



The Role of Project Management Soft Skills in Increasing Project Success

دور المهارات اللينة لدى مدراء المشاريع في زيادة نجاح المشاريع

by

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of the requirements for the degree of
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ABSTRACT

As the world economy shifts towards an increasingly globalised market, the degree of competition becomes a more significant challenge which organisations face. Within the construction sector, these effects can be further magnified due to the complexity and the heavily demanding nature of the industry. Construction projects are led by project managers who perform the role of a leader of the project and the involved team as a whole. In order to create a market edge to enable organisations to survive heavy competition, it becomes increasingly crucial to explore how project managers can develop their team management competencies, and enhance their team's performance to achieve the ultimate goal of completing a project successfully.

The prospects of project success are directly related to the efficiency of the people involved in the team that will deliver that particular project. Thus, enhancing the people management skillset of the project manager would enable him or her to lead the team more effectively and enhance this positive effect. These project management 'soft' skillsets include interpersonal as well as leadership skills. In order to measure the influence of project management soft skills, it is crucial to define project success. Thus, project success is explored as the second variable which is a measure of several interactive criteria that supersede the traditional view of the iron triangle of time, cost, and quality as a single assessment tool.

The following research studies the phenomenon of various project management soft skills which include interpersonal and leadership skills, and it explores the definition and measurement criteria of project success. The presented research is followed by a quantitative analysis through the conduction of a survey amongst practitioners within the construction industry in the UAE. The aim is to establish and prove that effective project management soft skills can increase the prospects of a successful construction project in the UAE.

Keywords: Project management, people management, soft skills, leadership, emotional intelligence, project success, UAE, construction

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مع تحول الاقتصاد العالمي نحو سوق تنزايد عولمته ، تصبح درجة المنافسة تحدياً مهماً تواجهه المنظمات. في قطاع البناء ، يمكن ان تزداد هذه التأثيرات بشكل أكبر بسبب الطبيعة الأشد صعوبة وتعقيد لهذه الصناعة. يقود مشاريع البناء مديرو المشاريع وهم يقومون بدور قائد المشروع وضمنه الفريق المعني ككل. من أجل خلق ميزة لتمكين المؤسسات من النجاح في نطاق منافسة شديدة ، يصبح من الضروري استكشاف كيف يمكن لمديري المشاريع تطوير كفاءاتهم الإدارية للفريق ، وتعزيز أداء فريقهم لتحقيق الهدف النهائي المتمثل في إكمال المشروع بنجاح.

نجاح المشروع يرتبط ارتباطاً مباشراً بكفاءة الأشخاص المشاركين في الفريق الذي سينجز هذا المشروع . وبالتالي ، فإن تعزيز المهارات الإدارية لدى مدير المشروع سيمكنه من قيادة الفريق بفعالية أكبر وتعزيز هذا التأثير الإيجابي. تشمل مهارات "الليونة" في إدارة المشاريع مهارات التعامل مع الأشخاص بالإضافة إلى مهارات القيادة. من أجل قياس تأثير مهارات إدارة المشاريع ، من الضروري تحديد ما الذي يمثل نجاح المشروع. وبالتالي ، يتم قياس نجاح المشروع باعتباره ناتج من العديد من المعايير التفاعلية التي تحل محل النظرة التقليدية للمثلث الحديدي للوقت والتكلفة والجودة كأداة تقييم واحدة.

يدرس هذا البحث ظاهرة المهارات المختلفة لإدارة المشاريع والتي تشمل المهارات الشخصية والقيادية ، و معايير قياس نجاح المشروع. يتبع البحث المقدم تحليل كمي من خلال إجراء دراسة بين الممارسين داخل صناعة البناء في الإمارات العربية المتحدة. الهدف هو إثبات أن المهارات الفعالة لإدارة المشاريع يمكن أن تزيد من فرص نجاح مشاريع البناء في الإمارات العربية المتحدة.

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INTRODUCTION

Research Background

In today's economy, organisational objectives in terms of profit generation are enabled through the implementation of various projects, which act as the "vehicle" for an organisation's success. Thus, it is crucial to highlight the importance of the role that projects have in determining the success of an organisation. When projects have all the technical expertise and resources required, why do projects still fail? This has been the subject of extensive research which states that failure is often related to human factors and errors such as insufficiency of scope outlining, ineffective communication between the project team, and lack of effective leadership to direct and manage the project.

With the current increase in market competition, a study of how project managers with higher overall competency in terms of both interpersonal and technical skills would enhance the prospects of a project's success. This is further magnified in the context of the construction industry since projects in this sector are highly dependent on the interaction and cooperation between different people from various team entities – client, consultant, and contractor. In order to ensure that each party performs its duties, technical expertise of the project manager will aid in understanding the progress of the project – but will have little influence in driving all the people and entities involved to complete their duties on time and with the required quality. This is heavily dependent on the interpersonal skillset and the ability of the project manager to lead, influence, motivate, and instruct people in a professional manner. Aside from the theoretical view of the role, in actual practice, the role of the project manager can be seen as authoritative and even – to some extent – manipulative. Despite this being a term with negative connotations, it is in fact partially what enables the project manager to maintain a positive relationship between various opposing sides of the project team, while still ensuring that work is being done to quality, schedule, and budget without any compromise.

