuracy of data is significant to the research. Although non-probability method is adopted to this research, not every sampling method is applicable. Therefore, Table 3.8 briefs the adoption for sampling method in detail. briefs the adoption for sampling method in detail.

Table 3.8 Adoption of Non-Probability Sampling Method

Non-probability sampling method	Adoption	Remark
Convenience This is a simple way to collect the data. Questionnaire is distributed among the familiar environment.	✓	Adopted as it is expected the questionnaire would be circulated in an organisation.
Voluntary response As stated, the respondent participates voluntarily. It might have hidden potential risks. The data received unable to represent the population because of the strong opinion or bias on opinion.	×	Not adopted due to concern about the accuracy of data gathered.
Purposive The sampling method that wants to obtain detailed information on a phenomenon, rather than for statistical reference.	×	Not adopted as team members from different backgrounds are required to participate in questionnaire.
Snowball Numbers of respondents will increase significantly while the respondent is recruiting other respondents.	✓	Adopted, as forecast to bring the benefit of receiving more respondents from different nature of business.
Quota This is non-random sampling which the respondent selected is based on the predetermined characteristic. Therefore, a similar group of respondents is widely distributed.	×	Not adopted as a similar group of respondents unable to represent the population.

3.4 Sample Size

The larger the data received, the lesser the possibility of deviation. However, oversize the sampling size, the return of accuracy would be diminished. Therefore, balancing is required (Taherdoost, 2017).

For calculation the sample size, demographic of respondents is considered. Table 3.9 shows the estimated population in Klang Valley for determination of sampling size.

Table 3.9 Estimation of Population for Sampling Size

Nature of business	Estimated Population	Source
Client (Developer)	198	(REHDA Malaysia, 2020)
Consultant (Architect)	480	(Lembaga Arkitek Malaysia, 2020)
Consultant (Engineer)	750	(BEM, 2020)
Consultant (Quantity Surveyor)	243	(BQSM, 2020)
Contractor	>10,000	(CIDB, 2020)

An online calculator, Raosoft, (2004) is adopted for the calculation of sample size due to convenient purpose. This is because it is found that the calculation result is same as the source Gill at al., 2010 presented by Taherdoost, (2017).

Table 3.10 Tabulation of Sample Size

Margin of error (Tolerance of the error)	5%	8%	10%
Confident level (Tolerance of the uncertainty)	95%	95%	95%
Population (Raosoft, (2004) highlight that the impact of sample size is small while the population larger than 20,000	20,000	20,000	20,000
Response distribution (expected result, Raosoft, (2004) recommend 50%)	50%	50%	50%
Recommended sample size	**377**	**149**	**96**

For this research, 8% margin of error, 95% confidence level, 20,000 population, and 50% response distribution with a recommended sample size of 149 is targeted. This is the consideration of time constraints.

Moreover, balancing the demographic structure of respondents is essential to improve the confidence and reliability level of questionnaires. Therefore, demographic monitoring of respondents would be carried out throughout the data collection period.

3.5 Pilot Study

Pilot study is an important stage of research. Through the pilot study, the potential problems and shortcomings of the questionnaire can be found. Small-scale survey conducted is to ensure the data collected properly address the study's objectives. Hassan, Schattner and Mazza, (2006) demonstrates the effectiveness of pilot study. The benefits of pilot study are not limited to the results collected, but it also provides a better understanding of the procedures used to conduct the survey.

A small group of potential respondents (approximately 10 respondents) was invited to participate in the pilot study. The purpose of the chosen respondents was to ensure the understanding of the question list. The preliminary study involved different designation of developers, consultants and contractors.

The pilot study was conducted through digital device due to pandemic. The questionnaire was distributed with explain briefly on the objectives of this research. Closely follow up on the feedback during the questionnaire distribution process was practised.

From initial feedback, certain respondents suggested a brief explanation of sections C, D and E rather than just an indication of soft skills in general. Concise explanation enables respondents to have a clear understanding of the needs of the questionnaire so that the accuracy obtained from the results is higher. As inspired and validate from chapter 0, brief explanation with a sentence was included.

Same groups of respondents to have second review after revised from the initial comment. After ensuring the revised questionnaire was clear and understood from the potential respondent. The questionnaire was distributed officially.

3.6 Analysis Method

Programme of Statistical Package for the Social Sciences (SPSS) with descriptive statistics and inferential statistics is adopted to analyse the data collected from the questionnaire.

3.6.1 Descriptive Statistics

Descriptive statistics are used to present quantitative descriptions (Trochim, 2020). A common step to summarise and better understanding the demographic in the questionnaire Section A. This is a useful measurement to know the population among the data collected.

Frequency Analysis

Frequency analysis will be used to summarise the occurrences (comprising of mean and median) from respondents, even though the data may not contribute to the interpretation and analysis of the results (Statistical Consulting, 2012).

Relative Importance Index (RII) Analysis

RII is used in this quantitative research to rank the severity of the data collected. The data collected by Likert's five-point scale questionnaire were transformed into an important index. The competency would be rank through RII, the closely to value 5, the importance of competencies are.

In the analysis of RII, mean, standard deviation (SV), and ranking will be included to determine the importance of soft skills. SV refers to the difference between each individual and mean score. The range of standard deviation is from 0 to infinity. Unlike important index (I.I), the closer of SV value to 0, the consistency of the result received from the respondent is. Hence, the ranking of soft skills will be identified by the reading of I.I.

3.6.2 Inferential Statistics

After the descriptive statistic conducted, approaching of data accuracy is essential. This is an important technique for using the collected data to generalises the overall population (Laerd Statistics, 2018). Inferential statistic studies the relationship of

interference of the data collected. Reliability, consistency, relationship measurement is priority to this research.

Cronbach's Alpha Test

Cronbach's Alpha adapted to this research measure consistency and the test is suitable for questionnaire survey tools using Likert scales. This is because questionnaire is an instrument to generate the data but the validity is not compromised (Jain and Angural, 2017). Therefore, Cronbach's Alpha test able to measure the validity of the feedback received, and this shall be the preliminary test before further determination. Cronbach's Alpha coefficient is express in between 0 to 1. The closer the value received near to 1, the greater the internal consistency (Gliem and Gliem, 2003). The Cronbach Alpha readings in Table 3.11 would be used as a reference for data analysis.

Table 3.11 (Reading reference) Cronbach Alpha (Source: Jain and Angural, (2017))

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Furthermore, inter-item correlation will be generated and review. The inter-item correlations are a correlation matrix, which represents the correlation between items respectively. It will be the reading of 1.000 across the diagonal where the item is corrected with itself. It is expected to correlate well together, which may make the questionnaire result more reliable.

Kruskal Wallis Test

Krukal Wallis is the test to determine the statistically significant difference between the medians of various independent groups (Zach, 2020). The purpose of this test to determine the significant difference of the required soft skill in questionnaire. In the validation statistics, Asymp. Sig (p-value) is an important identification reference. The

significance level is 0.05, indicating a 5% risk of reaching a difference without an actual difference. While p-value ≤ 0.05, which carry the meaning that the different between medians are statistically significant. Whereas p value > 0.05, the different between medians were not statistically significant.

Therefore, there are 2 hypotheses are formulated to this research. First null hypothesis H_0 formulated to no significant perception different, whereas second hypothesis H_1 is formulated for significant perception different.

Spearman's Rank Correlation Test

Spearman's rank correlation is the test to measure the bonding between two ranked variables. The purpose of this test in this research is to gain a better understanding of the current performance and the performance needed to achieve the project goals. Therefore, analysis for determining the relationship between individual competency versus team performance and relationship for competency required and current performance would be identified.

The value of Spearman's rank correlation test from +1 to -1, which +1 refers to perfection. Whereas, the closer to the 0, the weaker of association. The scope of guiding principles explained in this study is listed in Table 3.12.

Table 3.12 Spearman Correlation Coefficient Guideline (Source: Mcseveny *et al.*, (2009))

Correlation coefficient range		Correlation guideline
Positive correlation	0.80 to 1.00	Very strong
	0.60 to 0.80	Strong
	0.40 to 0.60	Moderate
	0.40 to 0.20	Weak
	0.20 to 0.00	Negligible or no
Negative correlation	0.00 to -0.20	Weak
	-0.20 to -0.40	Moderate
	-0.20 to -0.60	Strong
	-0.60 to -0.80	Very strong

In summary, the data analysis method adopted for this research is tabulation in Table 3.13.

Table 3.13 Tabulation of Analysis Method

	Descriptive Statistic	Inferential Statistic
Section A		
Demographic	Frequency analysis Crosstab	Not applicable
Section B		
Identify the required soft skill competencies	RII analysis	Cronbach's Alpha Test Kruskal Wallis test
Section C		
Self-assessment of key competencies	RII analysis	Cronbach's Alpha Test Kruskal Wallis test Spearman's rank correlation test
Section D		
Evaluate the performance of the current team	RII analysis	Cronbach's Alpha Test Kruskal Wallis test Spearman's rank correlation test
Section E		
Way to improve of soft skill	RII analysis Crosstab	Cronbach's Alpha Test Kruskal Wallis test Spearman's rank correlation test

3.7 Summary

This chapter mainly introduces the questionnaire design, sampling method, sample size and analysis method. The questionnaire to be designed with 5 point Likert scale and distributed by non-probability sampling method. Target sample size received to this research is 8% margin of error with estimated 146 respondents. In addition, the results will be analysed and evaluated using SPSS for descriptive and inferential statistics.

CHAPTER 4

DATA COLLECTION

4.1 Introduction

This chapter is tabulated the feedback and results by using the systematic research method and followed by the discussion from the finding. The results obtained from the feedback will be used to determine the current performance of individuals and teams and to propose effective improvement strategies to gain a competitive advantage in a competitive market.

This is an online Google Forms questionnaire and distributed through email, WhatsApp and WeChat. There is a total of 156 respondents feedback to the questionnaire, which it achieves the target respondent of 149 with the margin of error 8% (refer to Table 3.10). The data will be analysed according to the section in the questionnaire. For ease of reference, the questionnaire code is applied in each section for analysis purposes.

Among the respondent, majority of respondents are from the group of contractor, follow by consultant and developer. This has met the concept population to the construction industry. Where contractors play a major role in the industry follow by consultant and developer. Similarity, consultant groups is higher than developer in these studies.

4.2 Section A – Demographic

From Table 4.1, the majority of respondents are from contractor, accounting of 52.6%. Followed by consultant firm, which is 25%, and developer is 22.4%

Table 4.1 Section A - Nature of business

Nature of Business	Frequency	Percent
Developer	35	22.4
Consultant	39	25.0
Contractor	82	52.6
Total	156	100.0

4.2.1 Designation

Designation of respondents is listed in nature of business form, among which quantity surveyors are in the majority, 31.4%. This is because quantity surveyors are needed in all types of construction industry. Whereas implementation team is performing team and their contribution to the project success is important. Therefore, another major group of respondents to be an implementation team which is 26.3%. Besides the position of director, both project planning and architect are minority, which is 2.6% and 5.1% respectively. The population of the respondent is acceptable as there is certain designation is rather a small group in the actual construction industry.

Table 4.2 Section A - Designation

DESIGNATION	Nature of Business			Total	
	Developer	Consultant	Contractor	Person	Percent
Director	-	4	1	5	3.2
Architect	-	7	1	8	5.1
Engineer (Civil or Mechanical & Electrical)	-	19	-	19	12.2
Quantity Surveyor	12	9	28	49	31.4
Project/Construction Manager (including assistant manager)	9	-	21	30	19.2
Implementation Team (Project engineer, clerk of work, supervisor)	10	-	31	41	26.3
Project Planning	4	-	-	4	2.6
Total	35	39	82	156	100.0

Addition, designation with the relationship between age group and generation are tabulated in Table 4.3 and Table 4.4. Generation Y is the main participants in this research, there are 91 respondents. Among the respondent, the position of quantity surveyor and followed by implementation team are the major group.

Table 4.3 Section A - Designation versus Age Group

DESIGNATION	Age Group					Total
	25 to 33 years old	34 to 40 years old	41 to 48 years old	49 to 55 years old	56 years old and above	
Director	1	1	-	1	2	5
Architect	1	2	2	3	-	8
Engineer (Civil or Mechanical & Electrical)	8	6	1	2	2	19
Quantity Surveyor	17	22	8	2	-	49
Project/Construction Manager (including assistant manager)	-	6	17	6	1	30
Implementation Team (Project engineer, clerk of work, supervisor)	8	15	16	1	1	41
Project Planning	-	4	-	-	-	4
Total	35	56	44	15	6	156

Table 4.4 Section A - Designation versus Generation

DESIGNATION	Generation			Total
	Gen. Y – 25 to 40 years old	**Gen. X** – 40 to 55 years old	**Baby Boomers** - 56 years old and above	
Director	2	1	2	5
Architect	3	5	-	8
Engineer (Civil or Mechanical & Electrical)	14	3	2	19
Quantity Surveyor	39	10	-	49
Project/Construction Manager (including assistant manager)	6	23	1	30
Implementation Team (Project engineer, clerk of work, supervisor)	23	17	1	41
Project Planning	4	-	-	4
Total	91	59	6	156

Table 4.5 Section A - Designation versus Educational Background

DESIGNATION	Educational background				Total
	Secondary	Certificate/ Diploma	Undergraduate	Postgraduate	
Director	1	-	2	2	5
Architect	-	1	-	7	8
Engineer (Civil or Mechanical & Electrical)	-	-	12	7	19
Quantity Surveyor	-	8	37	4	49
Project / Construction Manager (including assistant manager)	-	6	20	4	30
Implementation Team (Project engineer, clerk of work, supervisor)	2	11	26	2	41
Project Planning	-	-	3	1	4
Total	3	26	100	27	156

4.2.2 Age Group

From the tabulation of Table 4.6 the majority of respondents is from the age group of 34 to 40 years old comprising of 36%, which is the future leader. It is important to have a better understanding and improvement is required for future preparation. Whereas the age group of 41 to 48 years old is the second largest group of respondents, accounting for 28.2% and is a mature group in the construction industry. The age group of the respondent is acceptable as they are the key team member in an organization.

Table 4.6 Section A - Age Group

AGE GROUP	Nature of Business			Total	
	Developer	Consultant	Contractor	Person	Percent
25 to 33 years old	3	14	18	35	22.4
34 to 40 years old	15	12	29	56	36.0
41 to 48 years old	13	4	27	44	28.2
49 to 55 years old	3	6	6	15	9.6
56 years old and above	1	3	2	6	3.8
Total	35	39	82	156	100.0

4.2.3 Educational Background

In average, the qualification of the respondents is undergraduate. It shows that the literature level is improving among the generation. Since there is no educational background of 'doctor' in this research, therefore, the position of doctor is excluded in the tabulation. Furthermore, tabulation of educational background with nature of business shows in Table 4.7.

Table 4.7 Section A - Educational Background

EDUCATIONAL BACKGROUND	Nature of Business			Total	
	Developer	Consultant	Contractor	Person	Percent
Secondary	-	-	3	3	1.9
Certificate / Diploma	3	-	23	26	16.7
Undergraduate	26	23	51	100	64.1
Postgraduate	6	16	5	27	17.3
Total	35	39	82	156	100.0

4.2.4 Working Experience

Table 4.8 Section A - Working Experience

DESIGNATION	Working Experience							Total
	1 to 3 years	3 to 5 years	5 to 10 years	10 to 15 years	15 to 20 years	20 to 25 years	25 years and above	
Director	-	-	1	1	-	-	3	5
Architect	-	1	1	-	1	2	3	8
Engineer (Civil or Mechanical & Electrical)	2	-	7	4	1	2	3	19
Quantity Surveyor	3	5	12	14	9	6	-	49
Project/Construction Manager (including assistant manager)	-	-	-	5	8	10	7	30
Implementation Team (Project engineer, clerk of work, supervisor)	-	5	4	9	16	5	2	41
Project Planning	-	-	-	3	1	-	-	4
Total	5	11	25	36	36	25	18	156

4.3 Section B – Core Soft Skills to Project Success

The first objective of this research is to determine the core soft skills competencies towards project success. There is a total of 16 competencies (as listed with questionnaire code in Table 4.9).

Table 4.9 Section B - Questionnaire Code

Code	Description	Code	Description
B.01	Creativity	B.09	Problem-solving / Conflict management
B.02	Persuasion	B.10	Critical thinking / Analysis
B.03	Collaboration	B.11	Understanding / Empathy
B.04	Adaptability / Flexibility	B.12	Leadership
B.05	Coordination	B.13	Enthusiasm / Positive attitude
B.06	Emotional intelligence	B.14	Negotiation
B.07	Communication	B.15	Motivation
B.08	Teamwork / Engagement	B.16	Decision making

4.3.1 Cronbach’s Alpha Test

The Cronbach’s Alpha show in Table 4.10 is 0.944 in overall, which indicates a high level of internal consistency. In this section, the consultant has excellent internal consistency which has a result of 0.958, followed by contractor 0.942. Coefficient from the developer has good scoring of 0.885 which presented in Table 4.10.

Table 4.10 Section B - Cronbach's Alpha Test

	Cronbach's Alpha	N of Items	Performance
Overall	0.944	156	Excellent
Developer	0.929	35	Excellent
Consultant	0.958	39	Excellent
Contractor	0.936	82	Excellent

4.3.2 RII Analysis and Kruskal Wallis Test

Table 4.11 present the overall feedback. Apart from B.01, soft skills are generally performing consistently with the mean value above 4.000. B.07 and B.08 are the top rank with the scoring of I.I 0.909, followed by, B.05 with I.I 0.905. However, B.01 is the only which below mean value of 4.00. It is the least with the mean value 3.968.

Table 4.11 Section B - RII Analysis and Kruskal-Wallis Test

Code	RII Analysis				Kruskal Wallis Test	
	Mean	SV	I.I	Rank	Kruskal-Wallis H	Asymp. Sig.
B.01	3.968	0.627	0.794	16	5.006	0.082
B.02	4.205	0.541	0.841	13	0.289	0.866
B.03	4.340	0.596	0.868	8	2.970	0.227
B.04	4.321	0.601	0.864	10	4.563	0.102
B.05	4.526	0.584	0.905	3	9.628	**0.008**
B.06	4.135	0.719	0.827	15	1.379	0.502
B.07	4.545	0.572	0.909	1	2.803	0.246
B.08	4.545	0.583	0.909	1	7.618	**0.022**
B.09	4.462	0.616	0.892	5	2.442	0.295
B.10	4.404	0.554	0.881	7	1.199	0.549
B.11	4.186	0.670	0.837	14	0.382	0.826
B.12	4.462	0.549	0.892	5	2.129	0.345
B.13	4.333	0.572	0.867	9	0.461	0.794
B.14	4.231	0.680	0.846	12	2.212	0.331
B.15	4.301	0.606	0.860	11	1.856	0.395
B.16	4.481	0.538	0.896	4	2.751	0.253

4.3.2.1 Influences with Different Relationship

To understand further influences between the varies relationship is studied and tabulated as follow. The tabulation comprising of relationship of nature of business, designation, age group, educational background and working experiences with I.I.