This brings up the next question of the research – what defines a project as successful? Aside from the renowned iron triangle of cost, time, and quality; a more definitive approach to exploring project success is required. The establishment of a success assessment standard will direct the project manager and facilitate his/her role by defining the ultimate project goal. This in turn links the role of the project manager's skillset in driving a project towards success.

Context Issues

Technical skills are an essential requirement for a competent project manager. However, it is vital to ensure that technically-oriented people do not lack on the social-oriented skills. This is mainly because of the importance of the human factor since project objectives are ultimately delivered through people (Bourne 2005). Also, as previously mentioned, the social interaction and the vital role of the team becomes even more significant within the construction sector. This is mainly because construction projects are comprised of several entities, each with their own sub-teams. The client/client representatives, project management team, consultants, and contractors must all work together as one team in order to enable the completion of a successful project. Each of these entities plays a crucial role in achieving the project objectives. These objectives must be clearly communicated and effectively managed in order to ensure that they are being met by the respective team members, and thus the project management team plays a key role in maintaining the right priorities and accomplishments of the project team. Bringing together these subgroups and ensuring that they work together towards common goals requires a great deal of soft skill abilities, since relying solely on technical skills will not be sufficient in meeting the deliverables – which are ultimately completed by the people in the project team. The project manager transforms into a highly political role in which he/she manages the human aspects of the project team, in addition to the technical items.

Research Questions, Aim, and Objectives

The aim of the research is to demonstrate a positive relationship between a project manager's interpersonal soft skills and the enhancement of construction project success in the UAE.

The main research questions are as follows:

- What are the soft skills required to enable a project manager to achieve effective people management?
- With projects being the main component of an organisation's business objectives, what are the success evaluation criteria?
- Given the above research data, which project management soft skills can enhance the prospects of a successful construction project in the UAE?

In order to answer the above research questions and support the aim of the research, the analysis will be structured to achieve certain objectives that will enable the confirmation of the research hypotheses which will be proposed later on. The research objectives are the following:

1. Determine the project management soft skills which result in a more effective project team, and thus enable the successful management of the various people and entities involved in the project.
2. Determine the most crucial measurement criteria for the assessment of a project's success.
3. Propose a conceptual model which illustrates the relationship between a project manager's soft skills factors and the enhancement of project success – as independent and dependent variables, respectively.
4. Explore the practicality and the relation between project management soft skills and its effect on the success of construction projects within the professional working environment in the UAE by conducting a survey among a carefully selected sample frame in order to analyse the acquired data and support or disprove the proposed hypotheses.
5. Provide a framework of recommendations of how to effectively implement project management soft skills in order to enhance project success in the UAE construction industry.

The aim and objectives set in this research will be assessed in the Conclusion chapter, which will revisit these objectives and illustrate how they have been met within the research.

Dissertation Structure

In order to establish a clear framework of the flow of information in the following research. The figure below breaks down and illustrates how the dissertation will be structured.



Figure 1 Dissertation Structure

As demonstrated in the diagram above, the first chapter of the research is the ***Introduction***. This section presents the research background and context information, as well as the research aim and objectives. Chapter 1 is the ***Literature Review***, which will explore previous research on the subjects of people management, the soft skills required by project leaders, and project success criteria. Chapter 2 includes the research ***Framework and Methodology***, which will present the hypotheses established by the research, an illustrative conceptual framework, and an explanation of the methodology which will be followed in supporting the research through quantitative analysis. Chapter 3 of the research is the ***Research Findings***, which presents the results of the conducted survey (found in full detail in the Appendix), and an analysis of the data acquired using SPSS software. Based on the information acquired from the previous chapters, Section 4 presents the ***Recommendations and Conclusion***, which sum up the research findings to demonstrate how the aim and objectives were achieved. This is followed by a set of recommendations as well as a conclusion and suggestions for future research.

1.0 People Project Management: A Literature Review

1.1 People Management and the Role of the Project Manager

The current global economy is characterised by an increasingly competitive market. In order to maintain presence and activate revenue, organisations are driven by a series of projects which act as vehicles to achieve their organisational objectives (Turner & Muller 2003, Pant & Baroudi 2008, Longman & Mullins 2004). These projects are often one-time endeavours, which are usually comprised of various interdependent parties which need to work together in order to deliver a successful project. Thus, the expertise required to drive successful projects goes beyond the traditional aspects of general management. A project manager whose skillset is characterised by an interdependence of technical expertise and people skills is crucial (Pant & Baroudi 2008). The role of the project manager involves defining the project objectives, leading and motivating the project team in order to ensure that the project goals are met, and managing the project process and impacts as it progresses (Turner & Muller 2003).

The people management of the project process is vital to achieve the defined objectives. This is mainly because of the significance of the human element since the various elements involved in a project are the people who complete the work. Thus, managing a project is permanently interlinked with managing the people involved in it. For this reason, it is crucial that the project manager has the necessary skillset to lead, motivate, and ensure that the work is completed in line with the project objectives (Anantatmula 2010). In order to capture the significance of people management within a project, Turner (1999) explored the definition of a project as a process in which people, monetary, and physical resources are managed through a means which enables the realisation of a predetermined, unique set of objectives for the project. In fact, one of the most challenging aspects of project management is the ability to create working relationships between the project team and various other stakeholders, and is only achievable through a combination of technical and interpersonal skills (Thamain 2004). Belzer (2001) describes interpersonal skills as the “missing link” which enables projects to succeed. As discussed previously in the **Introduction**, Halstead (1999) reconfirms this notion of positive manipulation by stating that project success is achievable when a project manager is experienced in getting work done through others. The project manager’s technical skills in addition to interpersonal skills such as communication, leadership, conflict resolution, trustworthiness, and cultural awareness; enhance the prospects of a successful project.

1.2 The Project Environment in the Construction Industry

The significance of effective people management is further magnified within the construction industry, which is heavily reliant on the interaction between various stakeholder entities. Thus, managing these complex and dynamic relationships is crucial. The construction sector is characterised by heavily project-based organisational portfolios. The project nature in which the industry operates requires that various entities of clients, consultants, and contractors are brought together to achieve project objectives. This demands a continuous management of these stakeholder relationships in an effective manner in order to manage the construction activities and the respective responsibilities of each of the involved entities (Mo et al. 2006). Moreover, the challenges of managing the project team and various stakeholders are even more pronounced in the construction sector mainly because of the international context in which the sector operates. This can be observed within the UAE construction sector, which involves a large number of international consultant and contractor firms, with employees from diverse cultural backgrounds. In fact, the UAE construction industry constitutes a significant portion of the country's GDP, which in turn is highly driven by oil prices in the region (Deloitte 2017). The UAE's GDP is expected to increase by 2% between 2018 and 2020 (Deloitte 2017) and the expected increase in population will create higher demand for real estate. This creates further opportunities within the construction sector, as market competition grows between organisations aiming to secure a portion of the projected project pipeline. In order to overcome the often high level of supply of construction services versus the demand, organisations are more pressured to perform at a higher standard in order to achieve a market edge which encourages project clients to appoint them. An improved performance is measured by a higher success rate for projects, and thus it is crucial to study and implement strategies which can enhance an organisation's performance. Developing the performance of a project manager is interrelated with project success (Crawford 2007, Geoghegan & Dulewicz 2008), and is thus a vital aspect to implement within organisations in order to maximise their profits. As the subject of this research, enhanced interpersonal skills will enable the project manager to increase the prospects of a project's success (Crawford 2007, Turner 1999). The construction industry is heavily influenced by the country's economic performance, which fluctuates based on supply and demand within the market. The UAE's construction sector is heavily influenced by factors such as tight project timelines, the availability of human and material resources, and common client interventions in the project (El-Sayegh 2008). The notion of the "market edge" which will enable an organisation to achieve more successful projects is measured as a factor of the success of the end product. These success criteria are traditionally known to be measured in terms of the iron triangle of

cost, time, and quality. However, this has become an insufficient means of assessing project success, and this subject will be further explored in **Section 1.5**.

1.3 Leadership and Interpersonal Characteristics as a Success Factor

Following the discussion of the reasons why a project manager's skills are a vital aspect which enables the delivery of project objectives through people (Bourne 2005), the soft skills competencies will be explored as a project success factor. The literature on project management soft skills explores aspects of leadership and personality characteristics (Turner & Muller 2005, Dulewicz & Higgs 2005). The competence of the project manager is thus studied as a component of personal characteristics, knowledge and skills, and management skills (Turner & Muller 2005). The various "soft skill" constituents include studies of leadership and other personality characteristics which are explained further in **Section 1.4**. In contrast with the project management literature which tends to overlook the crucial role of the project manager in project success, soft skills have been explored in the general management literature as being an important success factor (Turner & Muller 2005). The following literature review illustrates various models of project success factors, and analyses the role of the project manager in each.

Cooke-Davies Success Factors:

Davies (2002) identifies 12 success factors and explains that although the majority of the success factors have human dimensions, they are not in themselves labelled as human factors. The figure below illustrates the identified success factors within the project environment.