Relationship between Nature of Business

Table 4.12 Section B – Relationship between Nature of Business

Code	Developer				Consultant				Contractor			
	Mean	SV	I.I	Rank	Mean	SV	I.I	Rank	Mean	SV	I.I	Rank
B.01	4.114	0.530	0.823	16	4.026	0.707	0.805	16	3.878	0.616	0.776	16
B.02	4.200	0.473	0.840	13	4.154	0.630	0.831	15	4.232	0.528	0.846	12
B.03	4.343	0.539	0.869	9	4.410	0.785	0.882	8	4.305	0.514	0.861	9
B.04	4.514	0.507	0.903	3	4.205	0.695	0.841	12	4.293	0.577	0.859	10
B.05	**4.600**	**0.497**	**0.920**	**1**	4.667	0.737	0.933	2	4.427	0.522	0.885	4
B.06	4.171	0.664	0.834	14	4.179	0.885	0.836	13	4.098	0.659	0.820	15
B.07	**4.600**	**0.497**	**0.920**	**1**	4.590	0.751	0.918	3	**4.500**	**0.503**	**0.900**	**1**
B.08	4.514	0.507	0.903	3	**4.692**	**0.731**	**0.938**	**1**	4.488	0.527	0.898	2
B.09	4.457	0.505	0.891	6	4.538	0.756	0.908	5	4.427	0.589	0.885	4
B.10	4.343	0.482	0.869	9	4.436	0.641	0.887	7	4.415	0.543	0.883	7
B.11	4.171	0.664	0.834	14	4.179	0.854	0.836	13	4.195	0.576	0.839	14
B.12	4.457	0.505	0.891	6	4.538	0.643	0.908	5	4.427	0.522	0.885	4
B.13	4.343	0.482	0.869	9	4.359	0.668	0.872	9	4.317	0.564	0.863	8
B.14	4.229	0.598	0.846	12	4.256	0.966	0.851	11	4.220	0.545	0.844	13
B.15	4.400	0.497	0.880	8	4.333	0.701	0.867	10	4.244	0.600	0.849	11
B.16	4.486	0.507	0.897	5	4.564	0.641	0.913	4	4.439	0.499	0.888	3

Relationship between Designation

Table 4.13 Section B – Relationship between Designation

Code	Director			Architect			Engineer (Civil or Mechanical & Electrical)			Quantity Surveyor			Project/Construction Manager (including assistant manager)			Implementation Team (Project engineer, clerk of work, supervisor)			Project Planning		
	N=5			N=8			N=19			N=49			N=30			N=41			N=4		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
B.01	0.720	3.600	0.548	0.900	4.500	-	0.768	3.842	0.688	0.808	4.041	0.576	0.787	3.933	0.521	0.766	3.829	0.629	0.950	4.750	0.500
B.02	0.800	4.000	-	0.900	4.500	0.756	0.821	4.105	0.737	0.837	4.184	0.527	0.853	4.267	0.450	0.829	4.146	0.478	0.950	4.750	0.500
B.03	0.920	4.600	0.548	0.875	4.375	1.061	0.863	4.316	0.820	0.873	4.367	0.602	0.853	4.267	0.450	0.868	4.341	0.480	0.850	4.250	0.500
B.04	0.920	4.600	0.548	0.850	4.250	0.707	0.853	4.263	0.733	0.841	4.204	0.645	0.867	4.333	0.547	0.878	4.390	0.494	1.000	5.000	-
B.05	0.920	4.600	0.548	0.925	4.625	0.518	**0.937**	**4.684**	**0.946**	0.918	4.592	0.537	**0.887**	**4.433**	**0.504**	0.873	4.366	0.488	1.000	5.000	-
B.06	0.840	4.200	0.447	0.850	4.250	1.165	0.821	4.105	0.994	0.796	3.980	0.750	0.833	4.167	0.531	0.839	4.195	0.558	1.000	5.000	-
B.07	0.920	4.600	0.548	0.950	4.750	0.463	0.905	4.526	0.964	**0.931**	**4.653**	**0.481**	0.880	4.400	0.498	0.888	4.439	0.502	1.000	5.000	-
B.08	0.920	4.600	0.548	**0.975**	**4.875**	**0.354**	0.926	4.632	0.955	**0.931**	**4.653**	**0.481**	0.867	4.333	0.547	0.883	4.415	0.499	1.000	5.000	-
B.09	0.880	4.400	0.548	0.950	4.750	0.463	0.905	4.526	0.964	0.882	4.408	0.643	0.873	4.367	0.490	**0.893**	**4.463**	**0.505**	1.000	5.000	-
B.10	0.840	4.200	0.447	0.950	4.750	0.463	0.874	4.368	0.761	0.873	4.367	0.528	0.860	4.300	0.535	0.888	4.439	0.502	1.000	5.000	-
B.11	0.920	4.600	0.548	0.825	4.125	1.126	0.832	4.158	0.898	0.820	4.102	0.684	0.827	4.133	0.507	0.844	4.220	0.525	1.000	5.000	-
B.12	0.920	4.600	0.548	**0.975**	**4.875**	**0.354**	0.884	4.421	0.769	0.886	4.429	0.540	0.887	4.433	0.504	0.878	4.390	0.494	1.000	5.000	-
B.13	0.840	4.200	0.447	0.950	4.750	0.463	0.863	4.316	0.820	0.853	4.265	0.569	0.853	4.267	0.450	0.868	4.341	0.530	1.000	5.000	-
B.14	0.840	4.200	0.447	0.875	4.375	1.061	0.832	4.158	1.167	0.824	4.122	0.634	0.853	4.267	0.450	0.854	4.268	0.501	1.000	5.000	-
B.15	0.800	4.000	-	0.850	4.250	0.886	0.884	4.421	0.769	0.849	4.245	0.596	0.853	4.267	0.450	0.863	4.317	0.610	1.000	5.000	-
B.16	0.880	4.400	0.548	0.900	4.500	0.535	0.916	4.579	0.769	0.906	4.531	0.504	0.880	4.400	0.498	0.878	4.390	0.494	1.000	5.000	-

Relationship between Age Group

Table 4.14 Section B – Relationship between Age Group

Code	Generation Y						Generation X						Baby Boomers			Generation Y			Generation X		
	25 to 33 years old			34 to 40 years old			41 to 48 years old			49 to 55 years old			56 years old and above			25 to 40 years old			41 to 55 years old		
	N=34			N=56			N=44			N=15			N=6			N=90			N=59		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
B.01	0.806	4.029	0.758	0.800	4.000	0.603	0.782	3.909	0.520	0.787	3.933	0.704	0.767	3.833	0.753	0.802	4.011	0.662	0.783	3.915	0.566
B.02	0.835	4.176	0.576	0.839	4.196	0.616	0.836	4.182	0.446	0.880	4.400	0.507	0.833	4.167	0.408	0.838	4.189	0.598	0.847	4.237	0.468
B.03	0.888	4.441	0.705	0.843	4.214	0.624	0.864	4.318	0.471	0.920	4.600	0.507	0.867	4.333	0.516	0.860	4.300	0.661	0.878	4.390	0.492
B.04	0.853	4.265	0.567	0.857	4.286	0.680	0.855	4.273	0.544	0.933	4.667	0.488	0.867	4.333	0.516	0.856	4.278	0.636	0.875	4.373	0.554
B.05	0.929	4.647	0.485	0.907	4.536	0.713	0.873	4.364	0.487	0.933	4.667	0.488	**0.933**	**4.667**	**0.516**	**0.916**	**4.578**	**0.636**	0.888	4.441	0.501
B.06	0.835	4.176	0.673	0.832	4.161	0.826	0.814	4.068	0.661	0.827	4.133	0.743	0.833	4.167	0.408	0.833	4.167	0.768	0.817	4.085	0.677
B.07	0.918	4.588	0.500	**0.911**	**4.554**	**0.685**	**0.886**	**4.432**	**0.501**	**0.947**	**4.733**	**0.458**	0.900	4.500	0.548	0.913	4.567	0.619	**0.902**	**4.508**	**0.504**
B.08	0.929	4.647	0.485	0.904	4.518	0.713	**0.886**	**4.432**	**0.501**	**0.947**	**4.733**	**0.458**	0.900	4.500	0.548	0.913	4.567	0.637	**0.902**	**4.508**	**0.504**
B.09	0.912	4.559	0.660	0.893	4.464	0.713	0.873	4.364	0.487	0.920	4.600	0.507	0.867	4.333	0.516	0.900	4.500	0.691	0.885	4.424	0.498
B.10	0.906	4.529	0.507	0.875	4.375	0.648	0.868	4.341	0.479	0.907	4.533	0.516	0.833	4.167	0.408	0.887	4.433	0.601	0.878	4.390	0.492
B.11	0.847	4.235	0.781	0.839	4.196	0.672	0.818	4.091	0.603	0.853	4.267	0.704	0.833	4.167	0.408	0.842	4.211	0.711	0.827	4.136	0.629
B.12	0.894	4.471	0.507	0.889	4.446	0.630	0.877	4.386	0.493	**0.947**	**4.733**	**0.458**	0.867	4.333	0.516	0.891	4.456	0.584	0.895	4.475	0.504
B.13	0.888	4.441	0.613	0.864	4.321	0.636	0.859	4.295	0.462	0.867	4.333	0.617	0.833	4.167	0.408	0.873	4.367	0.626	0.861	4.305	0.500
B.14	0.847	4.235	0.855	0.850	4.250	0.720	0.832	4.159	0.568	0.867	4.333	0.488	0.867	4.333	0.516	0.849	4.244	0.769	0.841	4.203	0.550
B.15	0.876	4.382	0.652	0.857	4.286	0.706	0.845	4.227	0.476	0.880	4.400	0.507	0.833	4.167	0.408	0.864	4.322	0.684	0.854	4.271	0.485
B.16	**0.941**	**4.706**	**0.462**	0.886	4.429	0.599	0.873	4.364	0.487	0.933	4.667	0.488	0.833	4.167	0.408	0.907	4.533	0.565	0.888	4.441	0.501

Relationship between Working Experience

Table 4.15 Section B – Relationship between Working Experience

Code	1 to 3 years N=5			3 to 5 years N=11			5 to 10 years N=25			10 to 15 years N=36			15 to 20 years N=36			20 to 25 years N=25			25 years and above N=18		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
B.01	0.840	4.200	0.447	0.818	4.091	0.701	0.792	3.960	0.735	0.800	4.000	0.717	0.789	3.944	0.410	0.784	3.920	0.572	0.778	3.889	0.758
B.02	0.800	4.000	0.707	0.782	3.909	0.539	0.856	4.280	0.458	0.850	4.250	0.692	0.839	4.194	0.467	0.824	4.120	0.440	0.878	4.389	0.502
B.03	0.800	4.000	0.707	0.855	4.273	0.905	0.912	4.560	0.507	0.850	4.250	0.649	0.861	4.306	0.577	0.840	4.200	0.408	0.922	4.611	0.502
B.04	0.760	3.800	0.837	0.873	4.364	0.505	0.856	4.280	0.542	0.867	4.333	0.756	0.872	4.361	0.487	0.840	4.200	0.577	0.911	4.556	0.511
B.05	0.920	4.600	0.548	0.909	4.545	0.522	**0.928**	**4.640**	**0.490**	**0.911**	**4.556**	**0.773**	0.894	4.472	0.560	0.864	4.320	0.476	0.933	4.667	0.485
B.06	0.800	4.000	0.707	0.873	4.364	0.674	0.816	4.080	0.640	0.817	4.083	0.937	0.861	4.306	0.577	0.768	3.840	0.688	0.856	4.278	0.575
B.07	0.840	4.200	0.447	**0.945**	**4.727**	**0.467**	0.920	4.600	0.500	**0.911**	**4.556**	**0.773**	**0.906**	**4.528**	**0.506**	0.880	4.400	0.500	**0.933**	**4.667**	**0.485**
B.08	**0.960**	**4.800**	**0.447**	0.909	4.545	0.522	**0.928**	**4.640**	**0.490**	0.894	4.472	0.810	**0.906**	**4.528**	**0.506**	0.888	4.440	0.507	**0.933**	**4.667**	**0.485**
B.09	0.760	3.800	1.095	0.927	4.636	0.505	0.920	4.600	0.500	0.894	4.472	0.810	0.894	4.472	0.506	0.848	4.240	0.436	0.922	4.611	0.502
B.10	0.840	4.200	0.447	0.927	4.636	0.505	0.896	4.480	0.510	0.883	4.417	0.732	0.872	4.361	0.487	0.848	4.240	0.436	0.900	4.500	0.514
B.11	0.840	4.200	0.447	0.818	4.091	0.831	0.864	4.320	0.748	0.844	4.222	0.760	0.828	4.139	0.639	0.808	4.040	0.455	0.856	4.278	0.669
B.12	0.920	4.600	0.548	0.891	4.455	0.522	0.904	4.520	0.510	0.889	4.444	0.695	0.872	4.361	0.487	**0.896**	**4.480**	**0.510**	0.911	4.556	0.511
B.13	0.800	4.000	0.707	0.891	4.455	0.688	0.896	4.480	0.510	0.861	4.306	0.710	0.878	4.389	0.494	0.824	4.120	0.440	0.878	4.389	0.502
B.14	0.760	3.800	0.837	0.855	4.273	0.905	0.856	4.280	0.792	0.844	4.222	0.760	0.856	4.278	0.659	0.816	4.080	0.400	0.878	4.389	0.502
B.15	0.840	4.200	0.447	0.873	4.364	0.924	0.864	4.320	0.627	0.861	4.306	0.749	0.872	4.361	0.487	0.824	4.120	0.440	0.878	4.389	0.502
B.16	**0.960**	**4.800**	**0.447**	0.909	4.545	0.522	0.912	4.560	0.507	0.900	4.500	0.655	0.883	4.417	0.500	0.880	4.400	0.500	0.889	4.444	0.511

4.4 Section C – Self-Assessment

Section C refers to self-assessment. This is an evaluation of the current performance on soft skills in project team members. Table 4.16 listed the questionnaire code for easier tabulation.

Table 4.16 Section C - Questionnaire Code

Code	**Competency**	Description
C.01	Creativity	I creative enough when the proposal needed
C.02	Persuasion	I able to persuade other stakeholders to follow my idea
C.03	Collaboration	I able to work together with other team members
C.04	Adaptability / Flexibility	I able to adapt to the new environment soon
C.05	Coordination	I able to coordinate the given task well with other stakeholders
C.06	Emotional intelligence	I able to handle my emotions while facing challenges
C.07	Communication	I fully understand what is required and able to communicate in verbal and return
C.08	Teamwork / Engagement	I able to work as a team with other stakeholders
C.09	Problem-solving / Conflict management	I able to solute problem by proper handling others feeling
C.10	Critical thinking / Analysis	I able to analyze and solute problem
C.11	Understanding / Empathy	I fully understand how other people feel and their dilemma
C.12	Leadership	I can lead the project well
C.13	Enthusiasm / Positive attitude	I feel energize when working
C.14	Negotiation	I able to negotiate others stakeholder follow my idea
C.15	Motivation	I can motivate myself without third party motivate me
C.16	Decision making	My superior consent with my decision

4.4.1 Cronbach's Alpha Test

Section C has overall Cronbach's Alpha score of 0.974, which indicates a high level of internal consistency. Developer, consultant and contractor are all scorings of excellent. The internal consistency is also excellent among the groups of designation, age group, working experience and educational background.

Table 4.17 Section C - Cronbach's Alpha Test

	Cronbach's Alpha	N of Items	Performance
Overall	0.974	156	Excellent
Developer	0.980	35	Excellent
Consultant	0.975	39	Excellent
Contractor	0.971	82	Excellent

4.4.2 RII Analysis

From Table 4.18, C.03 is the top rank which has I.I of 0.754. Followed by C.08 and C.05 which has I.I score of 0.749 and 0.733 respectively. This present that team members generally have confidence in the competence of C.03, C.08, and C.05. Whereas, performance in C.01, C.02, and C.06 is rather weak.

Table 4.18 Section C - RII Analysis and Kruskal Wallis Test

Code	RII Analysis				Kruskal Wallis Test	
	Mean	SV	I.I	Rank	Kruskal-Wallis H	Asymp. Sig.
C.01	3.179	0.799	0.636	16	0.158	0.924
C.02	3.314	0.777	0.663	15	2.658	0.265
C.03	3.769	0.735	0.754	1	2.824	0.244
C.04	3.615	0.807	0.723	4	2.833	0.243
C.05	3.667	0.782	0.733	3	2.759	0.252
C.06	3.391	0.808	0.678	14	0.346	0.841
C.07	3.519	0.766	0.704	6	3.396	0.183
C.08	3.744	0.726	0.749	2	1.589	0.452
C.09	3.519	0.774	0.704	6	0.885	0.642
C.10	3.590	0.794	0.718	5	1.266	0.531
C.11	3.468	0.722	0.694	10	2.888	0.236

C.12	3.455	0.853	0.691	11	1.327	0.515
C.13	3.442	0.781	0.688	12	4.366	0.113
C.14	3.429	0.737	0.686	13	2.646	0.266
C.15	3.481	0.774	0.696	9	0.427	0.808
C.16	3.519	0.758	0.704	6	1.728	0.421

4.4.3 Spearman Test

Spearman test was conducted to this section, which is to identify the relationship individual performance and generation & working experience (tabulated in Table 4.19 Relationship between Individual Performance and Generation & Working Experience

Table 4.19 Relationship between Individual Performance and Generation & Working Experience

	Generation		Working Experience	
	Correlation Coefficient	Sig. (2-tailed)	Correlation Coefficient	Sig. (2-tailed)
C.01	0.111	0.170	0.140	0.082
C.02	.202*	0.012	.260**	0.001
C.03	-0.076	0.348	0.015	0.851
C.04	-0.014	0.860	0.075	0.353
C.05	-0.018	0.824	0.042	0.603
C.06	0.061	0.446	0.110	0.170
C.07	-0.037	0.642	0.031	0.701
C.08	-0.014	0.859	0.011	0.892
C.09	0.109	0.175	.165*	0.039
C.10	0.036	0.652	0.065	0.419
C.11	0.064	0.427	0.025	0.753
C.12	0.116	0.151	.163*	0.042
C.13	0.085	0.291	0.123	0.127
C.14	0.156	0.051	.179*	0.025
C.15	0.141	0.080	0.157	0.050
C.16	0.085	0.293	0.098	0.224

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

4.4.3.1 Influences with Different Relationship

To understand further influences between the varies relationship is studied and tabulated as follow. The tabulation comprising of relationship of nature of business, designation, age group, educational background and working experiences with I.I.

Relationship between Nature of Business

Table 4.20 Section C - Important Index

Code	Developer				Consultant				Contractor			
	Mean	SV	I.I	Rank	Mean	SV	I.I	Rank	Mean	SV	I.I	Rank
C.01	3.200	0.677	0.640	15	3.231	0.902	0.646	16	3.146	0.803	0.629	16
C.02	3.171	0.785	0.634	16	3.308	0.922	0.662	14	3.378	0.696	0.676	15
C.03	3.629	0.690	0.726	2	**3.846**	**0.844**	**0.769**	**1**	**3.793**	**0.698**	**0.759**	**1**
C.04	3.457	0.741	0.691	5	3.667	0.955	0.733	4	3.659	0.757	0.732	4
C.05	3.514	0.781	0.703	4	3.744	0.910	0.749	2	3.695	0.715	0.739	3
C.06	3.400	0.775	0.680	9	3.333	0.838	0.667	13	3.415	0.816	0.683	14
C.07	3.371	0.770	0.674	10	3.487	0.885	0.697	8	3.598	0.700	0.720	6
C.08	**3.657**	**0.725**	**0.731**	**1**	3.718	0.857	0.744	3	3.793	0.662	0.759	1
C.09	3.457	0.780	0.691	5	3.513	0.823	0.703	5	3.549	0.756	0.710	9
C.10	3.543	0.741	0.709	3	3.513	0.914	0.703	5	3.646	0.760	0.729	5
C.11	3.343	0.639	0.669	11	3.436	0.718	0.687	10	3.537	0.757	0.707	10
C.12	3.343	0.765	0.669	11	3.487	1.023	0.697	8	3.488	0.805	0.698	12
C.13	3.343	0.639	0.669	11	3.282	0.916	0.656	15	3.561	0.755	0.712	7
C.14	3.314	0.676	0.663	14	3.410	0.751	0.682	11	3.488	0.758	0.698	12
C.15	3.457	0.741	0.691	5	3.410	0.938	0.682	11	3.524	0.707	0.705	11
C.16	3.429	0.655	0.686	8	3.513	0.885	0.703	5	3.561	0.739	0.712	7

Relationship between Designation

Table 4.21 Section C - Relationship between Designation

Code	Director			Architect			Engineer (Civil or Mechanical & Electrical)			Quantity Surveyor			Project/Construction Manager (including assistant manager)			Implementation Team (Project engineer, clerk of work, supervisor)			Project Planning		
	N=5			N=8			N=19			N=49			N=30			N=41			N=4		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
C.01	0.720	3.600	0.894	0.675	3.375	1.061	0.611	3.053	0.848	0.604	3.020	0.946	0.673	3.367	0.615	0.639	3.195	0.641	0.650	3.250	0.500
C.02	0.760	3.800	0.837	0.650	3.250	0.707	0.642	3.211	1.032	0.653	3.265	0.908	0.673	3.367	0.556	0.668	3.341	0.656	0.650	3.250	0.500
C.03	0.840	4.200	0.447	0.750	3.750	0.886	**0.768**	**3.842**	**1.015**	**0.767**	**3.837**	**0.800**	0.727	3.633	0.556	0.751	3.756	0.624	0.650	3.250	0.500
C.04	0.840	4.200	0.837	**0.775**	**3.875**	**0.835**	0.726	3.632	1.116	0.698	3.490	0.845	0.713	3.567	0.728	0.741	3.707	0.642	0.650	3.250	0.500
C.05	0.800	4.000	0.707	0.750	3.750	0.707	0.747	3.737	0.933	0.727	3.633	0.883	**0.740**	**3.700**	**0.750**	0.727	3.634	0.662	0.650	3.250	0.500
C.06	0.760	3.800	0.837	0.700	3.500	0.756	0.663	3.316	0.820	0.637	3.184	0.972	0.693	3.467	0.629	0.707	3.537	0.674	**0.700**	**3.500**	**1.000**
C.07	0.840	4.200	0.837	0.700	3.500	1.069	0.674	3.368	0.895	0.694	3.469	0.739	0.687	3.433	0.728	0.727	3.634	0.662	**0.700**	**3.500**	**1.000**
C.08	0.800	4.000	0.707	**0.775**	**3.875**	**0.641**	0.726	3.632	1.012	0.751	3.755	0.751	**0.740**	**3.700**	**0.596**	**0.761**	**3.805**	**0.679**	0.650	3.250	0.500
C.09	0.800	4.000	0.707	0.700	3.500	0.756	0.695	3.474	0.964	0.678	3.388	0.885	0.720	3.600	0.675	0.722	3.610	0.628	0.650	3.250	0.500
C.10	0.800	4.000	0.707	0.700	3.500	0.926	0.695	3.474	0.964	0.698	3.490	0.982	0.733	3.667	0.547	0.741	3.707	0.602	0.650	3.250	0.500
C.11	0.720	3.600	0.548	0.700	3.500	0.756	0.642	3.211	0.787	0.682	3.408	0.840	0.707	3.533	0.629	0.722	3.610	0.628	0.650	3.250	0.500
C.12	0.800	4.000	0.707	0.750	3.750	0.707	0.642	3.211	1.084	0.657	3.286	1.000	0.727	3.633	0.669	0.707	3.537	0.674	0.650	3.250	0.500
C.13	0.800	4.000	-	0.750	3.750	0.886	0.611	3.053	0.970	0.653	3.265	0.884	0.707	3.533	0.571	0.732	3.659	0.617	0.650	3.250	0.500
C.14	0.800	4.000	0.707	0.700	3.500	0.535	0.653	3.263	0.872	0.661	3.306	0.871	0.700	3.500	0.572	0.707	3.537	0.636	0.650	3.250	0.500
C.15	0.840	4.200	0.447	0.725	3.625	0.744	0.653	3.263	1.046	0.665	3.327	0.826	0.713	3.567	0.679	0.722	3.610	0.628	0.650	3.250	0.500
C.16	0.800	4.000	-	0.750	3.750	0.707	0.663	3.316	1.003	0.690	3.449	0.867	0.700	3.500	0.572	0.727	3.634	0.662	0.650	3.250	0.500