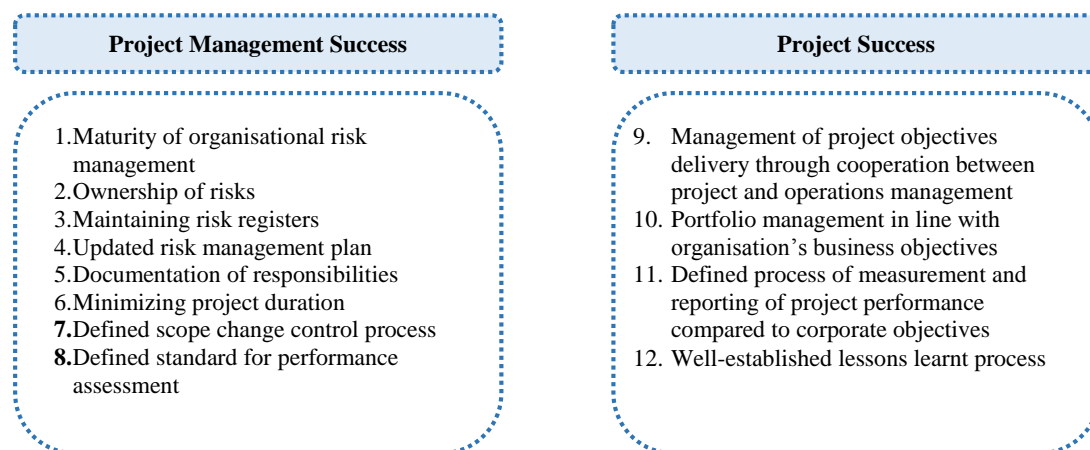


Figure 2 Success Factors in Projects (Davies 2002)

In other words, the human interactions element of the success factors is insinuated as the actual basis by which these success factors are facilitated (Davies 2002). Thus, instead of explicitly stating the importance of the soft skills aspect, it is factored in as the means by which the success factors are actually implemented.

Pinto and Slevin Success Factors:

Pinto and Slevin (1988) developed the following ten project success factors.

1. Project mission	6. Technical tasks
2. Top management support	7. Client acceptance
3. Schedule and Plans	8. Monitoring and feedback
4. Client consultation	9. Communication
5. Personnel	10. Troubleshooting

Figure 3 Project Success Factors (Pinto & Slevin 1988)

Again, the research through which the defined factors were outlined was based on feedback from practitioners within the project management industry. A possible explanation is that the project managers did not explicitly state themselves being a success factor in itself (Turner & Muller 2005). However, it can be observed that factors 4, 7, 9, and 10 can only be delivered if the project manager has the necessary interpersonal and leadership skills. Again, the soft skills become the means which enable the success factors to be achieved.

Turner Success Factors:

Turner (1999) grouped project success factors into internal and external. The figure below illustrates the Seven Forces Model (Turner 1999).



Figure 4 Project Success Factors (Turner 1999)

Turner explicitly states ‘people’ and ‘attitudes’ as success factors. He explains these factors as components of leadership, management, and aspects of motivation. All these are delivered through the role of the project manager, who becomes a vital human-factor determinant of the success of the project. Turner’s explanation of what constitutes the ‘people’ and ‘attitudes’ success factors includes elements which are comprised of soft skill qualities.

Chan et al. Success Factors:

When exploring construction projects in particular, Chan et al. (2004) break down project success factors as follows.

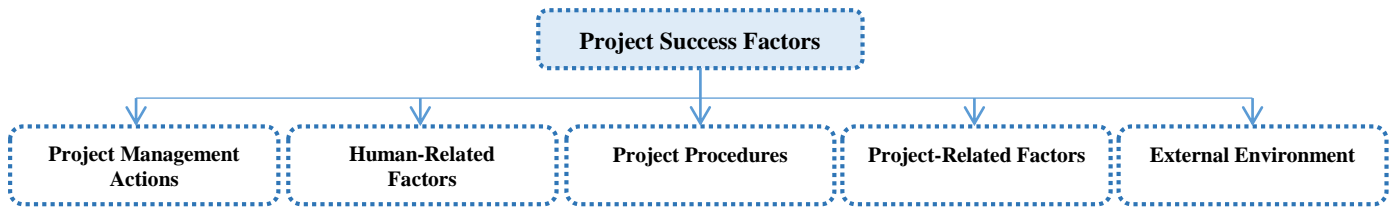


Figure 5 Construction Project Success Factors (Chan et al. 2004)

In the above grouping of success factors, it is apparent that two of the groups are clearly titled as a component of human behaviour – “project management actions” and “human-related factors”. In their study, Chan et al. (2004) explain that the factors under “project management actions” include communication system, feedback effectiveness, control of the work of project team, and overall managerial actions. Also, the “human-related factors” include the project manager’s organisation skills, coordination skills, motivation skills, adaptability to change, and relationship with project team (Chan et al. 2004). All these factors are related to the personal characteristics and leadership abilities of the project manager.

Kendra and Taplin Success Factors:

In another model of project success factors, Kendra and Taplin (2004) grouped the factors into micro-social, macro-social, micro-technical, and macro-technical. This is a clear representation of the importance of both the technical and soft skill competence of a project manager. The leadership style and personal characteristics of the project manager are listed as one of the success factors in the “micro-social” group.

Morris and Hough Success Factors:

In their study of project management success factors, Morris & Hough (1987) categorise leadership as a success factor. Since the project manager plays the key leadership role in a construction project, his/her capability is thus regarded as a success factor.

Thamain (2004) states that the project manager has a crucial role in establishing a healthy relationship between the project team, and this has a direct impact on enhancing project success. In their study of the role of the project manager and its contribution as a project success factor, Turner and Muller (2005) explain that a large part of the literature on this topic has gathered evidence and information from project managers. Thus, they explain that is quite possible that

project managers did not place sufficient emphasis on their own role and skills – both interpersonal and technical. Instead, they focused on explaining success factors as a component of attributes in their surrounding project and team. However, the above literature review illustrates that previous research on project success factors falls into two categories. One category explicitly states the project manager's personal characteristics and leadership abilities as a success factor. The second category implies it by association through stating that the resultants of these skills (communication and coordination, for instance) increase the prospects of a project's success.

Through the exploration of a multitude of previous studies, this chapter demonstrates that project management personal characteristics and leadership abilities are in fact project success factors. The next step is to explore which of these project management soft skills are the most crucial in enhancing effective people management.

1.4 Soft Skills for Effective People Management

The literature offers a multitude of research conducted on soft skill aspects including personality characteristics, emotional intelligence, and leadership competency. All these study areas reflect aspects of personality traits which are considered soft skills that can enable a project manager to perform better and influence the project team towards the delivery of a successful project. The following analysis is a literature review of soft skills which are, for the sake of clarity, grouped in two categories. These categories are interpersonal characteristics and leadership skills. The soft skills measurement factors which will be explored in this research include a combination of both key areas. It is important to note that, even though the following analysis groups the skills into two categories, they are in fact strongly interrelated since they are both measures of soft skills. The literature review demonstrates that previous research done on this topic usually refers to one of these two areas. However, previous research is ultimately regarding the broad topic of soft skills – regardless of the terminology chosen by the authors to express the topic.

Interpersonal Characteristics

Interpersonal skills refer to the social behaviour that people must adopt in order to achieve certain objectives through the involvement and cooperation of other people (Honey 1988). In his research, Fisher (2011) explored the skills and behaviours that would account for an effective people project manager. What is important to note here is the notion of the “people project manager”. As explained previously in **Section 1.1-1.2**, it is crucial to bear in mind that a project manager's key responsibility is to manage the project team and ensure that the project objectives

are achieved through the people involved in that particular project. The figure below illustrates some of the skills of an effective people project manager as identified by Fisher (2011).



Figure 6 Skills of an Effective People Project Manager (Fisher 2011)

In their study, Pinto and Trailer (1998) identify the necessary interpersonal skills of an effective project manager. These include trustworthiness, creative conflict management, flexibility, and effective communication.

The literature review identified several recurring skills which were defined in previous studies. For the objective of this research, the following eight interpersonal soft skills will be identified for further analysis. These include trustworthiness, effective communication, conflict management, adaptability, emotional intelligence, cultural awareness, and leadership.

Trustworthiness

The project manager's role is a people-facing position which usually places him/her in at the ultimate front-end when it involves interacting with people from various entities which constitute the project team. This translates into a position which is highly-observed and scrutinised by all parties involved. In order to build healthy work relationships with these various entities in the project team, the project manager must be aware that this role is highly observable and thus requires a genuine and authentic character which enables people to trust him or her (Kets de Vries 2001). In order to foster the sense of commitment to objectives in the project team, the project manager must earn the trust of his team (Kadefors 2004). Rosenau (1998) states that project managers enhance the likelihood of the team completing the tasks required to achieve the project objectives if they respect him or her, since this will make them respond more positively to requests made by the project manager.

This can be effectively achieved through creating a positive professional relationship with the different entities involved in the project team. Within the context of construction project, this will enable the client, contractor, and consultants teams to have a healthy working relationship with the project manager. This will help in maintaining alignment to the project goals, since having a positive, trusting relationship will heighten the sense of commitment that the project teams involved feel in relation to achieving the project objectives. This will also facilitate dispute resolution, since conflicting sides will know that they can count on the project manager to offer unbiased views to settle the matter at hand without impacting overall team morale. This in turn offer another advantage, which is keeping the project manager updated with any changes or possible conflicts, since the team trusts the professional relationship between them and the project manager.

Effective Communication

As previously discussed, project management is an art of achieving tasks that would contribute into fulfilling project objectives through other people – the project team. In order to be able to achieve that, the project manager must have excellent communication skills, since he or she is the main interface between different entities in the project team. In order to be convincing and persuade people to complete their responsibilities, bearing in mind that the majority of conversations in construction project teams sustain people with different viewpoints on priorities, and often on what can be regarded as opposing sides – the client and contractor relationship for instance. Rosenau (1998) relates the skill of effective communication to that of obtaining the trust and respect of the project team. He suggests that communication skills are vital for people management. Barkley (2006) also states that open communication is key in order for the project team to work efficiently. In his research, Fisher (2011) discusses effective communication as an important skill for project manager. He asserts that communication between the project manager and the project team forms a vital aspect of other skills such as leadership and motivation. He suggests that strengthening relationships with the project team through communication will also allow the project manager to be better informed prior to making decisions regarding the project.

A project manager who conveys effective communication skills will enhance the effectiveness of the achievement of project goals, since the involved individuals in the project team are aware of their specific roles and responsibilities as the end result is effectively communicated. Moreover, this establishes a healthy communication network from all sides as well, since a project manager

who effectively communicates project information will encourage the team to reciprocate. Thus, the team is more likely to keep the project manager updated of progress and any possible conflicts early on, rather than later when negative impacts begin to take place.