Relationship between Age Group

Table 4.22 Section C - Relationship between Age Group

Code	Generation Y						Generation X						Baby Boomers			Generation Y			Generation X		
	25 to 33 years old			34 to 40 years old			41 to 48 years old			49 to 55 years old			56 years old and above			25 to 40 years old			41 to 55 years old		
	N=34			N=56			N=44			N=15			N=6			N=90			N=59		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
C.01	0.612	3.059	0.952	0.625	3.125	0.833	0.668	3.341	0.608	0.693	3.467	0.743	0.533	2.667	0.516	0.620	3.100	0.875	0.675	3.373	0.641
C.02	0.612	3.059	1.043	0.657	3.286	0.680	0.682	3.409	0.622	0.747	3.733	0.704	**0.700**	**3.500**	**0.548**	0.640	3.200	0.837	0.698	3.492	0.653
C.03	**0.741**	**3.706**	**0.970**	**0.771**	**3.857**	**0.724**	**0.741**	**3.705**	**0.594**	**0.773**	**3.867**	**0.640**	**0.700**	**3.500**	**0.548**	**0.760**	**3.800**	**0.824**	0.749	3.746	0.604
C.04	0.712	3.559	0.927	0.729	3.643	0.841	0.736	3.682	0.639	0.747	3.733	0.799	0.600	3.000	0.894	0.722	3.611	0.870	0.739	3.695	0.676
C.05	0.724	3.618	1.015	0.739	3.696	0.784	0.732	3.659	0.645	0.747	3.733	0.704	**0.700**	**3.500**	**0.548**	0.733	3.667	0.874	0.736	3.678	0.655
C.06	0.629	3.147	0.989	0.686	3.429	0.850	0.700	3.500	0.665	0.693	3.467	0.640	0.667	3.333	0.516	0.664	3.322	0.910	0.698	3.492	0.653
C.07	0.676	3.382	0.985	0.725	3.625	0.776	0.695	3.477	0.628	0.720	3.600	0.632	0.667	3.333	0.516	0.707	3.533	0.864	0.702	3.508	0.626
C.08	**0.741**	**3.706**	**0.906**	0.750	3.750	0.720	0.755	3.773	0.642	**0.773**	**3.867**	**0.640**	0.667	3.333	0.516	0.747	3.733	0.790	**0.759**	**3.797**	**0.637**
C.09	0.653	3.265	1.024	0.707	3.536	0.738	0.732	3.659	0.645	0.733	3.667	0.617	0.667	3.333	0.516	0.687	3.433	0.862	0.732	3.661	0.633
C.10	0.688	3.441	0.960	0.721	3.607	0.867	0.736	3.682	0.639	0.733	3.667	0.617	0.667	3.333	0.516	0.709	3.544	0.901	0.736	3.678	0.628
C.11	0.712	3.559	0.786	0.671	3.357	0.773	0.718	3.591	0.658	0.680	3.400	0.632	0.667	3.333	0.516	0.687	3.433	0.780	0.708	3.542	0.652
C.12	0.653	3.265	1.109	0.689	3.446	0.807	0.723	3.614	0.722	0.720	3.600	0.632	0.633	3.167	0.983	0.676	3.378	0.931	0.722	3.610	0.695
C.13	0.635	3.176	0.968	0.704	3.518	0.786	0.723	3.614	0.618	0.653	3.267	0.704	**0.700**	**3.500**	**0.548**	0.678	3.389	0.870	0.705	3.525	0.653
C.14	0.653	3.265	0.898	0.675	3.375	0.776	0.714	3.568	0.587	0.720	3.600	0.632	**0.700**	**3.500**	**0.548**	0.667	3.333	0.821	0.715	3.576	0.593
C.15	0.659	3.294	0.970	0.686	3.429	0.710	0.732	3.659	0.680	0.733	3.667	0.617	0.633	3.167	0.983	0.676	3.378	0.815	0.732	3.661	0.659
C.16	0.665	3.324	1.036	0.704	3.518	0.786	0.732	3.659	0.526	0.707	3.533	0.516	**0.700**	**3.500**	**0.548**	0.689	3.444	0.888	0.725	3.627	0.522

Relationship between Working Experience

Table 4.23 Section C - Relationship between Working Experience

Code	1 to 3 years N=5			3 to 5 years N=11			5 to 10 years N=25			10 to 15 years N=36			15 to 20 years N=36			20 to 25 years N=25			25 years and above N=18		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
C.01	0.760	3.800	0.837	0.509	2.545	0.688	0.648	3.240	1.012	0.589	2.944	0.754	0.661	3.306	0.710	0.672	3.360	0.569	0.656	3.278	0.826
C.02	0.720	3.600	1.140	0.509	2.545	0.688	0.656	3.280	0.980	0.628	3.139	0.593	0.678	3.389	0.766	0.696	3.480	0.586	**0.744**	**3.722**	**0.669**
C.03	0.800	4.000	0.707	0.673	3.364	0.809	**0.760**	**3.800**	**0.957**	**0.756**	**3.778**	**0.797**	0.778	3.889	0.575	0.736	3.680	0.627	0.756	3.778	0.647
C.04	0.680	3.400	0.894	0.636	3.182	0.874	0.752	3.760	0.926	0.694	3.472	0.845	0.767	3.833	0.609	0.720	3.600	0.707	0.722	3.611	0.916
C.05	0.840	4.200	1.095	0.618	3.091	0.831	0.752	3.760	0.926	0.722	3.611	0.803	0.744	3.722	0.659	0.736	3.680	0.690	**0.744**	**3.722**	**0.669**
C.06	0.720	3.600	0.894	0.582	2.909	0.944	0.680	3.400	0.816	0.644	3.222	0.929	0.711	3.556	0.809	0.696	3.480	0.586	0.700	3.500	0.618
C.07	0.720	3.600	0.894	0.636	3.182	0.982	0.712	3.560	0.961	0.706	3.528	0.736	0.722	3.611	0.803	0.680	3.400	0.500	0.722	3.611	0.608
C.08	**0.840**	**4.200**	**0.447**	**0.727**	**3.636**	**0.809**	0.736	3.680	0.945	0.728	3.639	0.723	**0.778**	**3.889**	**0.667**	**0.744**	**3.720**	**0.614**	**0.744**	**3.722**	**0.669**
C.09	0.720	3.600	0.894	0.582	2.909	0.701	0.704	3.520	0.918	0.678	3.389	0.803	0.744	3.722	0.741	0.712	3.560	0.651	0.733	3.667	0.594
C.10	**0.840**	**4.200**	**0.447**	0.600	3.000	0.894	0.712	3.560	0.961	0.706	3.528	0.845	0.750	3.750	0.770	0.712	3.560	0.583	0.733	3.667	0.594
C.11	**0.840**	**4.200**	**0.447**	0.691	3.455	0.688	0.688	3.440	0.821	0.644	3.222	0.722	0.717	3.583	0.732	0.704	3.520	0.714	0.700	3.500	0.514
C.12	0.840	4.200	1.095	0.527	2.636	0.505	0.688	3.440	1.083	0.656	3.278	0.815	0.733	3.667	0.717	0.712	3.560	0.712	0.711	3.556	0.784
C.13	0.760	3.800	0.837	0.600	3.000	0.775	0.664	3.320	0.988	0.661	3.306	0.786	0.744	3.722	0.701	0.696	3.480	0.653	0.689	3.444	0.616
C.14	0.720	3.600	0.894	0.600	3.000	0.632	0.672	3.360	0.952	0.644	3.222	0.760	0.728	3.639	0.639	0.704	3.520	0.586	0.722	3.611	0.608
C.15	0.760	3.800	0.837	0.582	2.909	0.831	0.696	3.480	0.918	0.656	3.278	0.701	0.733	3.667	0.676	0.736	3.680	0.690	0.700	3.500	0.786
C.16	0.760	3.800	0.837	0.618	3.091	0.944	0.688	3.440	1.083	0.678	3.389	0.766	0.750	3.750	0.604	0.712	3.560	0.507	0.711	3.556	0.511

4.5 Section D – Current Team Performance

Further from the second objective, section D study the team performance. Team member to evaluate the current team performance. The questionnaire code in Table 4.24 for easier reference.

Table 4.24 Section D - Questionnaire Code

Code	**Competency**	Description
D.01	Creativity	My team has creativity when proposal needed
D.02	Persuasion	My team able to persuade external stakeholder to follow the team's idea
D.03	Collaboration	My team able to work together well
D.04	Adaptability / Flexibility	My team is adaptable and flexible enough to suit the new environment
D.05	Coordination	My team has no problem with the coordination of works
D.06	Emotional intelligence	My team has good emotional control
D.07	Communication	My team able to fully understand what is required and able to communicate in verbal and return
D.08	Teamwork / Engagement	My team has strong teamwork spirit
D.09	Problem-solving / Conflict management	My team able to solute problem by proper handling others feeling
D.10	Critical thinking / Analysis	My team is good in analysis and solute the problem
D.11	Understanding / Empathy	My team is understanding and take care of my feeling
D.12	Leadership	My team has a leader who leads the project well, no matter is quality, time and cost control
D.13	Enthusiasm / Positive attitude	My team is energized and with positive attitude
D.14	Negotiation	My team able to negotiate well with external stakeholder
D.15	Motivation	I always feel I been motivated
D.16	Decision making	My team's decision will not disappoint me

4.5.1 Cronbach's Alpha Test

The overall Cronbach's Alpha present Table 4.25 has high level of internal consistency, which has an excellent score of 0.982. All the influence relationship exclude the educational background of secondary has score excellent in the Cronbach's Alpha Test.

Table 4.25 Section D – Cronbach's Alpha Test

	Cronbach's Alpha	N of Items	Performance
Overall	0.982	156	Excellent
Developer	0.982	35	Excellent
Consultant	0.987	39	Excellent
Contractor	0.979	82	Excellent

4.5.2 RII Analysis

The overall result for the current team performance rated by the team member is between 3.2 to 3.6. D.03, D.08, D.12 and D.04 are the top three performable soft skills among the 16 soft skills studies.

Table 4.26 Section D - RII Analysis and Kruskal Wallis Test

Code	RII Analysis				Kruskal Wallis Test	
	Mean	SV	I.I	Rank	Kruskal-Wallis H	Asymp. Sig.
D.01	3.276	0.831	0.655	16	1.069	0.586
D.02	3.333	0.765	0.667	14	2.926	0.232
D.03	3.615	0.757	0.723	1	1.741	0.419
D.04	3.532	0.807	0.706	3	4.114	0.128
D.05	3.506	0.823	0.701	5	3.641	0.162
D.06	3.314	0.802	0.663	15	0.416	0.812
D.07	3.423	0.819	0.685	9	3.659	0.161
D.08	3.590	0.849	0.718	2	3.885	0.143
D.09	3.397	0.848	0.679	11	1.572	0.456
D.10	3.462	0.830	0.692	7	2.675	0.263
D.11	3.417	0.857	0.683	10	2.818	0.244
D.12	3.532	0.774	0.706	3	6.854	**0.032**
D.13	3.449	0.814	0.690	8	5.569	0.062
D.14	3.487	0.791	0.697	6	6.548	**0.038**
D.15	3.391	0.816	0.678	13	3.011	0.222
D.16	3.397	0.824	0.679	11	4.972	0.083

Spearman Test

Spearman test was conducted to determine the relationship as follow:

4. Relationship between team performance and generation & working experience (Table 4.27).
5. Relationship between individual and project team performance (Table 4.32).

Table 4.27 Relationship between Team Performance and Generation & Working Experience

	Generation		Working Experience	
	Correlation Coefficient	Sig. (2-tailed)	Correlation Coefficient	Sig. (2-tailed)
D.01	0.121	0.132	0.114	0.155
D.02	0.121	0.133	0.151	0.059
D.03	0.053	0.512	0.076	0.348
D.04	0.112	0.164	0.110	0.171
D.05	0.083	0.302	0.090	0.265
D.06	0.114	0.155	0.090	0.265
D.07	0.031	0.703	-0.019	0.811
D.08	.168*	0.036	0.114	0.156
D.09	0.138	0.086	0.141	0.080
D.10	0.149	0.064	0.147	0.067
D.11	0.134	0.096	0.132	0.101
D.12	0.138	0.085	0.115	0.153
D.13	0.145	0.070	0.141	0.079
D.14	0.099	0.217	0.089	0.269
D.15	.169*	0.035	.165*	0.039
D.16	.163*	0.042	0.132	0.100

* Correlation is significant at the 0.05 level (2-tailed).

4.5.3 Influences with Different Relationship

To understand further influences between the varies relationship is studied and tabulated as follow.

Relationship between Nature of Business

Table 4.28 Section D - Important Index

Code	Developer				Consultant				Contractor			
	Mean	SV	I.I	Rank	Mean	SV	I.I	Rank	Mean	SV	I.I	Rank
D.01	3.200	0.868	0.640	15	3.256	0.910	0.651	15	3.317	0.784	0.663	16
D.02	3.229	0.731	0.646	14	3.256	0.880	0.651	15	3.415	0.719	0.683	14
D.03	**3.600**	**0.695**	**0.720**	**1**	3.513	0.790	0.703	3	3.671	0.771	0.734	2
D.04	3.371	0.843	0.674	3	3.487	0.854	0.697	4	3.622	0.764	0.724	3
D.05	3.343	0.838	0.669	4	3.487	0.823	0.697	4	3.585	0.816	0.717	6
D.06	3.257	0.741	0.651	10	3.333	0.927	0.667	14	3.329	0.771	0.666	15
D.07	3.286	0.667	0.657	8	3.462	0.756	0.692	6	3.463	0.905	0.693	11
D.08	3.400	0.812	0.680	2	3.564	0.912	0.713	2	**3.683**	**0.830**	**0.737**	**1**
D.09	3.343	0.639	0.669	4	3.359	0.903	0.672	10	3.439	0.904	0.688	13
D.10	3.343	0.684	0.669	4	3.436	0.912	0.687	7	3.524	0.849	0.705	8
D.11	3.257	0.886	0.651	10	3.410	0.850	0.682	8	3.488	0.850	0.698	9
D.12	3.257	0.741	0.651	10	**3.590**	**0.751**	**0.718**	**1**	3.622	0.780	0.724	3
D.13	3.286	0.622	0.657	8	3.359	0.986	0.672	10	3.561	0.787	0.712	7
D.14	3.343	0.639	0.669	4	3.359	0.778	0.672	10	3.610	0.843	0.722	5
D.15	3.257	0.741	0.651	10	3.359	0.843	0.672	10	3.463	0.834	0.693	11
D.16	3.200	0.719	0.640	15	3.410	0.818	0.682	8	3.476	0.864	0.695	10

Relationship between Designation

Table 4.29 Section D - Relationship between Designation

Code	Director			Architect			Engineer (Civil or Mechanical & Electrical)			Quantity Surveyor			Project/Construction Manager (including assistant manager)			Implementation Team (Project engineer, clerk of work, supervisor)			Project Planning		
	N=5			N=8			N=19			N=49			N=30			N=41			N=4		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
D.01	0.640	3.200	0.837	0.675	3.375	0.744	0.642	3.211	1.032	0.678	3.388	0.975	0.660	3.300	0.535	0.649	3.244	0.734	0.450	2.250	0.500
D.02	0.640	3.200	0.837	0.675	3.375	0.744	0.642	3.211	0.976	0.669	3.347	0.855	0.673	3.367	0.556	0.678	3.390	0.737	0.600	3.000	-
D.03	0.760	3.800	0.837	**0.775**	**3.875**	**0.641**	0.674	3.368	0.761	**0.731**	**3.653**	**0.925**	0.707	3.533	0.571	0.741	3.707	0.680	0.650	3.250	0.500
D.04	0.720	3.600	0.894	0.750	3.750	0.886	**0.705**	**3.526**	**0.841**	0.710	3.551	0.914	0.687	3.433	0.626	0.732	3.659	0.693	0.450	2.250	0.500
D.05	0.760	3.800	0.837	0.750	3.750	0.463	0.695	3.474	0.905	0.690	3.449	0.914	0.687	3.433	0.626	0.737	3.683	0.789	0.450	2.250	0.500
D.06	0.680	3.400	1.140	0.700	3.500	0.756	0.674	3.368	1.012	0.645	3.224	0.872	0.647	3.233	0.626	0.702	3.512	0.637	0.450	2.250	0.500
D.07	0.680	3.400	0.548	0.725	3.625	0.744	0.674	3.368	0.895	0.678	3.388	1.017	0.667	3.333	0.547	0.712	3.561	0.776	0.600	3.000	-
D.08	0.720	3.600	0.548	**0.775**	**3.875**	**0.991**	0.695	3.474	0.905	0.714	3.571	1.000	**0.720**	**3.600**	**0.675**	**0.746**	**3.732**	**0.672**	0.450	2.250	0.500
D.09	0.680	3.400	0.894	0.700	3.500	0.926	0.684	3.421	0.961	0.649	3.245	1.011	0.673	3.367	0.615	0.722	3.610	0.737	0.600	3.000	-
D.10	0.640	3.200	0.837	0.725	3.625	0.744	**0.705**	**3.526**	**0.964**	0.657	3.286	0.979	0.707	3.533	0.571	0.727	3.634	0.767	0.600	3.000	-
D.11	0.680	3.400	0.894	0.700	3.500	0.926	0.684	3.421	0.961	0.682	3.408	0.911	0.687	3.433	0.679	0.702	3.512	0.840	0.450	2.250	0.500
D.12	0.760	3.800	0.837	0.750	3.750	0.463	0.695	3.474	0.905	0.698	3.490	0.845	0.707	3.533	0.629	0.732	3.659	0.693	0.450	2.250	0.500
D.13	0.680	3.400	0.894	0.750	3.750	0.886	0.684	3.421	0.902	0.657	3.286	0.979	0.693	3.467	0.571	0.727	3.634	0.698	0.600	3.000	-
D.14	0.720	3.600	0.548	0.725	3.625	0.744	0.663	3.316	0.820	0.686	3.429	0.957	0.693	3.467	0.629	0.732	3.659	0.728	0.600	3.000	-
D.15	0.680	3.400	0.894	0.725	3.625	0.744	0.674	3.368	0.895	0.661	3.306	0.918	0.680	3.400	0.563	0.712	3.561	0.776	0.450	2.250	0.500
D.16	0.640	3.200	0.837	0.725	3.625	0.744	0.684	3.421	0.838	0.669	3.347	0.969	0.680	3.400	0.563	0.707	3.537	0.778	0.450	2.250	0.500

Relationship between Age Group

Table 4.30 Section D - Relationship between Age Group

Code	Generation Y						Generation X						Baby Boomers			Generation Y			Generation X		
	25 to 33 years old			34 to 40 years old			41 to 48 years old			49 to 55 years old			56 years old and above			25 to 40 years old			41 to 55 years old		
	N=34			N=56			N=44			N=15			N=6			N=90			N=59		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
D.01	0.624	3.118	1.122	0.639	3.196	0.796	0.682	3.409	0.658	0.720	3.600	0.632	0.600	3.000	0.632	0.633	3.167	0.927	0.692	3.458	0.652
D.02	0.635	3.176	0.999	0.657	3.286	0.731	0.691	3.455	0.627	0.733	3.667	0.617	0.600	3.000	0.632	0.649	3.244	0.839	0.702	3.508	0.626
D.03	0.700	3.500	0.862	**0.718**	**3.589**	**0.848**	0.741	3.705	0.632	0.773	3.867	0.516	0.633	3.167	0.408	**0.711**	**3.556**	**0.849**	0.749	3.746	0.604
D.04	0.700	3.500	0.992	0.675	3.375	0.865	0.732	3.659	0.608	**0.787**	**3.933**	**0.594**	0.633	3.167	0.408	0.684	3.422	0.912	0.746	3.729	0.611
D.05	0.688	3.441	0.927	0.682	3.411	0.949	0.736	3.682	0.639	0.733	3.667	0.617	0.633	3.167	0.408	0.684	3.422	0.936	0.736	3.678	0.628
D.06	0.647	3.235	0.955	0.643	3.214	0.825	0.691	3.455	0.663	0.720	3.600	0.737	0.600	3.000	0.632	0.644	3.222	0.871	0.698	3.492	0.679
D.07	**0.706**	**3.529**	**0.929**	0.657	3.286	0.948	0.714	3.568	0.661	0.680	3.400	0.507	0.633	3.167	0.408	0.676	3.378	0.943	0.705	3.525	0.626
D.08	0.694	3.471	1.022	0.682	3.411	0.930	**0.782**	**3.909**	**0.640**	0.747	3.733	0.458	0.633	3.167	0.408	0.687	3.433	0.960	**0.773**	**3.864**	**0.601**
D.09	0.659	3.294	1.031	0.654	3.268	0.924	0.723	3.614	0.618	0.733	3.667	0.617	0.600	3.000	0.632	0.656	3.278	0.960	0.725	3.627	0.613
D.10	0.676	3.382	1.045	0.661	3.304	0.893	0.741	3.705	0.594	0.733	3.667	0.488	0.600	3.000	0.632	0.667	3.333	0.948	0.739	3.695	0.565
D.11	0.665	3.324	1.036	0.654	3.268	0.944	0.727	3.636	0.613	0.733	3.667	0.617	0.600	3.000	0.632	0.658	3.289	0.974	0.729	3.644	0.609
D.12	0.700	3.500	0.929	0.675	3.375	0.822	0.741	3.705	0.594	0.760	3.800	0.676	0.633	3.167	0.408	0.684	3.422	0.861	0.746	3.729	0.611
D.13	0.653	3.265	1.082	0.675	3.375	0.843	0.741	3.705	0.553	0.720	3.600	0.507	0.600	3.000	0.632	0.667	3.333	0.936	0.736	3.678	0.539
D.14	0.682	3.412	0.957	0.675	3.375	0.906	0.736	3.682	0.561	0.720	3.600	0.507	0.633	3.167	0.408	0.678	3.389	0.920	0.732	3.661	0.545
D.15	0.641	3.206	0.978	0.654	3.268	0.904	0.732	3.659	0.568	0.720	3.600	0.507	0.600	3.000	0.632	0.649	3.244	0.928	0.729	3.644	0.550
D.16	0.665	3.324	1.036	0.646	3.232	0.894	0.732	3.659	0.568	0.720	3.600	0.507	0.600	3.000	0.632	0.653	3.267	0.946	0.729	3.644	0.550

Relationship between Working Experience

Table 4.31 Section D - Relationship between Working Experience

Code	1 to 3 years N=5			3 to 5 years N=11			5 to 10 years N=25			10 to 15 years N=36			15 to 20 years N=36			20 to 25 years N=25			25 years and above N=18		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
D.01	0.840	4.200	0.447	0.564	2.818	0.751	0.640	3.200	1.190	0.600	3.000	0.756	0.683	3.417	0.692	0.696	3.480	0.653	0.678	3.389	0.698
D.02	0.800	4.000	0.707	0.582	2.909	0.831	0.640	3.200	1.000	0.622	3.111	0.667	0.706	3.528	0.654	0.688	3.440	0.651	0.700	3.500	0.707
D.03	0.800	4.000	0.707	0.673	3.364	0.924	0.728	3.640	0.860	**0.672**	**3.361**	**0.833**	**0.761**	**3.806**	**0.668**	0.736	3.680	0.627	0.733	3.667	0.594
D.04	0.760	3.800	0.837	**0.618**	**3.091**	**1.044**	0.752	3.760	0.926	0.622	3.111	0.820	0.744	3.722	0.615	0.728	3.640	0.638	**0.744**	**3.722**	**0.669**
D.05	0.760	3.800	0.837	**0.618**	**3.091**	**1.044**	0.728	3.640	0.810	0.628	3.139	0.961	0.756	3.778	0.637	0.712	3.560	0.712	0.722	3.611	0.608
D.06	0.720	3.600	0.894	0.582	2.909	0.831	0.696	3.480	0.963	0.594	2.972	0.736	0.706	3.528	0.696	0.664	3.320	0.690	0.700	3.500	0.786
D.07	**0.880**	**4.400**	**0.548**	0.655	3.273	0.786	0.696	3.480	0.963	0.617	3.083	0.967	0.728	3.639	0.639	0.688	3.440	0.712	0.678	3.389	0.502
D.08	**0.880**	**4.400**	**0.894**	0.600	3.000	1.095	0.728	3.640	0.810	0.644	3.222	0.989	0.756	3.778	0.637	**0.784**	**3.920**	**0.702**	0.711	3.556	0.511
D.09	0.800	4.000	1.000	0.582	2.909	0.944	0.696	3.480	0.963	0.600	3.000	0.894	0.722	3.611	0.645	0.712	3.560	0.712	0.711	3.556	0.705
D.10	0.800	4.000	0.707	0.582	2.909	1.044	0.712	3.560	1.003	0.617	3.083	0.874	0.733	3.667	0.632	0.736	3.680	0.627	0.711	3.556	0.616
D.11	0.760	3.800	0.837	0.600	3.000	1.000	0.704	3.520	1.005	0.606	3.028	0.971	0.722	3.611	0.599	0.720	3.600	0.707	0.711	3.556	0.705
D.12	0.840	4.200	0.837	0.618	3.091	0.831	0.728	3.640	0.860	0.639	3.194	0.822	0.733	3.667	0.586	0.728	3.640	0.700	**0.744**	**3.722**	**0.669**
D.13	0.720	3.600	0.894	0.509	2.545	1.214	**0.744**	**3.720**	**0.843**	0.633	3.167	0.775	0.728	3.639	0.639	0.728	3.640	0.638	0.700	3.500	0.618
D.14	0.760	3.800	0.837	0.600	3.000	1.095	0.712	3.560	0.821	0.656	3.278	0.944	0.728	3.639	0.639	0.720	3.600	0.645	0.711	3.556	0.511
D.15	0.720	3.600	0.894	0.582	2.909	1.044	0.696	3.480	0.918	0.606	3.028	0.878	0.717	3.583	0.649	0.728	3.640	0.638	0.700	3.500	0.618
D.16	0.840	4.200	0.447	0.564	2.818	0.982	0.712	3.560	0.917	0.583	2.917	0.874	0.722	3.611	0.599	0.728	3.640	0.638	0.700	3.500	0.618

Relationship between Individual and Project Team Performance

Table 4.32 Section D – Relationship between Individual and Project Team Performance

		C.01	C.02	C.03	C.04	C.05	C.06	C.07	C.08	C.09	C.10	C.11	C.12	C.13	C.14	C.15	C.16
D.01	Correlation Coefficient	.633**	.593**	.469**	.435**	.484**	.503**	.530**	.555**	.541**	.601**	.584**	.509**	.502**	.558**	.534**	.536**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.02	Correlation Coefficient	.621**	.666**	.490**	.521**	.550**	.572**	.612**	.577**	.586**	.646**	.631**	.584**	.572**	.666**	.548**	.609**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.03	Correlation Coefficient	.528**	.410**	.608**	.536**	.532**	.513**	.596**	.663**	.529**	.634**	.516**	.479**	.565**	.527**	.508**	.597**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.04	Correlation Coefficient	.521**	.464**	.571**	.642**	.511**	.582**	.619**	.680**	.612**	.624**	.546**	.520**	.615**	.600**	.621**	.569**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.05	Correlation Coefficient	.564**	.480**	.598**	.644**	.530**	.595**	.611**	.699**	.646**	.660**	.580**	.559**	.673**	.605**	.619**	.622**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.06	Correlation Coefficient	.550**	.524**	.509**	.632**	.512**	.638**	.582**	.628**	.622**	.652**	.597**	.521**	.609**	.649**	.632**	.592**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.07	Correlation Coefficient	.544**	.445**	.501**	.568**	.481**	.489**	.547**	.596**	.487**	.605**	.627**	.510**	.634**	.572**	.539**	.581**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.08	Correlation Coefficient	.537**	.411**	.545**	.487**	.519**	.479**	.482**	.628**	.510**	.613**	.527**	.528**	.576**	.502**	.552**	.590**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.09	Correlation Coefficient	.532**	.482**	.462**	.572**	.446**	.588**	.533**	.606**	.603**	.635**	.566**	.511**	.670**	.588**	.622**	.531**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.10	Correlation Coefficient	.639**	.562**	.543**	.608**	.595**	.604**	.593**	.648**	.676**	.693**	.626**	.646**	.614**	.645**	.636**	.632**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.11	Correlation Coefficient	.534**	.457**	.474**	.554**	.441**	.543**	.576**	.588**	.612**	.602**	.579**	.487**	.636**	.577**	.598**	.536**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.12	Correlation Coefficient	.579**	.541**	.558**	.633**	.562**	.547**	.597**	.656**	.648**	.649**	.627**	.619**	.614**	.605**	.610**	.581**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.13	Correlation Coefficient	.539**	.479**	.495**	.631**	.471**	.618**	.595**	.598**	.639**	.625**	.588**	.570**	.701**	.637**	.633**	.563**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.14	Correlation Coefficient	.530**	.488**	.539**	.589**	.492**	.575**	.603**	.617**	.617**	.658**	.563**	.517**	.657**	.628**	.606**	.601**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.15	Correlation Coefficient	.544**	.515**	.495**	.627**	.465**	.624**	.577**	.584**	.656**	.624**	.596**	.558**	.670**	.601**	.653**	.574**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
D.16	Correlation Coefficient	.589**	.581**	.538**	.587**	.551**	.558**	.557**	.589**	.618**	.629**	.672**	.638**	.660**	.606**	.613**	.625**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nos of correlation above value of 6		3	1	1	7	-	3	4	9	11	16	5	3	12	10	10	5

Note: *Sig. (2-tailed) = 0* *** Correlation is significant at the 0.01 level (2-tailed).*

Relationship between Core Soft Skills and Projet Team Performance

Table 4.33 Section D – Relationship between Core Soft Skills and Projet Team Performance

		B.01	B.02	B.03	B.04	B.05	B.06	B.07	B.08	B.09	B.10	B.11	B.12	B.13	B.14	B.15	B.16
	Core soft skills rank:	16	13	8	10	3	15	1	2	6	7	14	5	9	12	11	4
D.01	Correlation Coefficient	.254**	0.084	0.080	.162*	0.048	0.073	0.088	0.123	0.001	0.018	0.154	0.114	0.060	0.043	0.091	0.078
	Sig. (2-tailed)	0.001	0.299	0.323	0.043	0.550	0.366	0.277	0.126	0.994	0.824	0.055	0.156	0.456	0.595	0.258	0.336
D.02	Correlation Coefficient	.193*	.165*	0.098	.202*	0.091	.186*	0.114	0.109	0.096	0.153	.233**	0.152	0.121	.171*	0.145	0.149
	Sig. (2-tailed)	0.016	0.039	0.223	0.012	0.257	0.020	0.157	0.176	0.234	0.056	0.003	0.058	0.133	0.033	0.072	0.063
D.03	Correlation Coefficient	0.112	.211**	.317**	.343**	**.276****	.162*	**.311****	**.274****	.242**	.225**	.229**	**.281****	.202*	0.122	0.092	.256**
	Sig. (2-tailed)	0.163	0.008	0.000	0.000	0.000	0.044	0.000	0.001	0.002	0.005	0.004	0.000	0.011	0.130	0.252	0.001
D.04	Correlation Coefficient	0.046	0.130	.262**	.325**	.180*	0.059	.256**	.257**	.242**	.260**	.263**	.214**	.173*	0.139	0.124	.196*
	Sig. (2-tailed)	0.568	0.107	0.001	0.000	0.024	0.461	0.001	0.001	0.002	0.001	0.001	0.007	0.031	0.082	0.124	0.014
D.05	Correlation Coefficient	0.076	.182*	.267**	.350**	.175*	.159*	.231**	.219**	.229**	.268**	.188*	.190*	.232**	.185*	.161*	.212**
	Sig. (2-tailed)	0.347	0.023	0.001	0.000	0.029	0.047	0.004	0.006	0.004	0.001	0.019	0.018	0.004	0.020	0.045	0.008
D.06	Correlation Coefficient	0.084	0.143	.241**	.313**	0.145	.198*	0.150	0.157	.211**	.258**	.248**	0.136	.206**	.208**	.241**	0.141
	Sig. (2-tailed)	0.295	0.075	0.002	0.000	0.072	0.013	0.061	0.050	0.008	0.001	0.002	0.090	0.010	0.009	0.002	0.080
D.07	Correlation Coefficient	.206**	.198*	.264**	.306**	.210**	.213**	.205*	.254**	.235**	.284**	.271**	.251**	.289**	.236**	.206*	**.268****
	Sig. (2-tailed)	0.010	0.013	0.001	0.000	0.008	0.008	0.010	0.001	0.003	0.000	0.001	0.002	0.000	0.003	0.010	0.001
D.08	Correlation Coefficient	0.092	.176*	.244**	.276**	.188*	0.068	.165*	.247**	0.149	.166*	.212**	.251**	.218**	0.098	0.127	.174*
	Sig. (2-tailed)	0.251	0.028	0.002	0.000	0.019	0.396	0.039	0.002	0.063	0.039	0.008	0.002	0.006	0.222	0.114	0.029
D.09	Correlation Coefficient	0.052	.178*	.203*	.344**	0.107	.178*	0.140	.206**	.188*	.257**	.237**	.180*	.248**	.177*	.243**	0.156
	Sig. (2-tailed)	0.518	0.026	0.011	0.000	0.183	0.026	0.080	0.010	0.019	0.001	0.003	0.025	0.002	0.027	0.002	0.051
D.10	Correlation Coefficient	0.017	0.114	.169*	.273**	0.116	0.089	0.136	.188*	.170*	.201*	.198*	.171*	.176*	.205*	.167*	.171*
	Sig. (2-tailed)	0.834	0.155	0.034	0.001	0.148	0.271	0.090	0.019	0.033	0.012	0.013	0.033	0.028	0.010	0.038	0.032
D.11	Correlation Coefficient	0.091	0.140	.241**	.266**	0.093	0.135	0.123	0.134	0.143	.159*	.244**	0.140	.208**	0.128	.179*	0.150
	Sig. (2-tailed)	0.260	0.082	0.002	0.001	0.247	0.092	0.126	0.095	0.074	0.047	0.002	0.081	0.009	0.111	0.026	0.061
D.12	Correlation Coefficient	0.072	.172*	.313**	.323**	.163*	.164*	0.153	.225**	0.152	.200*	.225**	.208**	.190*	.189*	.166*	.240**
	Sig. (2-tailed)	0.370	0.032	0.000	0.000	0.042	0.041	0.057	0.005	0.058	0.012	0.005	0.009	0.017	0.018	0.038	0.003
D.13	Correlation Coefficient	0.092	.222**	.278**	.360**	0.098	.182*	.171*	.159*	.171*	.236**	.261**	.236**	.327**	.239**	.217**	.164*
	Sig. (2-tailed)	0.251	0.005	0.000	0.000	0.221	0.023	0.032	0.047	0.033	0.003	0.001	0.003	0.000	0.003	0.007	0.041
D.14	Correlation Coefficient	0.061	.190*	.281**	.383**	0.108	.162*	.209**	.183*	.205*	.258**	.213**	.168*	.250**	.222**	.194*	.179*
	Sig. (2-tailed)	0.453	0.017	0.000	0.000	0.178	0.043	0.009	0.022	0.010	0.001	0.007	0.036	0.002	0.005	0.015	0.025
D.15	Correlation Coefficient	0.073	0.093	.255**	.296**	0.055	.168*	0.138	0.109	0.119	.174*	.215**	.219**	.265**	.164*	.207**	0.104
	Sig. (2-tailed)	0.365	0.249	0.001	0.000	0.496	0.037	0.087	0.174	0.140	0.030	0.007	0.006	0.001	0.040	0.010	0.198
D.16	Correlation Coefficient	0.062	0.133	.222**	.203*	0.122	.163*	0.087	.157*	0.118	.172*	.203*	.206**	.220**	.199*	.174*	0.140
	Sig. (2-tailed)	0.445	0.098	0.005	0.011	0.128	0.043	0.279	0.050	0.144	0.032	0.011	0.010	0.006	0.013	0.030	0.081

*Note: **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).*

4.6 Section E – Effective Way for Improvement

Section E is the third objective of the research to identify an effective way to improve soft skills for future preparation. Table 4.34 listed the questionnaire code for easier reference.

Table 4.34 Section E - Questionnaire Code

Code	Strategy	Description
E.01	Training	Enroll/ attend the relevant training
E.02	Mentorship programme	A mentor to guide me during work
E.03	Buddy programme	Pair me with a buddy that we able to cross-learning and guide each other
E.04	Appraisal	Set a target for me and evaluate my performance regularly
E.05	Reward: extrinsic	Reward me with a bonus or money when I achieve the goal
E.06	Reward: intrinsic	Recognize me when I achieve my goal

4.6.1 Cronbach's Alpha Test

Section E has overall good score to Cronbach's Alpha Test with 0.858 which indicate a high level of high consistency. Table 4.35 tabulate the result of Cronbach's Alpha with different nature of business. Except for developers, consultants and contractors scored good.

Table 4.35 Section E - Cronbach's Alpha Test

	Cronbach's Alpha	N of Items	Performance
Overall	0.858	156	Good
Developer	0.896	35	Good
Consultant	0.804	39	Good
Contractor	0.867	82	Good

4.6.2 RII Analysis

Table 4.36 tabulated the result of I.I with rank among the different nature of business.

Table 4.36 Section E - RII Analysis and Kruskal Wallis Test

Code	RII Analysis				Kruskal Wallis Test	
	Mean	SV	I.I	Rank	Kruskal-Wallis H	Asymp. Sig.
E.01	3.455	0.904	0.691	6	5.164	0.076
E.02	3.590	0.963	0.718	4	4.303	0.116
E.03	3.494	0.891	0.699	5	2.409	0.300
E.04	3.865	0.701	0.773	3	0.024	0.988
E.05	4.141	0.749	0.828	2	1.119	0.572
E.06	4.173	0.755	0.835	1	2.096	0.351

4.6.3 Spearman Test

Spearman test was conducted to determine the relationship between individual and improvement strategy

Table 4.37 Relationship between Individual and Improvement Strategy

	Significant correlation					
	E.01	E.02	E.03	E.04	E.05	E.06
C.01	.171*	-0.021	0.050	.222**	0.102	0.079
C.02	0.105	-0.081	-0.057	0.048	0.096	-0.014
C.03	.264**	.184*	.162*	0.127	.165*	.174*
C.04	0.108	0.012	0.073	0.155	0.079	0.005
C.05	.256**	.164*	0.136	.184*	.200*	.230**
C.06	0.103	0.101	0.101	0.148	0.045	0.032
C.07	0.106	0.137	.180*	0.134	0.136	0.068
C.08	.166*	0.120	0.086	0.150	0.073	0.100
C.09	0.068	0.048	0.082	.176*	0.031	0.046
C.10	0.120	0.074	0.036	.184*	0.110	0.124
C.11	0.090	0.101	0.111	.263**	0.022	0.062
C.12	0.100	-0.038	-0.013	0.038	0.026	0.021
C.13	0.059	-0.042	-0.007	0.065	0.037	-0.045
C.14	0.032	0.005	0.025	0.135	0.097	0.061
C.15	0.142	-0.001	0.093	.177*	-0.018	-0.026
C.16	.163*	0.068	0.043	0.118	0.063	0.080
Nos of [negative value]	-	5	3	-	1	3

Note *** Correlation is significant at the 0.01 level (2-tailed).*

** Correlation is significant at the 0.05 level (2-tailed).*

4.6.4 Influences with Different Relationship

The result of the relationship is rather consistent. E.05 and E.06 have rather high mean value and position rank in the top 2. Among the various relationship, there are only position with director and project planning have a different perception. E.02 and E.01 is preference respectively.