Conflict Management

The nature of the construction industry demands that several entities interface as part of the project team. The challenge is that, while the project objectives are understood by all, these different entities have various views on the priorities in the project – which are mainly driven by the need for maximum profit generation. This often leads to conflicts within the project team. The construction industry is however, very sensitive to arising conflicts, as their resultant costs are often very high. In fact, the project manager's ability to resolve these conflicts is very crucial in order to avoid the escalation of conflicts which would have negative impacts on the project objectives (Ng et al. 2007). In his study, Fisher (2011) considers conflict management to be an important skill for effective people management. He suggests that the project manager must be able to detect conflicts as soon as they begin to develop in order to understand the basis of the problem and resolve it efficiently and with minimal impact on the project objectives. Verma (1996) states that effective project managers must have an understanding of the various types and levels of conflicts and ways to resolve them, mainly because conflicts are ultimately inevitable.

Within construction projects, the conflicts between clients, contractors, and consultants are unavoidable. However, a project manager who demonstrates effective conflict management will minimise the negative impacts of arising conflicts. Also, this encourages the team as a whole to seek the project manager's advice when conflicts arise, rather than attempting to resolve it internally and risking the magnification of negative effects. When the project manager conveys a sense of fairness in resolving conflicts, the team as a whole is more likely to seek his or her opinion.

Adaptability

Projects, in their nature, are an agency for change. Thus, it is crucial that a project manager is flexible and adaptable to these changes as the project progresses, especially given the global nature in which organisations operate nowadays (Fernandez & Fernandez 2008). Cheng et al. (2005) state that the construction industry is characterised by its dynamism and thus requires project managers to be flexible in their decision-making approach. A project management mindset which is more open and flexible towards these inevitable changes as the project

progresses, will enable the project manager to respond more effectively. This will also have a positive impact on the team as whole, since the project manager will ultimately present a role model for the overall team behaviour and responses when change arises. Thus, when an unexpected change arises, the project team will be accustomed to a positive manner in which to accommodate the change, rather than being inflexible and causing negative impacts and delayed work. Moreover, if the project manager is known to be capable of adapting to change, the project team is more likely to seek his or her opinion to resolve any possible impacts of a change which occurs over the course of the project.

Emotional Intelligence

Lee-Kelley & Kin Leong (2003) state that the project manager's perception of project success can have a significant impact on actual project success. In addition, the project manager's perception is largely influenced by personal characteristics such as confidence and his/her leadership style. This suggests that a project manager with higher levels of emotional intelligence will have increased chances of completing a project successfully. Emotional intelligence refers to self-management and interaction management within the project team. In his research, Goleman (1995) stated that emotional intelligence of the project leader has more impact on project success than does his or her intellectual skills alone. Emotional intelligence entails the following attributes as illustrated in the figure below (Goleman et al. 2002).

Self-Awareness	Confidence, Awareness of strengths and limitations, Honesty
Self-Management	Emotional self-control, Transparency, Adaptability, Initiative, Optimism
Social Awareness	Empathy, Organisational awareness
Relationship Management	Inspirational leadership, Influence, Change management, Conflict resolution, Teamwork

Figure 7 Attributes of Emotional Intelligence in Leaders (Goleman et al 2002, Turner & Muller 2005)

A project manager who is more understanding and in control of his/her emotions will present a more effective figure of authority, and this positive impact will resonate through the whole project team. Rather than being an irate authoritative figure, a project manager with high levels of emotional intelligence is more capable of assessing the mental state of his or her team, and will be more effective in responding accordingly. This maintains a positive attitude which will be conveyed through the project team as a whole.

Cultural Awareness

As explained previously in **Section 1**, the construction industry in the UAE involves companies which operate on an international level. It thus becomes crucial that the element of multiculturalism of the project team is accounted for effectively, in order for a leader to be able to manage people from different cultural backgrounds, maintaining an understanding and recognition for different cultures is an important interpersonal skill (Trompenaars & Hampden-Turner 2011). Selmer (2002) defined the personality traits that enable the effective management of multicultural teams to include conscientiousness, emotional stability, and openness/extroversion. In his research, Fisher (2011) states the importance of exhibiting awareness of the multicultural aspect of the project team, as it could inform the approach that the project manager follows when managing the team.

Within the construction sector in the UAE, it is almost inevitable that the project teams will involve various cultures. Thus a project manager who conveys the necessary understanding of these different cultures will be more accommodating and capable of communicating with them in an effective manner.

Motivation

The project manager's role requires an ability to persuade people and demonstrate to them how their tasks will contribute to achieving the project objectives. For this reason, it is crucial that the project manager is capable of motivating his team by encouraging them to fulfil their part to complete the project (Thamhain 2004). Barkley (2006) also states that project managers can enable the project team to perform and improve through motivating them. In his research, Fisher (2011) also defines motivation skills as a crucial approach to obtain a sense of commitment in the project team, rather than mere compliance. This established sense of commitment will be a more effective drive for the project team to complete their tasks to their best abilities, rather than an approach in which the bare minimum is done. If the project team is more aware of the bigger picture in which their actions contribute to the success of the project, this will encourage them to perform more effectively. In addition, the project team will be more likely to perform and excel in tasks which are beyond their scope if they sense that the project manager is supportive of people taking on new roles in order to achieve project objectives more efficiently.