Relationship between Nature of Business

Table 4.38 Section E - Relationship between Nature of Business

Code	Developer				Consultant				Contractor			
	Mean	SV	I.I	Rank	Mean	SV	I.I	Rank	Mean	SV	I.I	Rank
E.01	3.514	0.818	0.703	5	3.692	0.832	0.738	5	3.317	0.954	0.663	6
E.02	3.571	0.815	0.714	4	3.846	1.014	0.769	3	3.476	0.984	0.695	4
E.03	3.343	0.725	0.669	6	3.667	0.838	0.733	6	3.476	0.972	0.695	4
E.04	3.829	0.664	0.766	3	3.846	0.779	0.769	3	3.890	0.685	0.778	3
E.05	4.000	0.840	0.800	2	4.154	0.844	0.831	2	4.195	0.656	0.839	1
E.06	4.086	0.781	0.817	1	4.282	0.826	0.856	1	4.159	0.711	0.832	2

Relationship between Designation

Table 4.39 Section E - Relationship between Designation

Code	Director			Architect			Engineer (Civil or Mechanical & Electrical)			Quantity Surveyor			Project/Construction Manager (including assistant manager)			Implementation Team (Project engineer, clerk of work, supervisor)			Project Planning		
	N=5			N=8			N=19			N=49			N=30			N=41			N=4		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
E.01	0.720	3.600	0.548	0.725	3.625	0.916	0.758	3.789	0.918	0.759	3.796	0.866	0.607	3.033	0.718	0.620	3.098	0.917	0.800	4.000	-
E.02	**0.760**	**3.800**	**1.095**	0.725	3.625	1.061	0.758	3.789	1.134	0.816	4.082	0.812	0.620	3.100	0.759	0.654	3.268	0.923	0.650	3.250	0.500
E.03	0.640	3.200	0.837	0.675	3.375	0.916	0.779	3.895	0.937	0.747	3.735	0.861	0.627	3.133	0.776	0.673	3.366	0.915	0.650	3.250	0.500
E.04	0.680	3.400	0.548	0.700	3.500	0.926	0.768	3.842	0.834	0.808	4.041	0.644	0.760	3.800	0.761	0.780	3.902	0.583	0.650	3.250	0.500
E.05	0.720	3.600	0.548	0.725	3.625	0.916	**0.905**	**4.526**	**0.772**	0.849	4.245	0.723	0.787	3.933	0.785	**0.849**	**4.244**	**0.582**	0.650	3.250	0.500
E.06	0.720	3.600	0.548	**0.825**	**4.125**	**0.354**	0.874	4.368	1.065	**0.861**	**4.306**	**0.713**	**0.800**	**4.000**	**0.830**	0.844	4.220	0.571	0.650	3.250	0.500

Relationship between Age Group

Table 4.40 Section E - Relationship between Age Group

`	Generation Y						Generation X						Baby Boomers			Generation Y			Generation X		
	25 to 33 years old			34 to 40 years old			41 to 48 years old			49 to 55 years old			56 years old and above			25 to 40 years old			41 to 55 years old		
Code	N=34			N=56			N=44			N=15			N=6			N=90			N=59		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
E.01	0.741	3.706	1.115	0.711	3.554	0.872	0.636	3.182	0.657	0.653	3.267	0.961	0.733	3.667	1.033	0.722	3.611	0.968	0.641	3.203	0.738
E.02	0.794	3.971	1.058	0.754	3.768	0.874	0.641	3.205	0.734	0.613	3.067	1.033	0.767	3.833	1.329	0.769	3.844	0.947	0.634	3.169	0.813
E.03	0.794	3.971	1.000	0.711	3.554	0.872	0.623	3.114	0.618	0.640	3.200	0.862	0.733	3.667	1.033	0.742	3.711	0.939	0.627	3.136	0.681
E.04	0.812	4.059	0.814	0.746	3.732	0.820	0.786	3.932	0.452	0.760	3.800	0.414	0.733	3.667	0.816	0.771	3.856	0.829	0.780	3.898	0.443
E.05	0.871	4.353	0.774	0.829	**4.143**	**0.841**	**0.800**	4.000	0.571	0.800	**4.000**	**0.655**	**0.833**	**4.167**	**0.983**	0.844	4.222	0.818	0.800	4.000	0.587
E.06	**0.888**	**4.441**	**0.705**	**0.829**	**4.143**	**0.819**	**0.818**	**4.091**	**0.520**	**0.773**	3.867	0.990	0.833	4.167	0.983	**0.851**	**4.256**	**0.787**	**0.807**	**4.034**	**0.669**

Relationship between Working Experience

Table 4.41 Section E - Relationship between Working Experience

Code	1 to 3 years * N=5			3 to 5 years N=11			5 to 10 years N=25			10 to 15 years N=36			15 to 20 years N=36			20 to 25 years N=25			25 years and above N=18		
	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV	I.I	Mean	SV
E.01	0.840	4.200	0.837	0.655	3.273	1.009	0.800	4.000	0.913	0.717	3.583	0.806	0.606	3.028	0.774	0.688	3.440	0.870	0.644	3.222	0.878
E.02	0.880	4.400	0.548	0.836	4.182	1.079	0.800	4.000	0.913	0.750	3.750	0.841	0.639	3.194	0.786	0.680	3.400	0.866	0.633	3.167	1.200
E.03	0.800	4.000	1.000	0.727	3.636	0.924	0.840	4.200	0.866	0.706	3.528	0.810	0.622	3.111	0.785	0.656	3.280	0.678	0.656	3.278	0.958
E.04	0.880	4.400	0.548	0.800	4.000	1.000	0.816	4.080	0.702	0.750	3.750	0.732	0.739	3.694	0.749	0.800	4.000	0.408	0.744	3.722	0.575
E.05	0.840	4.200	0.447	0.782	3.909	1.044	**0.920**	**4.600**	**0.500**	**0.833**	**4.167**	**0.775**	0.778	3.889	0.820	0.840	4.200	0.500	**0.800**	**4.000**	**0.767**
E.06	**0.920**	**4.600**	**0.894**	**0.873**	**4.364**	**0.674**	0.896	4.480	0.653	**0.833**	**4.167**	**0.737**	**0.789**	**3.944**	**0.791**	**0.848**	**4.240**	**0.436**	0.778	3.889	1.023

Relationship between Individual Performance and Improve Strategy

Table 4.42 Section E – Relationship between Individual Performance and Improvement Strategy

Code		C.01	C.02	C.03	C.04	C.05	C.06	C.07	C.08	C.09	C.10	C.11	C.12	C.13	C.14	C.15	C.16
E.01	Correlation Coefficient	.171*	0.105	**.264****	0.108	.256**	0.103	0.106	.166*	0.068	0.120	0.090	0.100	0.059	0.032	0.142	.163*
	Sig. (2-tailed)	0.033	0.194	0.001	0.178	0.001	0.200	0.189	0.039	0.400	0.135	0.262	0.214	0.465	0.695	0.078	0.042
E.02	Correlation Coefficient	-0.021	-0.081	.184*	0.012	.164*	0.101	0.137	0.120	0.048	0.074	0.101	-0.038	-0.042	0.005	-0.001	0.068
	Sig. (2-tailed)	0.795	0.316	0.022	0.880	0.041	0.209	0.089	0.137	0.553	0.356	0.210	0.639	0.606	0.954	0.988	0.399
E.03	Correlation Coefficient	0.050	-0.057	.162*	0.073	0.136	0.101	.180*	0.086	0.082	0.036	0.111	-0.013	-0.007	0.025	0.093	0.043
	Sig. (2-tailed)	0.538	0.482	0.043	0.368	0.090	0.210	0.024	0.287	0.310	0.655	0.170	0.875	0.929	0.761	0.248	0.591
E.04	Correlation Coefficient	.222**	0.048	0.127	0.155	.184*	0.148	0.134	0.150	.176*	.184*	.263**	0.038	0.065	0.135	.177*	0.118
	Sig. (2-tailed)	0.005	0.550	0.114	0.054	0.022	0.065	0.095	0.061	0.028	0.021	0.001	0.641	0.419	0.094	0.027	0.144
E.05	Correlation Coefficient	0.102	0.096	.165*	0.079	.200*	0.045	0.136	0.073	0.031	0.110	0.022	0.026	0.037	0.097	-0.018	0.063
	Sig. (2-tailed)	0.206	0.235	0.040	0.329	0.012	0.575	0.091	0.362	0.701	0.172	0.789	0.746	0.646	0.228	0.820	0.434
E.06	Correlation Coefficient	0.079	-0.014	.174*	0.005	.230**	0.032	0.068	0.100	0.046	0.124	0.062	0.021	-0.045	0.061	-0.026	0.080
	Sig. (2-tailed)	0.329	0.866	0.030	0.948	0.004	0.695	0.401	0.215	0.565	0.125	0.442	0.799	0.579	0.447	0.746	0.323

*Note: **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).*

4.7 Discussion

Aasheim, Li and Williams, (2009) conduct a quantitative study (5 Likert scale) of knowledge and skill requirements which targeted to information technology managers in United States. The result of soft skills presented in the studies are analytical thinking 4.51, flexibility/ adaptability 4.33, motivation 4.37, and creative thinking 4.18. Compared with the core soft skills in section B of the questionnaire, the results of the study on soft skills are similar and are crucial to the success of the project. On the other hand, Seetha, (2014) conduct a preliminary investigation in Malaysia in year 2014 showed that communication in the workplace was the most important, followed by a positive attitude, teamwork, analysis and problem solving, and leadership. Therefore, performance of team member is crucial and improvement strategies are required to enhance the competence of team member.

CHAPTER 5

DATA ANALYSIS

5.1 Introduction

This chapter discusses the results obtained and is presented in Chapter 4. The objectives discussed in this chapter include the core competency to achieve the project success, performance of the team and team members and an appropriate strategy for improving soft skills.

5.2 Discussion

5.2.1 Identification of Core Soft Skills to Project Success

A total of 16 soft skills were studied in this research. From the results obtained, respondents agree that all 16 soft skills are important in the workplace. Except for creativity, which mean value close to 4.00, the mean value for all soft skills is above 4.00.

With reference to the Table 4.11, the comparison of mean value shows the top 5 soft skills to the project team members are:

6. [B.07] communication, mean 4.545, SV 0.572.
7. [B.08] teamwork/ engagement, mean 4.545, SV 0.583.
8. [B.05] coordination, mean 4.526, SV 0.584.
9. [B.16] decision making, mean 4.481 SV 0.536.
10. [B.09] problem-solving/ conflict management, mean 4.462, SV 0.616.

Whereas, the comparison of mean value shows the bottom 5 soft skills to the project team members are:

11. [B.14] negotiation, mean 4.231, SV 0.68.
12. [B.02] persuasion, mean 4.205, SV 0.541.
13. [B.11] understanding/ empathy, mean 4.186, SV 0.67.
14. [B.06] emotional intelligence, mean 4.135, SV 0.719.
15. [B.01] creativity, mean 3.968, SV 0.627.

Kruskal Wallis test was established to determine statistically significant by evaluating the population of median between nature of business. The Kruskal-Wallis H test showed that there coordination and teamwork/ engagement have significant perception difference between the median of core soft skills by developer, consultant and contractor. Therefore, coordination and teamwork/ engagement fail on H_0 and tabulated in Table 5.1.

Table 5.1 Hypothesis Result of Kruskal Wallis Test to Section B

Code	Kruskal Wallis		Hypothesis	
	Kruskal-Wallis H	Asymp. Sig.	H_0 ($p>0.05$) [**No significant perception difference**]	H_1 ($p\leq0.05$) [**Significant perception difference**]
B.01	5.006	0.082	Creativity	Rejected
B.02	0.289	0.866	Persuasion	Rejected
B.03	2.970	0.227	Collaboration	Rejected
B.04	4.563	0.102	Adaptability / Flexibility	Rejected
B.05	9.628	**0.008**	Rejected	Coordination
B.06	1.379	0.502	Emotional intelligence	Rejected
B.07	2.803	0.246	Communication	Rejected
B.08	7.618	**0.022**	Rejected	Teamwork / Engagement
B.09	2.442	0.295	Problem-solving / Conflict management	Rejected
B.10	1.199	0.549	Critical thinking / Analysis	Rejected
B.11	0.382	0.826	Understanding / Empathy	Rejected
B.12	2.129	0.345	Leadership	Rejected
B.13	0.461	0.794	Enthusiasm / Positive attitude	Rejected
B.14	2.212	0.331	Negotiation	Rejected
B.15	1.856	0.395	Motivation	Rejected
B.16	2.751	0.253	Decision making	Rejected

Designation

There is 7 designation targeted to identify the core soft skills toward project success. With the exception of creativity averaging below 4, the director felt that all identified soft skills contributed equally to project success.

Architect has the perception of teamwork/ engagement and leadership that are important to the project success. Which both of the soft skills have the same mean value 4.875, SV 0.354. Both engineer and project/ construction manager rated the same soft skill which is coordination is essential to the project success. The mean value are 4.684, 4.433, SV 0.946 and 0.504 respectively.

Quantity surveyor rated both communication and teamwork/ engagement are equally important to the project success, which has 4.653 and SV 0.481. The implementation team considers problem-solving/conflict management to be the most important to the success of the project, which has mean value 4.463, SV 0.505. Project planning assesses that all 16 soft skills contribute equally to project success.

Generation

Both baby boomer and generation Y have same consideration of coordination is essential to the project success, which has mean value 4.667, 4.578 with SV 0.516, 0.636 respectively. Whereas generation X considers that both communication and teamwork/ engagement is equally important which the mean value of 4.508, with SV 0.504.

Working Experience

From the result obtained in Table 4.15, it is found that different working experience has different perception which listed as follow:

16. 1 to 3 years: teamwork/ engagement & decision making, mean 4.8, SV 0.447.
17. 3 to 5 years: communication, mean 4.727, SV 0.467.
18. 5 to 10 years: coordination & teamwork/ engagement, mean 4.64, SV 0.49.
19. 10 to 15 years: coordination & communication, mean 4.556, SV 0.773.
20. 15 to 20 years: communication & teamwork/ engagement, mean 4.528, SV 0.506.
21. 20 to 25 years: leadership, mean 4.48, SV 0.51.
22. 25 years and above: communication & teamwork/ engagement, mean 4.667, SV 0.485.

There is further discussion to the top 3 performance of soft skills.

Communication

Every individual has their own communication style. There are several styles of communication introduce by Leitch, (2013) which comprising of active, logical, connector, thinker and combiner. Active refers to direct communication and discuss confidently. Logical refers to practical, tendency of experience in workplace. Connector refers to approachable and empathetic. Thinker communicators tend to subjective, it has characteristic of think the facts prior decision making. Combiner is a combination to the active, logical, connector and thinker. However, effective communication can be achieved by understanding body language, word and behaviour.

A study from Robles, (2012) 5-point Likert scale showed that the mean value of communication score of American corporate executives was 4.91, which indicates the importance of effective communication. Another pilot study from Seetha, (2014) showed that communication was ranked highest among the 6 soft skills districts in the Klang Valley, Selangor and Negeri Sembilan. Therefore, it can be justified that importance of communication is remaining crucial since year 2014.

In this research, communication scored the highest in both developer and contractor, with 4.6 and 4.5 mean value respectively. Communication in consultant has mean value of 4.59. Although it is not the highest score in consultant, the mean value is within the range of developer and consultant. Hence, there is no significant difference and fails to H_1, which the mean population across the variable are similar.

Good communication skills able to build rapport (Robles, 2012) and this important to deal with others stakeholder in construction industry. Azim *et al.*, (2010) highlight that communication able to increase team motivation and teamwork. Therefore, communication is deserved to the top rank of core soft skills.

Teamwork/ Engagement

Teamwork/ engagement has value $p<0.005$, which has significant perception different between developer, consultant and contractor with the mean value of 4.514, 4.692 and 4.488 respectively. Similar with coordination, the variance from the contractor. Project/ construction manager and implementation team are rather low mean value which are 4.333 and 4.415 respectively.

Teamwork/ engagement is rank no. 2 overall with the mean value of 4.545 and SV 0.583. Although it is same mean value and I.I with communication, the SV of communication is lower than teamwork/ engagement. Therefore communication is rank no. 1 in this research. Teamwork is rank no.3 as critical soft skills at workplace in the pilot study from Seetha, (2014) which target located in Klang Valley, Selangor and Negeri Sembilan. In the construction industry, teamwork is essential because one person cannot fulfil all the roles of a project.

Coordination

Coordination has value $p<0.005$, which has significant perception different between developer, consultant and contractor with the mean value of 4.6, 4.667 and 4.427 respectively. The variance in the mean may come from the implementation team, which is primarily the contractor's respondent. As tabulated in Table 4.13, the mean value from the implementation team to the coordination is 4.366, and the mean value between groups is the lowest.

Eventhough coordination fails in H_0, but it is rank no. 3 among the 16 identified soft skill. A study from Awan, Ahmed and Zulqarnain, (2015) identified that coordination positively impacts on project success. It also shows that strong coordination ability can build a harmonious relationship within the team, which is very important to team spirit.

Collaboration

In this hyper-connected construction industry, individually unable to complete the project (Peart, 2019). Construction is a collaborative activity that gathers knowledge and experience to prepare the team for tomorrow's achievements (Chapman, 2008). A study from Nasir *et al.*, (2016) identify that poor team collaboration was an influencing factor for project delay in Malaysia.

Collaboration rank no .8 with mean value 4.34, SV 0.596. This was the result of respondents being "agree" in their soft skills. Whereas, the individual self-evaluation performance and team performance rank highest. From the result obtained, working experience has a great influence on the success of the project. Therefore, it is important to have cross-learning and sharing with the experienced group.

5.2.2 Evaluation of Current Performance on Soft Skills to Project Team Members

Individual performance is important to team performance. Therefore, team members are invited to have self-rating in the questionnaire section C. from the result obtained, it has a high level of consistency which presented in Table 4.17.

Kruskal Wallis test was established to determine statistically significant by evaluating the population of median between nature of business. The Kruskal-Wallis H test showed that there is no significant perception difference between the median of self-evaluation by developer, consultant and contractor. Therefore, all the approaches proposed fail to the H_1, the hypothesis result of self-evaluation tabulated in Table 5.2. Since there is no significant difference, it indicates that the possession of soft skills is generally equal.

Table 5.2 Hypothesis Result of Kruskal Wallis Test to Section C

Code	Kruskal Wallis		Hypothesis	
	Kruskal-Wallis H	Asymp. Sig.	H_0 ($p>0.05$) [**No significant perception difference**]	H_1 ($p\leq0.05$) [**Significant perception difference**]
C.01	0.158	0.924	Creativity	Rejected
C.02	2.658	0.265	Persuasion	Rejected
C.03	2.824	0.244	Collaboration	Rejected
C.04	2.833	0.243	Adaptability / Flexibility	Rejected
C.05	2.759	0.252	Coordination	Rejected
C.06	0.346	0.841	Emotional intelligence	Rejected
C.07	3.396	0.183	Communication	Rejected
C.08	1.589	0.452	Teamwork / Engagement	Rejected
C.09	0.885	0.642	Problem-solving / Conflict management	Rejected
C.10	1.266	0.531	Critical thinking / Analysis	Rejected
C.11	2.888	0.236	Understanding / Empathy	Rejected
C.12	1.327	0.515	Leadership	Rejected
C.13	4.366	0.113	Enthusiasm / Positive attitude	Rejected
C.14	2.646	0.266	Negotiation	Rejected
C.15	0.427	0.808	Motivation	Rejected
C.16	1.728	0.421	Decision making	Rejected

The purpose of self-assessment is to determine the qualifications of the team and develop an improvement plan to improve the effectiveness of the team.

With refer to the Table 4.18, the comparison of mean value shows the top 5 soft skills to the project team members are:

23. Collaboration: ability to work together with other team members (mean=3.769).
24. Teamwork/ engagement: ability to work as a team with other stakeholders (mean= 3.744).
25. Coordination: ability to coordinate the given task well with other stakeholder (mean=3.667).
26. Adaptability/ flexibility: ability to adapt to the new environment (mean=3.615).
27. Critical thinking/ analysis: ability to analyze and solute problem (mean=3.590).

Whereas, the comparison of mean value shows the bottom 5 soft skills to the project team members are:

28. Creativity: ability of creative when the proposal needed (mean=3.179).
29. Persuasion: ability to persuade other stakeholder to follow proposed idea (mean=3.314).
30. Emotional intelligence: ability to handle emotion while facing challenge (mean=3.391).
31. Negotiation: ability to negotiate with others stakeholder to follow proposed idea (mean=3.429).
32. Enthusiasm/ positive attitude: enthusiasm in working (mean=3.442).

According to the five-point Likert scale designed by the questionnaire, 3 is good and 4 is very good. As a result, project team members generally perform well. Further from the tabulation, it is found that different designation, generation and working experience have their own advantage for soft skills.

Designation

Different roles and responsibilities require different set of soft skills. Therefore, the ability of soft skills is varied.

Despite of creativity [C.01], persuasion [C.02], emotional intelligence [C.06] and understanding/ empathy [C.11] have mean value less than 4.0, director has strength of collaboration [C.03], adaptability/ flexibility [C.04], communication [C.07], motivation [C.15], each of soft skills have mean value of 4.2, with SV 0.447, 0.837, 0.837 and 0.447 respectively. As a leader to the team, leader has characteristics that encourage team to follow. Leader is a powerful facilitator, to plan, organise and lead the team to achieve the project goal efficiently (Scott, 2019).

Architect has strength of adaptability/ flexibility and teamwork/ engagement which has same mean value of 3.875 with SV 0.835 and 0.641 respectively. Whereas persuasion [C.02] and creativity [C.01] are rather weak with mean value 3.25, 3.375 and SV 0.707, 1.061 respectively. Generally, architect act as a Superintending Officer (S.O) in PAM contract, which PAM contract is widely used in private construction sector. Therefore, the profession of knowledge and soft skills are essential.

Engineer to both civil and mechanical & electrical and quantity has same strength of collaboration with the mean value of 3.842, 3.837 and SV 1.015, 0.80 respectively. Hence, this 2 designation has same weakness which is creativity with mean value 3.053, 3.02 and SV 0.848, 0.946 respectively.

Project/ construction manager plays an important role during execution of the work. This group of manager strength in coordination [C.05] and teamwork/ engagement, with same mean value of 3.7 SV 0.75, 0.596 respectively. Creativity and persuasion are the weakness of a project/ construction manager, which have same mean value of 3.367 with SV 0.615, 0.556 respectively.

Implementation team has strength of teamwork/ engagement with mean value of 3.805 with SV 0.679. Similar with others designation, creativity is the weakest soft skill which has mean value 3.195 and SV 0.641.

Project planning has strength of emotional intelligence and communication with same mean value of 3.5 with SV 1.0. Beside these 2 soft skills, others soft skills has same mean value of 3.25 and SV 0.50. Despite expertise knowledge, liaison with both internal and external parties is one of the major roles as a project planner. Therefore, it is not surprising that soft skills of emotional intelligence and communication are higher than others.

Generation

There is 3 generation across in this research. From the result obtained in designation, there is C.03, C.04, C.05, C.07 and C.08 are the top strength between various of designation. Further from Table 4.22, ranking of C.03, C.04, C.05, C.07 and C.08 preferred from designation tabulated in Table 5.3.

Table 5.3 Ranking Comparison between Designation and Generation

Code	Soft skills	Generation Y		Generation X		Baby boomber	
		Mean	Rank	Mean	Rank	Mean	Rank
C.03	Collaboration	3.800	1	3.746	2	3.500	1
C.04	Adaptability / Flexibility	3.611	4	3.695	3	3.000	15
C.05	Coordination	3.667	3	3.678	4	3.500	1
C.07	Communication	3.533	6	3.508	13	3.333	7
C.08	Teamwork / Engagement	3.733	2	3.797	1	3.333	7

Table 5.3 shows that the different generations have different strength. The result obtained from the view of designation and generation has different perspective. Whereas, popular soft skills are still the primary perception of project team members.

Therefore Spearman test in Table 4.19 was conducted to determine the relationship between individual performance and generation. From the result of Spearman test, it is found that there have both position and negative correlation between variable.

The soft skills have negative impact with generation are collaboration -0.076, adaptability/ flexibility -0.014, coordination -0.018, communication -0.037 and teamwork/ engagement -0.014. With increasing the age, the performance of the above mentioned soft skills is dropping. This can be explained that concentration of the soft skills is various with age gain or higher position of designation.

Working Experience

Table 4.23 lists the various competency of different group of working experience. There are the top rank soft skills with different working experience groups are listed as follow:

i. 1 to 3 years: teamwork/engagement, critical thinking/ analysis and understanding/ empathy with mean value 4.2, SV 0.447.
ii. 3 to 5 years: teamwork/engagement with mean value 3.636, SV 0.809.
iii. 5 to 10 years & 10 to 15 years: collaboration with mean value 3.8, 3.778, SV 0.957, 0.797 respectively.
iv. 15 to 20 years & 20 to 25 years: teamwork/engagement with mean value 3.889, 3.72, SV 0.667, 0.614 respectively.
v. 25 years and above: persuasion, coordination, teamwork/engagement are have same mean value 3.722, SV 0.669.

Furthermore, Spearman test was conducted to identify the relationship between working experience and competency. Results of test tabulated in Table 4.19 showed that the relationship between work experience is positive. The result tells the performance of soft skills are improve while the experience gained.

5.2.3 Evaluation of Current Performance to the Project Team

Performance of the team is essential to project success. Understanding the weaknesses of a team is an effective way to build a good team. Which this is the core objective of the questionnaire Section D.

Kruskal Wallis test was established to determine statistically significant by evaluating the population of median between nature of business. The Kruskal-Wallis H test showed that leadership and negotiation have significant perception difference between the median of self-evaluation by developer, consultant and contractor. Therefore, leadership and negotiation fail on H_0 and tabulated in Table 5.4.

Table 5.4 Hypothesis Result of Kruskal Wallis Test to Section D

Code	Kruskal Wallis		Hypothesis	
	Kruskal-Wallis H	Asymp. Sig.	H_0 ($p>0.05$) [**No significant perception difference**]	H_1 ($p\leq0.05$) [**Significant perception difference**]
D.01	1.069	0.586	Creativity	Rejected
D.02	2.926	0.232	Persuasion	Rejected
D.03	1.741	0.419	Collaboration	Rejected
D.04	4.114	0.128	Adaptability / Flexibility	Rejected
D.05	3.641	0.162	Coordination	Rejected
D.06	0.416	0.812	Emotional intelligence	Rejected
D.07	3.659	0.161	Communication	Rejected
D.08	3.885	0.143	Teamwork / Engagement	Rejected
D.09	1.572	0.456	Problem-solving / Conflict management	Rejected
D.10	2.675	0.263	Critical thinking / Analysis	Rejected
D.11	2.818	0.244	Understanding / Empathy	Rejected
D.12	6.854	**0.032**	Rejected	Leadership
D.13	5.569	0.062	Enthusiasm / Positive attitude	Rejected
D.14	6.548	**0.038**	Rejected	Negotiation
D.15	3.011	0.222	Motivation	Rejected
D.16	4.972	0.083	Decision making	Rejected

Accordance to the Table 4.26, the comparison of mean value shows the top 5 soft skills to the project team are:

33. Collaboration: team able to work together well (mean=3.615).
34. Teamwork/ engagement: team with strong teamwork spirit (mean=3.590).
35. Leadership: leader is capable (mean=3.532).
36. Adaptability/ flexibility: adaptability and flexible to team in new environment (mean=3.532).
37. Coordination: performance in coordination works (mean=3.506).

Whereas, the comparison of mean value shows the bottom 5 soft skills to the project team are:

38. Creativity: ability of creative when the proposal needed (mean=3.276).
39. Emotional intelligence: good emotional control (mean=3.314).
40. Persuasion: ability to persuade external stakeholder to follow team's idea (mean=3.333).
41. Motivation: feeling of motivation (mean=3.391).
42. Problem-solving/ conflict management: ability problem solving by proper handling others feeling (mean=3.397).

According to the five-point Likert scale designed by the questionnaire, 3 is good and 4 is very good. As a result, project team generally perform well.

Designation

Similar to team member performance, difference designation has its own perception set of strength soft skills to the project team. From the perception of director, project team perform well in collaboration and coordination and leadership with mean value of 3.80 with SV 0.837 each.

Architect and quantity surveyor have same perception to the collaboration that perform well within the team, which have mean value of 3.875, 3.653 with SV 0.641, 0.925 respectively. Whereas engineer has different perception, which is adaptability/ flexibility with mean value 3.526 with SV 0.841. Project/ construction manager and implementation team have same perception to the teamwork/ engagement are perform well within team, which has mean value of 3.6, 3.732 with SV 0.675, 0.672 respectively.

Eventhough there is the different perception to the performance of project team, the mean result for the highlighted soft skills are close to mean value of 4, which is performing very good to the highlighted soft skill.

Generation

From the result tabulated in Table 4.30, baby boomers score for consistency in performance of soft skills. There are only 2 mean score, 3.0 and 3.167. Generation Y rated team performance between 3.1 to 3.5, which perform well. Collaboration with mean value of 3.556, rank no. 1 in generation Y within 16 identified soft skills. Compare to generation Y, generation X rated higher which the score mean value between 3.4 to 3.8. Teamwork/ engagement is the soft skills that rank no.1 in generation X with mean value 3.864. Team effectiveness required a group of people with various background and age groups working towards the same project objective. Therefore, potential problem to intergeneration required to address, analyse, and solve effectively.

Spearman test was conducted in Table 4.27 to determine the core soft skills contribution in team's performance. There is a positive correlation between variable. From the result obtained, motivation and teamwork/ engagement have strong correlation. Therefore, contribution of the motivation and teamwork/ engagement is crucial to the project success.

Working Experience

Table 4.31 exhibits the result from different group of working experience, which the top rank listed as following.

i. 1 to 3 years: communication with mean value 4.4, SV 0.548.
ii. 3 to 5 years: adaptability/ flexibility, coordination with mean value 3.091, SV 1.044.
iii. 5 to 10 years: enthusiasm/ positive attitude with mean value 3.72, SV 0.744.
iv. 10 to 15 years & 15 to 20 years: collaboration with mean value 3.361, 3.806, SV 0.833, 0.668 respectively.
v. 20 to 25 years: teamwork/engagement with mean value 3.92, SV 0.702.
vi. 25 years and above: adaptability/ flexibility, leadership with mean value 3.722, SV 0.669.

From the result obtained, the performance of the team depends on the population of the project team member. In this research, generation X &Y with working experience from 10 to 20 years are the main population group that influence the overall result of soft skills performance.

Addition, Table 4.27 present that communication has a negative correlation in the Spearman test. Therefore, Communication failures are not negligible. Whereas, contribution of performance to motivation and persuasion are crucial to the project success.

5.2.3.2 Relationship between Individual and Project Team Performance

Spearman test was conducted to examine the relationship between individual and a team. From the result tabulated in Table 4.32, all the result is positive. It tells the positive influence of each other. Among the soft skills, influence of enthusiasm/ positive attitude has the greatest correlation, it shows the importance of enthusiasm/ positive attitude toward project success.

Correlation values above 6 are considered to have a strong correlation in this research. The table in Table 4.32 shows correlations higher than 6. From the result obtained, individual performance of critical thinking/ analysis [C.10] possess highest numbers of strong relationship, which are 16nos. This can be explained that competence of critical thinking/ analysis has strong positive influence on the identified soft skills in the team.

Enthusiasm/ positive attitude [C.13] is another vital soft skills contribute to team effectiveness. It has 12nos strong positive correlation. Positive thinking and mindset team member will focus on the bright side. This helps identify key problems effectively and prevents them from getting worse. Cameron *et al.*, (2011) introduce the heliotropic effect of the positive attitude, which positive practice in an organization able to foster, influence and cultivate a positive energy team member, resulting in higher performance. Besides, it cushions the negative effects of distress or depression through enhancing resilient, solidarity and tenacity.

Problem-solving/ conflict management [C.09] is the 3rd soft skills has strong positive correlation value, it has 11nos. It effectively minimises the challenge of problem-solving by practice collaboration and knowledge-based approaches Cavaleri, Firestone and Reed, (2012).

Both negotiation [C.14] and motivation [C.15] have 10 numbers of strong positive correlation value. Negotiation is the process by which two or more parties create a potential or joint agreement and provide guidance or rules in the future (Martin-Raugh *et al.*, 2020). Negotiation is not limited to commerce, it includes employer-to-employer negotiation (Doyle, 2020). The employer-to-employer negotiation is extended to the delegation of task, work schedule, empowerment or entitlement. Ways of motivation are wide, it can be monetary, empowerment or job promotion. Whereas, all these approaches are accompanied by both positive and negative impact Peterson and M, (2007).

In a nutshell, the core soft skills from individual performance to team performance are critical thinking/ analysis, enthusiasm/ positive attitude, problem-solving/ conflict management, negotiation and motivation. As compared to the World Economic Forum, (2020) tabulated in Table 5.5, it shows the ability of current team members to overcome future challenges.

Table 5.5 Top 15 Skills for 2025 (Source: World Economic Forum, (2020))

Item	Top 15 skills for 2025
1	Analytical thinking and innovation
2	Active learning and learning strategies
3	Complex problem-solving
4	Critical thinking and analysis
5	Creativity, originality and initiative
6	Leadership and social influence
7	Technology use, monitoring and control
8	Technology design and programming
9	Resilience, stress tolerance and flexibility
10	Reasoning, problem-solving and ideation
11	Emotional intelligence
12	Troubleshooting and user experience
13	Service orientation
14	Systems analysis and evaluation
15	Persuasion and negotiation

5.2.3.3 Relationship between Core Soft Skills and Team Performance

Spearman test was conducted to examine the relationship between core soft skills and team performance. From the result tabulated in Table 4.33, all the result is positive. It tells the positive influence of each other.

From the result obtained, the project team collaboration played an important role in contributing to the core soft skills. It is including collaboration, coordination, communication, teamwork/ engagement, problem-solving/ conflict management, leadership. It includes the top three core soft skills listed in Table 4.11.

Besides collaboration, communication within project team is essential too. The strong correlation between communication are emotional intelligence, critical thinking/ analysis, understanding/ empathy, enthusiasm/ positive attitude, decision making.

Furthermore, project team's enthusiasm/positive attitude is another important team spirit that contributes to core soft skills. The strong correlation between enthusiasm/ positive attitude are persuasion, adaptability/ flexibility, and negotiation.

In a nutshell, performance of collaboration, communication and enthusiasm/ positive attitude are essential in the contributing of the core soft skills towards the project success.

Comparing with the current team performance, collaboration is the top performance. Therefore, continuous improvement is necessary. Whereas current team performance of communication and enthusiasm/ positive attitude rank no 9 and 8 respectively. There is room for improvement in increasing the success rate of projects. Therefore, examination of the improvement strategy is necessary.

5.2.4 Identification of Effective Way to Improve Soft Skills for Future Preparation

There are 6 proposed approaches to improve soft skills for future preparation, which listed in Table 3.5. From the result listed in Table 4.36, the preference from top to bottom is E.06, E.05, E.04, E.03, and E.02, with the smallest degree of preference being E.01.

Kruskal Wallis test was established to determine statistically significant by evaluating the population of median between nature of business. The Kruskal-Wallis H test showed that there is no significant perception difference between the median of improvement strategies by developer, consultant and contractor. Therefore, all the approaches proposed fail to the H_1, the hypothesis result of improvement strategies tabulated in Table 5.6. From the tabulated result, it exhibits majority of the respondent more appreciate to the reward, either extrinsic or intrinsic.

Table 5.6 Hypothesis Result of Kruskal Wallis Test to Section E

Code	Kruskal Wallis		Hypothesis	
	Kruskal-Wallis H	Asymp. Sig.	H_0 ($p>0.05$) [**No significant perception difference**]	H_1 ($p\leq0.05$) [**Significant perception difference**]
E.01	5.164	0.076	Training	Rejected
E.02	4.303	0.116	Mentorship programme	Rejected
E.03	2.409	0.300	Buddy programme	Rejected
E.04	0.024	0.988	Appraisal	Rejected
E.05	1.119	0.572	Extrinsic reward	Rejected
E.06	2.096	0.351	Intrinsic reward	Rejected

Training

Training is a process of continuous learning. However, training is the least preferable method among the respondent, which has mean value of 3.455, SV 0.904. Designation of project planning, quantity surveyor, and engineer are more preference to training than others which has mean value of 4, 3.796, 3.789 respectively. Project/ construction manager and implementation team are held neutral attitudes in training. Compared to the groups of architect and quantity surveyors, scope of work for implement team is rather technical.

Furthermore, preference of training is from baby boomers, followed by generation Y and least is generation X. A survey from Spar *et al.*, (2018) shows the skills gap able to close out through leaning, and training is a good platform to transfer tangible knowledge instead of intangible knowledge. It is an ideal consideration to narrow the generation gap by cross-sharing with each other. With the assistant of digital and new technologies, distance between learning and training is shortened. (Cimatti, 2016). Bursh and Kelly, (2014) stated that generation X value to the learning and training is an appropriate way to drive it.

Mentorship Programme

There is seldom relevant information of application of mentorship programme to construction industry. Therefore, majority of respondents has the attitude of neutral. As discussed earlier, mentorship programme refers to top-down relationship. This is useful for areas of work that require a certain level of mentoring and knowledge sharing.

From the result obtained, quantity surveyor considers the mentorship programme is appropriate, which has mean value of 4.082. Acceptance is followed by the group of director and engineer, which has mean value of 3.8 and 3.789 respectively. Higher acceptance level from group quantity surveyor and engineer can be explained as the guidance from experienced members is appreciable.

Addition, working experience from 1 to 10 years respondents feedback appropriate to the mentorship programme. Whereas from the generation group, it is found that baby boomer and generation Y hold attitude of appropriate to the mentorship programme. The results can be explained that newcomers welcome experienced team member to guide their performance in the workplace. Bursh and Kelly, (2014) highlight that generation Y prefer educational approach and accept manager to coach them.

An empirical test from Arora and Rangnekar, (2014) proves that mentorship programme can motivate and enhance bonding among the project team member for effectively managing the occupational resilience of employees in organizations. Therefore, practise of mentorship programme is considerable. However, there is a consideration of the atmosphere between superiors and subordinates, pressure from superiors can make things worse.

Buddy Programme

Similar to mentorship programme, buddy programme is not common to construction industry too. Therefore, most of respondents hold conservative attitude. Buddy programme refers to a parallel relationship. Similar to mentorship programme, groups of engineer and quantity surveyor has a higher level of acceptance which has mean value 3.895 and 3.735 respectively.

Similar to mentorship programme, workplace newbies and baby boomer accept the buddy programme. Through pairing, cross-learning and sharing will benefit inexperience team member. In a nutshell, inexperienced group had a higher preference for buddy program than the experienced group. Whereas baby boomers willing to share to build the capacity of the younger generation.

Appraisal

Appraisal has a higher acceptance level than buddy and mentorship programme. Besides director, project planner and architect, engineer, quantity surveyor, project/ construction manager and implementation team have the attitude of appropriate. Further from the tabulation, there is a similar mean value between age and work experience. This means that acceptance of appraisal is independent of age and work experience.

As discussed earlier, KPI is a metric that is typically used in an organization to evaluate the performance of team members. Common practise will increase the acceptance level to the execution of appraisal. Furthermore, generation X is result-oriented, provide clear vision and a measurable goal able to retain the talented generation X (Bursh and Kelly, 2014).

In a nutshell, result of appraisal tabulated above exhibit that half of the respondents have the attitude of appropriate to appraisal. Therefore, implementation of appraisal is considerable.

Extrinsic Reward

As discussed, extrinsic rewards are gifts or monetary rewards. Extrinsic reward has mean value above 4.0 and ranks no.2 in the RII analysis. Despite project planning, director and architect, other groups hold appropriate attitude to the extrinsic reward. Whereas expectation is lesser while the age is bigger, but the mean value remains as 4.0 and above. All the working experience range hold the attitude of appropriate to the extrinsic reward.

Baby boomers are work ethic, and baby boomers able to drive by rank, wealth and prestige (Bursh and Kelly, 2014). Therefore, it can find that the baby boomers have preference to the reward (both extrinsic and intrinsic) to the improvement strategy.

Intrinsic Reward

Unlike extrinsic rewards, intrinsic rewards refer to recognition. This is the most preferred among the approaches proposed, which has mean value of 0.173. Besides project planning and director, other designation has mean value above 4.0. Further from the tabulation, there is a similar mean value between age and work experience. This means that acceptance of appraisal is independent of age and work experience.

The sense of accomplishment is the internal reward that a professional has been looking for. Self-satisfaction and motivational performance are more effective for intrinsic rewards than extrinsic rewards. It can be seen from the above table that the feedback attitude of most respondents is suitable to use intrinsic rewards to improve their soft skills.

5.2.4.2 Relationship between Individual Performance and Effective Approaches

Spearman test in Table 4.42 was conducted to determine the relationship between strategy approaches and individual performance. From the result of Spearman test, it is found that there have both position and negative correlation between variable.

Training [E. 01] is positively correlated with all 16 identified soft skills, which means that soft skills can be trained. The result tells that proper training is a suitable way to develop and improve soft skills. In the construction industry, appropriate training is the prevailing practice in which competitive advantage is gained as knowledge, skills and talent are enhanced (Imran, 2013).

Mentorship programme [E.02] has most negative correlation which are totally 5 negative value, which comprising of creativity [C.01] -0.021; persuasion [C.02] -0.081; leadership [C.12] -0.038; enthusiasm/ positive attitude [C.13], -0.042; motivation [C.15] -0.001. This indicates that implement of mentorship programme might have a negative impact on the above mentioned soft skills.

Implementation of buddy programme [E.03] hurts the performance of 3 soft skills. The 3 soft skills are persuasion -0.057, leadership -0.013 and enthusiasm/ positive attitude -0.007.

Similar to training, appraisal [E.04] is another effective approach suitable to all 16 identified soft skills. Extrinsic reward [E.05] has negative impact on the motivation, which has value of -0.018. The last approach introduces in this research is intrinsic reward [E.06], the most preferable approaches which rank no. 1 (as tabulated in Table 4.36) has 3 negative influence on soft skills. Which it is comprising of persuasion -0.014, enthusiasm/ positive attitude -0.045 and motivation -0.026.

As conclude from above, the positive correlation above 0.1 is tabulated in Table 5.7 to show the positive influence between individual performance and improvement strategies. The table tabulated that the appropriate improvement strategy to the 16 identified soft skills feedbacks from the 156 respondents.