Leadership Skills

Leadership competency consists of personal characteristics and skillsets which enable a project manager to be an effective leader. In the following literature review, it is clear that the majority of the leadership skills in discussion will overlap with those mentioned in the interpersonal skills category. Again, the main reason for grouping the skills into the two categories – interpersonal and leadership – is because previous literature refers to both these terminologies, which are heavily interrelated and largely interdependent.

In their research, Dulewicz and Higgs (2003) identify 15 leadership components of capable leaders, which are illustrated in the figure below.

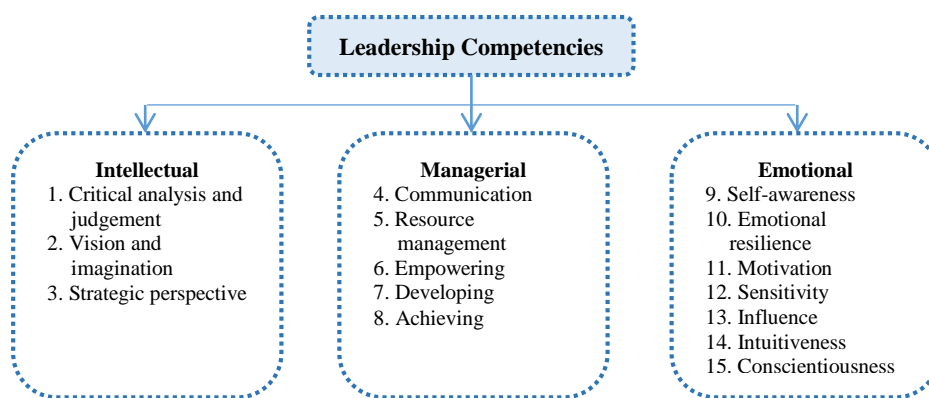


Figure 8 Competencies of an Effective Leader (Dulewicz & Higgs 2003)

These leadership competencies are grouped into three groups which include intellectual competence, managerial competence, and emotional competence. Each of these categories is explained as follows.

The intellectual competence group involves skills such as exercising strong analysis proper to decision-making, having an innovative vision for achieving objectives, and awareness of contextual opportunities/threats (Dulewicz & Higgs 2005).

The managerial competence group involves practicing effective communication with the project team, organising resources to achieve project objectives efficiently, encouraging people to take responsibility, developing the skills of the team, and exhibiting determination to fulfil project objectives (Dulewicz & Higgs 2005).

The emotional competence group involves the leader being aware of and controlling of his/her emotions, maintaining focus during personally-adverse situations, being able to make decisions even when the situation is not entirely clear, maintaining awareness of other team member's points of view, persuading team members with opposing positions, motivating through

exhibiting enthusiasm for achieving project objectives, and maintaining his/her word in the face of change and adversities (Dulewicz & Higgs 2005).

Dulewicz and Higgs (2003) also developed a leadership dimensions questionnaire (LDQ), which will be further explored in **Section 2**. In their study, they concluded that out of the three groups of competencies, Emotional Intelligence was the most significant in affecting performance. These dimensions established by Dulewicz and Higgs will be further explored in Section 2 which explain the research methodology, mainly because elements of these leadership qualities will be utilised in the survey which will be conducted as part of the quantitative analysis.

Kloppenborg and Petrick (1999) state that project leaders are responsible for promoting team characteristics such as ethics, respect, trust, honesty, courage, and responsible use and sharing of power.

Conclusion: Soft Skills Factors for Project Success

As demonstrated in the above literature review, the majority of the soft skills discussed in the personal characteristics and leadership skills subgroups overlap. This can be explained since the previous research done on the interpersonal skills category focuses on the managerial aspect of the status quo, while the literature on leadership skills focuses on leadership skills which can influence the future situation (Van Ingen 2007). In order to conclude the soft skills factors which will be the study variables in this research, the following diagram creates an illustration of the overlaps as explored in the literature review. The soft skills discussed throughout the literature review are grouped into groups of recurring items or themes, and the key factor is highlighted in each group.