In a nutshell, there is no single way to improve soft skills, it requires multiple considerations in order to develop and improve optimistically and effectively

Table 5.7 Improvement Strategies Result

Influence between Individual Performance and Improvement Strategies						
	E.01	E.02	E.03	E.04	E.05	E.06
C.01	x			x	x	
C.02	x					
C.03	x	x	x	x	x	x
C.04	x			x		
C.05	x	x	x	x	x	x
C.06	x	x	x	x		
C.07	x	x	x	x	x	
C.08	x	x		x		x
C.09				x		
C.10	x			x	x	x
C.11		x	x	x		
C.12	x					
C.13						
C.14				x		
C.15	x			x		
C.16	x					
Total	12	6	5	12	5	4

5.3 Summary

The purpose of this study was to identify the core soft skills that affect the performance of team members towards success. Therefore, appropriate strategies for improving and developing soft skills were studies. Among the 156 respondents with 7 types of designation across 3 generations with various working experience, the perceptions are various. Generation Y was the main respondent in the study, and the younger generation is the future of the construction industry. Nurturing and development are essential.

In summary, there is insufficient evidence that respondents' age directly affects their performance in soft skills. The importance of soft skills to project success tends to be the job professionalise or role and responsibility to the individual designation. Soft skills are complementary, contribution to each designation is equally important to the success of the project.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This is the final chapter of the research. This is to conclude the achievement, limitation of this research. Furthermore, future recommendation is proposed. The conclusion in this chapter derived the finding from the result according to the objective of this research.

6.2 Conclusion

A pilot study from Seetha, (2014) presented that 83% of respondents believed that soft skills are important in the workplace. Unlike hard skills, soft skills as non-technical skills which also influence the performance in the workplace. Cimatti, (2016) highlight that soft skills are a popular term these days for social skills and job performance, which soft skills are an essential strategy in both personal and professional life.

The purpose of this research is to identify and enhance core soft skills that are critical to the success of a construction project. Whereas, improvement requires appropriate strategies. Therefore, identification of individual and team performance is necessary in advance.

From the identified 16 soft skills in this research, the characteristic of soft skills able to build a positive attitude and environment which important to the project success. The characteristic comprising of tenacity, commitment, solidarity and inclusion are the core value to the project success.

Lucas and Spencer, (2018) mentioned that tenacious people are confident, controlled and committed. Which it is critical to develop, and able to build a high performance team. A tenacious people are resilient and adaptability, able to driven and stay focused under pressure environment. Commitment able to establish through systematic communication, coordination to overcome the obstacles in project completion.

Bachoe and Koster, (2016) present that solidarity refers to the willingness of cooperation, is mutual support within a group. Appropriate motivation, conflict management and collaboration are important to increase the spirit of teamwork. Sokolova, (2016) emphasizes that inclusion has positive influence on the team

member's commitment and essential towards project success. Therefore, positive attitude, understanding and empathy are necessary soft skills to achieve the project goal.

In a nutshell, the ability of soft skills to support each other to improve team performance and effectiveness is a necessary condition to achieve project success.

6.3 Accomplishments of Research Objective

The research was conducted according to the objective mentioned in chapter 1, the data collected through questionnaire to analysis and address the objective. The achievement of the research is tabulated in Table 6.1.

Table 6.1 Achievement of Research Objective

Research Objective	Result	Achievement
Objective 1		
To determine the core soft skill competencies towards the project success.	Among 156 project team members, communication, teamwork/ engagement and coordination are the top three soft skills that influence the success of a project.	Yes
Objective 2		
To evaluate the current performance on soft skills in project team members.	Current performance to individual and project team were evaluated. Individual performance increase team effectiveness, which crucial to project success.	Yes
Objective 3		
To identify an effective way to improve soft skills for future preparation.	There are 6 identified approaches studies in this research. And each approach has its preferences from different designation and generation.	Yes

There are 3 objectives in this research and all the objectives been achieved as tabulated in Table 6.1. Among the 156 respondents are generally rate 'agree' to the 16 identified soft skills with high level of internal consistency. The perceptions from a different group of designation, generation and working experience are various, but the set of priority soft skills are similar. The top performance or rated soft skills are tabulated in Table 6.2. Table 6.3 present the overall ranking to the 16 identified soft skill in this research.

Table 6.2 Top 5 Perform Soft Skills

Rank	Section B	Section C	Section D
1	Communication	Collaboration	Collaboration
2	Teamwork / Engagement	Teamwork / Engagement	Teamwork / Engagement
3	Coordination	Coordination	Leadership
4	Decision making	Adaptability / Flexibility	Adaptability / Flexibility
5	Leadership	Critical thinking / Analysis	Coordination

Table 6.3 Ranking for Overall Soft Skills

	Description	Core soft skill	Performance	
			Individual	Team
B.07	Communication	1	8	9
B.08	Teamwork / Engagement	2	2	2
B.05	Coordination	3	3	5
B.16	Decision making	4	6	11
B.12	Leadership	5	11	3
B.09	Problem-solving / Conflict management	6	7	12
B.10	Critical thinking / Analysis	7	5	7
B.03	Collaboration	8	1	1
B.13	Enthusiasm / Positive attitude	9	12	8
B.04	Adaptability / Flexibility	10	4	4
B.15	Motivation	11	9	13
B.14	Negotiation	12	13	6
B.02	Persuasion	13	15	14
B.11	Understanding / Empathy	14	10	10
B.06	Emotional intelligence	15	14	15
B.01	Creativity	16	16	16

Communication and positive attitude are the critical soft skills analysis by (Seetha, 2014). In this research, communication remains the primary soft skills to achieve project success as tabulated in

Table 6.3. Teamwork and coordination are essential to construction project, as each project required a pool of knowledge and experience team member to accomplish the goal. Accordance with the result between core soft skills and team performance, it's meet the expectation. It is a good spirit of the working team. Despite communication, decision making and problem-solving/ conflict management are required to enhance as importance rank is higher than team performance.

The COVID-19 pandemic lockdown induced global recession of this year. World Economic Forum, (2020) highlight the skills to be focused in this highly uncertain labour market in Malaysia. Among the top 10 skills list, soft skills comprising of analytical thinking and innovation; critical thinking and analysis; leadership and social influence; emotional intelligence; resilience, stress tolerance and flexibility. As compare to the construction industry in this research, the required soft skills are similar.

A complete project life cycle is from initiating, planning, executing, monitoring & control and closing (PMI, 2017). In this life cycle, a variety of stakeholders with different expertise are involved to complete the project. From the result obtained in section B, all the 16 identified soft skills are important to the success of the project. A competence team member is important towards success, the top 3 important skills in section B with communication, teamwork/ engagement and coordination which are necessary to bond and establish an effective team. Therefore, the result obtained in section B is in line with practical work needs.

Performance of the team is vital. Therefore, it is important to identify the competence gap between core soft skills and current competence. From the result obtained, it can identify that soft skills are essential to individual performance at the workplace to improve team effectiveness. Hence, there is unmatched between the core soft skills (Section B) with team performance (Section D). Therefore, there is a room of improvement to meet the expectation of core soft skills.

Communication, decision-making, problem-solving/conflict management are key soft skills that need to be improved, and there is a large skill gap in this area. Effective communication required 2-ways and it able to diminish misunderstanding and misinterpretations (Leitch, 2013).

Communication is to identify the reliability of the information sources and demonstrate the flexibility to think and react quickly. A clear and concise manner, appropriate communication style to fit the situation and shifted from big picture to details to the various stakeholder are able to enhance the convincing of communication.

Luthra and Dahiya, (2015) argue that effective communication can bring a better understanding, build trust and a healthy work environment to motivate team members. Therefore, it helps to lead the team towards effective coordination and excellent productivity.

Unlike communication, decision-making and problem-solving/ conflict management are the soft skills that involve only specified designation. There is always a project organization chart that identifies individual roles and responsibilities for each project. Therefore, followers must be trained to be trusted and to follow instructions from their superiors. Leaders, on the other hand, should be trained to make effective decisions and solve problems/manage conflicts.

Both decision-making and problem-solving/ conflict management required to take various factors into account systematically when evaluating a proposal, which includes the consequences while implications and understandable and acceptable by others. Besides knowledge, experience is required to assess and analyse the fact, available information to make a prompt and appropriate decision. Indeed.com, (2019) introduce that mentoring helps to improve decision making and critical thinking.

With the competence with 16 identified soft skills in this research, a team with tenacity, commitment, solidarity and inclusion able to be established which are the core value of the project team. Compared with the World Economic Forum, (2020) top 15 skills year 2025 tabulated in Table 5.5, the project team performance assessed in this research is capable to face future challenges.

Strategy is the main driver of improvement. Therefore 3rd objective of this research is to propose and analyse an improvement strategy to close the soft skills gap. Among the 6 identified approaches, training and appraisal are effective approaches that could be considered. Buddy and mentorship programme are new to construction industry. Therefore, adoption and practice require a certain amount of time.

Enthusiasm/ positive attitude has no significant influence with improvement strategy as tabulated in Table 5.7. Enthusiasm/positivity is an attitude that is more effective at cultivating and influencing rather than a systematic approach.

Foster, Wiczer and Eberhardt, (2019) highlight that enthusiasm/ positive attitude have characteristic of accept interruptions, work to a non-favourite task, perform task effectively, willingness for self-promotion. With gather the characteristic mentioned, a harmonious working environment helps to cultivate employees' enthusiasm/positive attitude. Besides, motivation environment also helps to cultivate enthusiasm/ positive attitude (Barg *et al.,* 2014).

Training and appraisal are feedback effective approaches and these common practices in construction industry. Therefore, the adoption rate is high. Training need analysis is required to identify the strength and weakness of the skills prior determination of relevant training.

Reward always is the motivation by the majority of team member, either intrinsic or extrinsic. Intrinsic reward also known as psychological reward, which the appreciation in a manner of a sense of achievement, considerate (Khan *et al.,* 2016). Whereas when a team member is appreciated for extrinsic rewards and the basic needs are achieved, the job performance will increase. Generally, appreciation is based on the performance of team member.

Key Performance Indicators (KPI) is a common appraisal instrument to measure the project team performance in Malaysia construction industry (Mahazril Aini Yaacob and Aminuddin, 2011). Therefore, KPI makes unmeasurable soft skills measurable. The results from KPI are not only for incentive purposes but also can be used for training needs analysis. Therefore, appraisal is another appropriate approach that contributes to the improvement of soft skills.

Soft skills are vital in today's workplace. Team members with soft skills are resilient under pressure and do not collapse. Thus, competence team are mutual respect, willingness to cooperate to support each other to balance the team workload, this able to ensure the task complete with exceed expectation.

In a nutshell, the purpose of this study is to arouse people's awareness of the importance of soft skills. It is worth to invest for soft skills in organisation to achieve the project goal (Robles, 2012). Therefore, while awareness is identified as a workplace necessity, organisation will plan and evaluate the value of soft skills to increase the team effectiveness (Goskills, 2020).

6.4 Research Implication

This research explores the importance of core soft skills in the construction industry. The identified 16 soft skills were ranked to present the priority of the skills contribute to achieve project goals. It is believed that soft skills are important in building an effective team.

Despite exploration of core soft skills, this research also includes the evaluation of team performance. This provides more insight into the project team's current performance and makes it easier to enhance the team's performance. Furthermore, after a better understanding of the actual situation, this research outlined some appropriate improvement strategies to improve team morale.

In a nutshell, this research is not just a beginner's journey to an in-depth understanding of soft skills. At the same time, the current performance and improvement strategies are summarized. Thus, future improvement ideas are proposed to achieve the project objectives.

6.5 Limitation of research

Time is the biggest constraint and challenge to this research, it required sufficient time to complete research. It is a rush to complete this research within 6 months. Another challenge to this research is the limited resources of the current team performance. Therefore, it has difficulty to has an actual comparison between past and current team performance. Subsequently, it influences the effective strategy to improve or develop soft skills.

Besides, the numbers of valid respondent are influencing the accuracy of the research outcome. Accordance with Table 3.10, recommended sample size for margin of error 5% with confident level 95% is 377 respondent. Whereas, there is 156 respondent which achieve only margin of error 8% with confident level 95%. Therefore, sufficient valid respondents are essential to the quality of the research.

Addition, this research adopts only quantitative research method with 5-points Likert scale. The data collected through the quantitative method unable to capture the perception of respondents in deep and lack interaction.

6.6 Research recommendations

The survey was conducted in the Klang Valley and Selangor and is not representative of the Malaysian construction industry. It is suggested that the research scope be extended to the whole country to provide reliable and useful reference for future research. In addition, consideration of reducing the numbers of soft skills to explore the soft skills in deep is recommended.

Larger sample size is recommended to ensure more accurate results representing the population distribution. In addition, the samples should be evenly distributed in the business associate so that data able to be collected from different background of respondents.

Besides, it is suggested to adopt qualitative and quantitative research methods. This helps obtain detailed and accurate results for analysis and future reference.

CHAPTER 7

REFERENCE

A1Yahya, M. S. and Mat, N. B. (2013) 'Evaluation of Effectiveness of Training and Development: The Kirkpatrick Model', *Asian Journal of Business and Management Sciences*, 2(11), pp. 14–24. Available at: http://www.ajbms.org/articlepdf/2ajbms20132112743.pdf.

Aasheim, C., Li, L. and Williams, S. (2009) 'Knowledge and Skill Requirements for Information Technology Graduates: A Comparison of Industry and Academia', *Journal of Information Systems Education*, 20(3), p. 349.

Acharya, B. (2010) *Questionnaire Design, Training-cum-Workshop in Research Methodlogy*. Nepal.

Affandi, H. M. *et al.* (2012) 'Soft skills implementation in construction management program: A comparative study of lecturers and students perspective', *CHUSER 2012 - 2012 IEEE Colloquium on Humanities, Science and Engineering Research*. IEEE, (Chuser), pp. 549–553.

Agarwal, P. (2018) *How to Create a Positive Workplace Culture*, *Forbes*.

Anderson, G. (1994) 'A Proactive Model for Training Needs Analysis', *Journal of European Industrial Training*, 18(3), pp. 23–28. Available at: http://search.proquest.com.ezaccess.libraries.psu.edu/docview/215395483/abstract.

Apodaca, M. (2019) *13 Essential People Skills to Succeed in Your Career, Lifehack Org*. Available at: https://www.lifehack.org/794131/people-skills ? (Accessed: 28 June 2020).

Arora, R. and Rangnekar, S. (2014) 'Workplace mentoring and career resilience: An empirical test', *Psychologist-Manager Journal*, 17(3), pp. 205–220.

Asghar, R. (2014) *Study: The War Of Generations Results In Lost Productivity*, *Forbes*.
Atkinson, R. (1999) 'Project management: Cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria', *International Journal of Project Management*, 17(6), pp. 337–342.

Awan, M. H., Ahmed, K. and Zulqarnain, W. (2015) 'Impact of Project Manager's Soft Leadership Skills on Project Success', *Journal of Poverty, Investment and Development*, 8, pp. 27–47. Available at: https://www.iiste.org/Journals/index.php/JPID/article/viewFile/19288/19711.

Azim, S. *et al.* (2010) 'The importance of soft skills in complex projects', *International Journal of Managing Projects in Business*, 3(3), pp. 387–401.

Babic, V. and Slavkovic, M. (2011) 'Soft and Hard Skills Development : A Current Situation in Serbian Companies', in *International Conference of Management, Knowledge and Learning*, pp. 407–414.

Bachoe, J. N. and Koster, F. (2016) 'The Power of Solidarity: Supervisors, Employees, and Their Interdependence at Work', *SSRN Electronic Journal*, (January).

Balcar, J. (2016) 'Is it better to invest in hard or soft skills?', *The Economic and Labour Relations Review*, 27(4), pp. 453–470.

Bannerman, P. L. (2008) 'Defining Project Success : A Multi-Level Framework', in *The Commonwealth Scientific and Industrial Research Organisation*. Project Management Institute, Inc.

Barg, J. E. *et al.* (2014) 'Motivating Workers in Construction', *Journal of Construction Engineering*, 2014(12), pp. 1–11.

BEM (2020) *Statistics, Board of Engineers Malaysia*. Available at: http://bem.org.my/code-of-professional-conduct (Accessed: 13 August 2020).

BQSM (2020) *Registered Consultant QS Practice, Board of Quantity Surveyors Malaysia*. Available at: https://www.bqsm.gov.my/index.php/en/qs-registry-2/registered-qs-practices (Accessed: 11 August 2020).

Bursh, D. and Kelly, K. (2014) 'Managing the Multigenerational Workplace', *Kenan-Flagler Business School*.

Cameron, K. *et al.* (2011) 'Effects of positive practices on organizational effectiveness', *Journal of Applied Behavioral Science*, 47(3), pp. 266–308.

Cavaleri, S., Firestone, J. and Reed, F. (2012) 'Managing project problem-solving patterns', *International Journal of Managing Projects in Business*, 5(1), pp. 125–145.

Chan, J. C. A. and Briceño, E. D. (2019) 'Life Skills in Higher Education: An Innovative Proposal', *International Journal of Arts and Social Science*, 2(2), pp. 10–18. Available at: http://ijassjournal.com/2019/V2I2/414657500.pdf.

Chapman, L. (2008) 'Effective teamwork', *Nursing management (Harrow, London, England : 1994)*, 15(6), pp. 18–21.

CIDB (2020) *Construction Information, CIDB Malaysia*. doi: 10.1057/elmr.2010.63.
Cimatti, B. (2016) 'Definition, development, assessment of soft skills and their role for the quality of organizations and enterprises', *International Journal for Quality Research*, 10(1), pp. 97–130.

Clark, T. (2014) *11 Ways to Build the Strengths of Your Team Members, Team LiquidPlanner*. Available at: http://www.liquidplanner.com/blog/11-ways-build-strengths-team-members/.

Dainty, A. R. J., Cheng, M.-I. and Moore, D. R. (2005) 'Competency-Based Model for Predicting Construction Project Managers' Performance', *Journal of Management in En*.

Dana Fields Muldrow (2012) *Core Beliefs and Culture*, *Deloitte Development LLC*. Available at: https://www2.deloitte.com/content/dam/Deloitte/global/Documents/ About- Deloitte/gx-core-beliefs-and-culture.pdf.

Dartmouth (2018) '7 Steps To Effective', *Board of Trustees of the University of Massachusetts*, p. 1. Available at: https://www.umassd.edu/media/umassdartmouth/ fycm/decision_making_process.pdf.

Dawes, J. (2008) 'Do Data Characteristics Change According to The Number of Scale Points Used? An Experiment using 5-point, 7-point and 10-point scales', *International Journal of Market Research*, 50(1), pp. 61–77.

Doyle, A. (2020) *Important Negotiation Skills for Workplace Success*, *The Balance Careers*.

Foster, S. K., Wiczer, E. and Eberhardt, N. B. (2019) 'What's so hard about soft skills?', *The ASHA Leader*, pp. 54–60.

Fredrickson, B. L. (2004) 'The Broaden-and-Build Theory of Positive Emotions', *Philosophical Transactions of the Royal Society B: Biological Sciences*, 359(1449), pp. 1367–1377.

Fung, H.-P. (2015) 'Moderating Effects of Project Management Experience, Project Team Size, Project Duration and Project Value Size on the Relationship between Project Manager's Leadership Roles and Project Team Effectiveness in Malaysia', *Journal of Empirical Studies*, 2(1), pp. 17–33. doi: 10.18488/journal.66/2015.2.1/66.1.17.33.

Fung, H. P. and Ali, I. (2011) 'Factors Influencing Project Team Effectiveness As Perceived By Project Managers in Malaysia – a Pilot Study', in *Annual Summit on Business and Entrepreneurial Sudies (ASBES 2011) Proceeding*, pp. 1–20. Available at: http://www.internationalconference.com.my/proceeding/asbes2011_proceeding/001_0 56_ASBES2011_Proceeding_PG0001_0020.pdf.

Gliem, J. A. and Gliem, R. R. (2003) 'Calculating, Interpreting, and Reporting Cronbach's Alpha Realiability Coefficient for Likert-Type Scales', *Midwest Research-to-Practice Conference*, pp. 349–372.

Goskills (2020) *Learn Soft Skills, Go skills*.

Gray, A. (2016) *The 10 skills you need to thrive in the Fourth Industrial Revolution, World Economic Forum, Davos*. Available at: https://www.weforum.org/agenda/ 2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution/ (Accessed: 5 July 2020).

Gulati, R. *et al.* (2020) 'The Contribution of Project Managers' Soft Skills to their Project Success', (January). Available at: https://www.researchgate.net/publication/338763112_The_Contribution_of_Project_Managers'_Soft_Skills_to_their_Project_Success.

Hassan, Z. A., Schattner, P. and Mazza, D. (2006) 'Doing A Pilot Study: Why Is It Essential?', *Malaysian Family Physician 2006*, 1(2–3), pp. 70–3. Available at: http://www.ncbi.nlm.nih.gov/pubmed/27570591%0Ahttp://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC4453116.

Higgs, M. J. and Dulewicz, S. V. (2014) *Understanding emotional intelligence*. www.free-management-ebooks.com 2014. Available at: http://eprints.soton.ac.uk/51546/.

Hills, D. (2018) *How a Lack of Sof Skills Impacts the Workplace*. Available at: https://nearsay.com/c/508031/226368/how-a-lack-of-soft-skills-impacts-the-workplace (Accessed: 4 July 2020).

IAEA (2016) *The Competency Framework*. International Atomic Energy Agency. Available at: https://www.iaea.org/sites/default/files/18/03/competency-framework.pdf.
Imran, A. E. A. (2013) 'The Effect of Training on Employee Performance', *European Journal of Business and Management*, 5(4), pp. 6–13.

Indeed.com (2019) '6 Ways to Improve Critical Thinking at Work', pp. 4–7.

IPMA (2015) *Individual Competence Baseline for Project, Programme & Portfolio Management*. 4th edn. International Project Management Association.

itraining expert.com (2016) *Coaching and Mentoring Skills, itraining expert.com*.

Jain, S. and Angural, V. (2017) 'Use of Cronbach's Alpha in Dental Research', *Medico Research Chronicles*, 4(3), pp. 285–291.

Jha, P. (2015) 'Five " must have " skills to succeed at the workplace', *Oswal Printers & Publishers Pvt. Ltd*, pp. 30–31. Available at: humancapital.com.

Kenton, W. (2020) *Soft Skills, Soft Skills*.

Khan, N. *et al.* (2016) 'Impact of Rewards (Intrinsic and extrinsic) on Employee Performance With Special Reference to Courier Companies of City Faisalabad City', *European Journal of Business and Management*, 8(25), pp. 88–97.

Kluwgant, B. (2018) *3 Key Benefits of a Positive Company Culture*. Available at: https://www.myob.com/au/blog/benefits-positive-company-culture/ (Accessed: 14 August 2020).

Kurse, K. (2020) *Skill Gap 2020: 5 Soft Skills And 10 Hard Skills Companies Need Now, Forbes*. Available at: https://www.forbes.com/sites/kevinkruse/2020/04/17/skill-gap-2020-5-soft-skills-and-10-hard-skills-companies-need-now/#2b61071e6356 (Accessed: 2 August 2020).

Lack of Soft Skills Negatively Impacts U.S Workforce (2013) *CBIA*. Available at: https://www.cbia.com/news/hr-safety/lack-of-soft-skills-negatively-impacts-u-s-workforce/ (Accessed: 5 July 2020).

Laerd Statistics (2018) *Descriptive and Inferential Statistics, Intelligent Systems Reference Library*.

Lavender, J. (2019) 'Soft Skills For Hard Jobs', *Journal of Continuing Education Topics & Issues*, pp. 48–52.

Lee, M. R., Syuhaida Ismail and Mohammad Hussaini (2013) 'Key Performance Indicator (KPI) of Contractor on Project Performance for Housing Construction in Malaysia', *1st Int. Conf. on Human Capital and Knowledge Management (HCKM 2013)*, pp. 1–5.

Leitch, R. M. (2013) *Effective Communications, Team FME*.

Lembaga Arkitek Malaysia (2020) *List of Registered All Practice, Board of Architects Malaysia*. Available at: http://portal.lam.gov.my/lam/website_firm_ap_list.php?gtype=ap (Accessed: 11 August 2020).

Lesk, S. and Montaldo, M. (2018) *A Handbook of Buddy Programmes Practices in Europe*. Erasmus+ Programme of the European Union.

Lippman, L. H. *et al.* (2015) 'Workforce Connections: Key " Soft Skills " That Foster Youth Workforce Success', *Child Trends*, June.

Low, S. P., Gao, S. and Ng, E. W. L. (2019) 'Future-ready project and facility management graduates in Singapore for industry 4.0: Transforming mindsets and competencies', *Engineering, Construction and Architectural Management*.

Lucas, B. and Spencer, E. (2018) 'Teaching Tenacity', *Creative Teaching & Learning*, 8(1), pp. 8–14.

Luthans, K. (2000) 'Recognition: A Powerful, but often Overlooked, Leadership Tool to Improve Employee Performance', *Journal of Leadership Studies*, 7(1), pp. 31–39.

Luthra, A. and Dahiya, D. R. (2015) 'Effective Leadership is all About Communicating Effectively: Connecting Leadership and Communication', *International Journal of Management & Business Studies*, 5(3).

M.Buhler, P. and Worden, J. D. (2011) *The Cost Of Poor Communications, Society for Human Resource Management*.

Mahazril Aini Yaacob and Aminuddin, A. (2011) 'The implementation of Key Performance Indicators (KPIS) in the Malaysian public sector', *Journal of Administrative Science*, 8(2), pp. 51–68.

Manmohan Joshi (2017) *Soft Skill*. 1st Edition.

Martin-Raugh, M. P. *et al.* (2020) 'Negotiation as an Interpersonal skill: Generalizability of Negotiation Outcomes and Tactics Across Contexts at the Individual and Collective Levels', *Computers in Human Behavior*. Elsevier, 104(June 2018).

McCombes, S. (2019) *Understanding Different Sampling Methods, Scribber*. Available at: https://www.scribbr.com/methodology/sampling-methods/ (Accessed: 18 July 2020). Mcseveny, A. *et al.* (2009) *Guideline for Interpreting Correlation Coefficient*.

Mishra, K. (2014) 'Employability Skills That Recruiters Demand', *The IUP Journal of Soft Skills*, 8(3), pp. 50–56.

Moseley Corey (2019) *7 Reasons Why Collaboration Is Important*, *Jostle Blog*. Available at: https://blog.jostle.me/blog/why-is-organizational-culture-important (Accessed: 16 August 2020).

Nasir, N. M. *et al.* (2016) 'A review of delay factors in Malaysian industrialized Building System (IBS) construction project', *ARPN Journal of Engineering and Applied Sciences*, 11(16), pp. 9868–9873.

Obicci, P. A. (2015) 'Influence of Extrinsic and Intrinsic Rewards on Employee Engagement : Empirical Study in Public Sector of Uganda', *Management Studies and Economic Systems*, 2(1), pp. 59–70.

Omidvar, G. *et al.* (2011) 'A Proposed Framework for Project Managers' Competencies and Role of E-Portfolio to Meet These Competencies', *International Journal of e-Education, e-Business, e-Management and e-Learning*, 1(4), pp. 311–321.

Pappas, C. (2019) *7 Benefits That Highlight The Importance of Soft Skills in the Workplace, eLearning Industry*.

Peart, N. (2019) *The 12 Most Important Skills You Need To Succeed At Work*, *Forbes*. Available at: https://www.forbes.com/sites/sap/2020/08/12/how-systems-of-action-are-helping-companies-grow-during-the-pandemic/#6036face2189.

Peterson and M, T. (2007) 'Motivation: how to increase project team performance', in *PMI® Global Congress 2007—North America, Atlanta, GA. Newtown Square, PA: Project Management Institute.*, pp. 1–12.

Peterson, N. G. *et al.* (1995) 'Development of Protetype Occupational Information Network (O*Net) Content Model', *American Institutes for Research, Washington, DC*, pp. 552–590.

PMI (2017) *A Guide to the Project Management Body of Knowledge*. Sixth Edit. Project Management Institute, Inc. Available at: https://www.pmi.org/pmbok-guide-standards/foundational/pmbok%0Ahttps://www.pmi.org/pmbok-guide-standards.

Raosoft (2004) *Sample size calculator - CheckMarket, Raosoft.Inc*. Available at: https://www.checkmarket.com/sample-size-calculator/ (Accessed: 15 August 2020).

Redmond, J. (2010) 'Strategy and the importance of Strategic Leadership', *Certified Public Accountants*, pp. 1–9.

REHDA Malaysia (2020) *Members' Listing*, *REHDA Malaysia*. Available at: http://rehda.com/membership/#MembersListing (Accessed: 11 August 2020).

Robles, M. M. (2012) 'Executive Perceptions of the Top 10 Soft Skills Needed in Today's Workplace', *Business Communication Quarterly*, 75(4), pp. 453–465.

Roseke, B. (2018) *Defining project success*, *South African Journal of Business Management*.

Schulz, B. (2008) 'The Important of Soft Skills: Education Beyond Academic Knowledge', *Journal of Language and Communication*, pp. 146–155.

Schwab, K. (2018) *The Future of Jobs Report*, *World Economic Forum*.

Scott, S. (2019) *The 10 Effective Qualities of a Team Leader*, *Small Business*. Available at: http://smallbusiness.chron.com/10-effective-qualities-team-leader-23281.html.

Scribbr (2000) *An Introduction To Research Methods*, *Morphometrics for the Life Sciences*.

Seetha, N. (2014) 'Are Soft skills Important in the Workplace? A Preliminary Investigation in Malaysia', *International Journal of Academic Research in Business and Social Sciences*, 4(4), pp. 44–56.

Shafie, H., Syed Khuzzan, S. M. and Mohyin, N. A. (2014) 'Soft Skills Competencies of Quantity Surveying Graduates in Malaysia: Employers' Views and Expectations', *International Journal of Built Environment and Sustainability*, 1(1), pp. 9–17.

Shippmann, J. S. *et al.* (2000) 'the Practice of Competency Modeling', *Personnel Psychology*, 53(3), pp. 703–740.

Siles, R. (2020) *Definition of Project Success*, *Project Management for Development*. Available at: https://www.pm4dev.com/pm4dev-blog/entry/definition-of-project-success.html (Accessed: 15 June 2020).

Sokolova, S. (2016) 'Characteristics of a Inclusive Workplace', *Linkedin Learning*.
Souders, B. (2020) *The Science of Improving Motivation at Work*. Available at: https://positivepsychology.com/improving-motivation-at-work/ (Accessed: 2 September 2020).

Spar, B. *et al.* (2018) *2018 Workplace Learning Report The Rise and Responsibility of Talent Development in the New Labor Market*, *Linkedin Learning*. Available at: https://learning.linkedin.com/content/dam/me/learning/en-us/pdfs/linkedin-learning-workplace-learning-report-2018.pdf.

Srimannarayana, M. (2016) 'Designing New Employee Orientation Programs: An Empirical Study', *Indian Journal of Industrial Relations*, 51(4), p. 620.

Statistical Consulting (2012) *SPSS: Descriptive and Inferential Statistics, The Department of Statistics and Data Sciences, The University of Texas at Austin*.

Succi, C. (2015) 'Soft Skills for the Next Generation: Toward a comparison between Employers and Graduate Students' Perceptions', *Sociologia Del Lavoro*, (137), pp. 244–256.

Sumner, M. and Powell, A. (2013) 'What project management competencies are important to job success?', in *Nineteenth Americas Conference on Information Ssytems*. Chicago.

Taherdoost, H. (2016) 'Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research', *International Journal of Academic Research in Management (IJARM)*, 5(2016), pp. 18–27.

Taherdoost, H. (2017) 'Determining Sample Size; How to calculate Survey Sample Size', *International Journal of Economics and Management Systems*, 2(2), pp. 237–239. Available at: http://www.iaras.org/iaras/journals/ijems.

Tahir, M. (2019) 'The Effect of Project Manager's Soft Skills on Success of Project in the Construction Industry', *Journal of Applied Research in Social Sciences*, 1(5), pp. 197–203.

Team FME (2014) *Developing Emotional Intelligence People Skills*. http://www.free-management-ebooks.com.

Teerajetgul, W. and Chareonngam, C. (2008a) 'Tacit knowledge utilization in Thai construction projects', *Journal of Knowledge Management*, 12(1), pp. 164–174.

Teerajetgul, W. and Chareonngam, C. (2008b) 'Tacit knowledge utilization in Thai construction projects', *Journal of Knowledge Management*, 12(1), pp. 164–174.

Trivellas, P. and Drimoussis, C. (2013) 'Investigating Leadership Styles, Behavioural and Managerial Competency Profiles of Successful Project Managers in Greece', *Procedia - Social and Behavioral Sciences*. Elsevier B.V., 73, pp. 692–700.

Trochim, W. M. K. (2020) 'Descriptive statistics', *Conjoint.ly*.

Ur Rehman, S. *et al.* (2020) 'Impact of Leadership Behavior of a Project Manager on his/her Subordinate's Job Attitudes and Job-Outcome', *Asia Pacific Management Review*, 25, pp. 38–48.

Vagias, W. M. (2006) 'Likert-type Scale Response Anchors', *Clemson International Institute for Tourism and Research Develop,ment*, pp. 3–4.

Villanova University (2020) *Project Team Roles and Responsibilities, Villanova University*. Available at: https://www.usability.gov/how-to-and-tools/methods/project-team.html (Accessed: 19 July 2020).

WHO (2005) 'Skills for health', *The World Health Organization's*, November.

World Economic Forum (2016) *The Fourth Singularity and the Future of Jobs*, *World Economic Forum*.

World Economic Forum (2020) *The Future of Jobs Report 2020*.

Zach (2020) *How To Perform A One-Way ANOVA Test In SPSS*, *Statology*. Available at: https://toptipbio.com/perform-one-way-anova-spss/.

Zakaria, I. B. *et al.* (2015) 'A Study on Leadership Skills of Project Manager for a Successful Construction Project', *International Academic Research Journal of Social Science*, 1(2), pp. 89–94.

Zhang, F., Zuo, J. and Zillante, G. (2013) 'Identification and Evaluation of the Key Social Competencies for Chinese Construction Project Managers', *International Journal of Project Management*. Elsevier B.V., 31(5), pp. 748–759.

Zhang, Y. *et al.* (2019) 'Can a one-on-one mentorship program reduce the turnover rate of new graduate nurses in China? A longitudinal study', *Nurse Education in Practice*. Elsevier, 40.

Zuo, J. *et al.* (2018) 'Soft Skills of Construction Project Management Professionals and Project Success Factors: A Structural Equation Model', *Engineering, Construction and Architectural Management*, 25(3), pp. 425–442.

CHAPTER 8

APPENDIX

Appendix A Questionnaire Survey

CORE COMPETENCY OF SOFT SKILL TOWARDS PROJECT TEAM MEMBERS

Dear Sir/Madam,

I am a postgraduate student of Master of Project Management from Lee Kong Chian Faculty of Engineering and Science (LKC FES) at Universiti Tunku Abdul Rahman (UTAR). I am currently conducting a research project as part of the requirement to complete the master program. The purpose of this study is to identify and evaluate the current performance of the project team. Thus, identify an effective way to improve soft skills for future performance.

It will be highly appreciated if you could participate in this research by filling up this questionnaire. Please be assured that your participation will be anonymous, and all information will be kept confidential and for academic purpose only.

Each answer should be based on your own perspective and personal involvement in the Malaysia's construction projects. If you have any queries, please do not hesitate to reach me at the contact given below.

Student Name : Kim Poh Lan
E-mail : kim.xze@1utar.my

Thank you for your participation and time.

SECTION A – DEMOGRAPHIC

43. Nature of Business

- Developer
- Consultant
- Contractor

44. Designation

- Architect
- Engineer (Civil or Mechanical & Electrical)
- Quantity Surveyor
- Project / Construction Manager (including assistant manager)
- Implementation Team (Project engineer, clerk of work, supervisor)
- Project Planning Department
- Others: _____

45. Age Group

- 24 years old and below
- 25 to 33 years old
- 34 to 40 years old
- 41 to 48 years old
- 49 to 55 years old
- 56 years old and above

46. Educational Background

- Secondary
- Certificate / Diploma
- Undergraduate
- Postgraduate
- doctor
- Others: _____

47. Working Experience

- 1 to 3years
- 3 to 5 years
- 5 to 10 years
- 10 to 15 years
- 15 to 20 years
- 20 to 25 years
- 25 years and above

SECTION B - IDENTIFY THE REQUIRED SOFT SKILL COMPETENCIES WHICH CONTRIBUTE TO THE PROJECT SUCCESS

Project success consists of process success (technical and management process, methods, techniques), project management (project complete within timeline and budget), and products (products complete meet stakeholder's expectations). Please rate desired competencies with 5 points Likert scale as shown below.

1: Strongly disagree 2: Disagree 3: Neither 4: Agree 5: Strongly agree

Required soft skill contribute to the project success	Strongly disagree	Disagree	Neither	Agree	Strongly agree
Creativity	O	O	O	O	O
Persuasion	O	O	O	O	O
Collaboration	O	O	O	O	O
Adaptability / Flexibility	O	O	O	O	O
Coordination	O	O	O	O	O
Emotional intelligence	O	O	O	O	O
Communication	O	O	O	O	O
Teamwork / Engagement	O	O	O	O	O
Problem-solving / Conflict management	O	O	O	O	O
Critical thinking / Analysis	O	O	O	O	O
Understanding / Empathy	O	O	O	O	O
Leadership	O	O	O	O	O
Enthusiasm / Positive attitude	O	O	O	O	O
Negotiation	O	O	O	O	O
Motivation	O	O	O	O	O
Decision making	O	O	O	O	O

SECTION C: SELF-ASSESSMENT OF KEY COMPETENCIES

Individual performance influences team performance. Review your capabilities for better improvement to optimize the performance. Please rate your performance to the key competence list below with 5 points Likert scale.

1: Poor 2: Fair 3: Good 4: Very good 5: Excellent

Self Evaluation	Poor	Fair	Good	Very good	Excellent
(Creativity) I creative enough when the proposal needed	O	O	O	O	O
(Persuasion) I able to persuade other stakeholders to follow my idea	O	O	O	O	O
(Collaboration) I able to work together with other team members	O	O	O	O	O
(Adaptability/ Flexibility) I able to adapt to the new environment soon	O	O	O	O	O
(Coordination) I able to coordinate the given task well with other stakeholders	O	O	O	O	O
(Emotional intelligence) I able to handle my emotions while facing challenges	O	O	O	O	O
(Communication) I fully understand what is required and able to communicate in verbal and return	O	O	O	O	O
(Teamwork/ Engagement) I able to work as a team with other stakeholders	O	O	O	O	O
(Problem solving/ Conflict management) I able to solute problem by proper handling others feeling	O	O	O	O	O
(Critical thinking/ Analysis) I able to analyze and solute problem	O	O	O	O	O
(Understanding/ Empathy) I fully understand how other people feel and their dilemma	O	O	O	O	O
(Leadership) I can lead the project well	O	O	O	O	O
(Enthusiasm / positive attitude) I feel energize when working	O	O	O	O	O
(Negotiation) I able to negotiate others stakeholder follow my idea	O	O	O	O	O
(Motivation) I can motivate myself without third party motivate me	O	O	O	O	O
(Decision making) My superior consent with my decision	O	O	O	O	O

SECTION D: EVALUATE THE PERFORMANCE OF THE CURRENT TEAM

Evaluate your current team performance to overcome the challenge of project success. Individual performance is unable to define the team performance. Therefore, please rate desired competencies with 5 points Likert scale as shown below.

1: Poor 2: Fair 3: Good 4: Very good 5: Excellent

Evaluation of team performance	Poor	Fair	Good	Very good	Excellent
(Creativity) My team has creativity when proposal needed	O	O	O	O	O
(Persuasion) My team able to persuade external stakeholder to follow the team's idea	O	O	O	O	O
(Collaboration) My team able to work together well	O	O	O	O	O
(Adaptability/ Flexibility) My team is adaptable and flexible enough to suit the new environment	O	O	O	O	O
(Coordination) My team has no problem with the coordination of works	O	O	O	O	O
(Emotional intelligence) My team has good emotional control	O	O	O	O	O
(Communication) My team able to fully understand what is required and able to communicate in verbal and return	O	O	O	O	O
(Teamwork/ Engagement) My team has strong teamwork spirit	O	O	O	O	O
(Problem solving/ Conflict management) My team able to solute problem by proper handling others feeling	O	O	O	O	O
(Critical thinking/ Analysis) My team is good in analysis and solute the problem	O	O	O	O	O
(Understanding/ Empathy) My team is understanding and take care of my feeling	O	O	O	O	O
(Leadership) My team has a leader who leads the project well, no matter is quality, time and cost control	O	O	O	O	O
(Enthusiasm / positive attitude) My team is energized and with positive attitude	O	O	O	O	O
(Negotiation) My team able to negotiate well with external stakeholder	O	O	O	O	O
(Motivation) I always feel I been motivated	O	O	O	O	O
(Decision making) My team's decision will not disappoint me	O	O	O	O	O

SECTION E: EFFECTIVE WAY TO IMPROVE KEY COMPETENCE

Perhaps you are not born with strong soft skill, but soft skills can be developed. Please evaluate a preferable method that might be suitable for you.

1: Poor 2: Fair 3: Good 4: Very good 5: Excellent

An effective way to improve	Absolutely inappropriate	Inappropriate	Neutral	Appropriate	Absolutely appropriate
(Training) Enrol/ attend the relevant training	O	O	O	O	O
(Mentorship programme) A mentor to guide me during work	O	O	O	O	O
(Buddy programme) Pair me with a buddy that we able to cross-learning and guide each other	O	O	O	O	O
(Appraisal) Set a target for me and evaluate my performance regularly	O	O	O	O	O
(Reward: extrinsic) Reward me with a bonus or money when I achieve the goal	O	O	O	O	O
(Reward: intrinsic) Recognize me when I achieve my goal	O	O	O	O	O