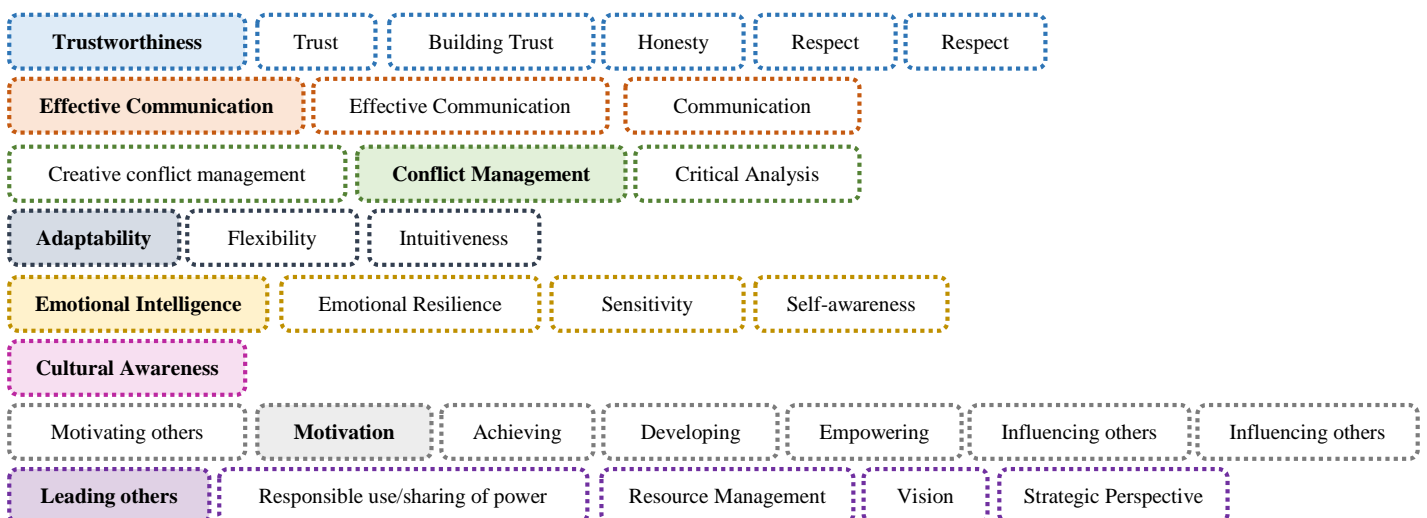


Figure 9 Project Manager Soft Skills Factors

As demonstrated in the analysis in the above figure, the eight soft skills which will be further studied in this research are trustworthiness, effective communication, conflict management, adaptability, emotional intelligence, cultural awareness, motivation, and leading others. The following table demonstrates the referenced sources in the literature review for each skill, as well as the measures that the research will undertake to assess the achievement of the individual skill.

Soft Skill	Research Measures	Referenced Sources
Trustworthiness	-project manager exhibits honesty and ethical work relationships -project team shows respect for the project manager	Kets de Vries (2001), Kadevors (2004), Rosenau (1998), Fisher (2011), Kloppenborg & Petrick (1999)
Effective Communication	-project goals and objectives are effectively communicated by the project manager to the team -project team effectively communicates project updates/concerns to the project manager	Rosenau (1998), Barkley (2006), Fisher (2011), Dulewicz & Higgs (2003)
Conflict Management	-project manager exhibits fair and objective conflict resolution approach, considering the perspectives of all parties -project team actively seeks the project manager's support and update him as conflicts arise	Ng et al. (2007), Fisher (2011), Verma (1996), Dulewicz & Higgs (2003)
Adaptability	-project manager exhibits intuitiveness and ability to adapt to the project's changing circumstances -project team is able to seek the project manager's decisions when changes in the project process arise	Fernandez & Fernandez (2008), Cheng et al. (2005), Dulewicz & Higgs (2003)
Emotional Intelligence	-project manager is able to control emotions and maintain an objective opinion while showing understanding for the viewpoints of different team members -project team is able to sustain a professional working relationship with the project manager	Lee-Kelley & Kin Leong (2003), Goleman (1995), Goleman et al. (2002), Dulewicz & Higgs (2003)
Cultural Awareness	-project manager is aware of cultural differences within the project team, and is able to manage that professionally -project team is able to seek the project manager's assistance despite cultural differences between different project parties	Trompenaars & Hampden-Turner (2011), Selmer (2002), Fisher (2011)
Motivation	-project manager is self-driven and keen on promoting the achievement of project objectives as a team goal -project team is sufficiently motivated and empowered by the project manager to achieve their tasks effectively	Thamhain (2004), Barkley (2006), Fisher (2011), Dulewicz & Higgs (2003)
Leading Others	-project manager exhibits effective people management by guiding the team towards achieving project goals -project team can understand the project manager's vision and is keen on achieving it in terms of completing the project goals	Fisher (2011), Dulewicz & Higgs (2003), Kloppenborg & Petrick (1999)

Table 1 Project Manager Soft Skills Which Influence Project Success

The soft skills mentioned above will be the basis for the independent variables in the assessment as will be further explored in **Section 2**. The measures of these independent factors as demonstrated in the table above will constitute several of the questions in the survey which will be conducted as part of the quantitative analysis (the full survey will be explained in Chapter 2, and can be found in the Appendix section). The following section will present a literature review

and analysis of the project success criteria, which are used as a means to assess the degree of project success. This will constitute the dependent variable in this research, and will enable the exploration of the impact of a project manager's soft skills on project success.

1.5 Project Success Criteria

The previous section of the research presented a literature review and identified the project manager's soft skills which can improve the prospects of a project's success. In this section, a measure for determining whether a project is considered successful will be analysed. At the end of this section, success assessment criteria will be identified. There are several definitions for project success available in the literature, since researchers have explored various aspects and perspectives of the meaning of success versus failure in projects. Thus, there is no such thing as a standardised definition for success (McCoy 1986). The main reason for this is that the criteria of whether a project is successful vary in their priorities between various entities' viewpoints. Liu and Walker (1998) state that these differences in perceptions even lead to disagreements regarding whether a particular project is a success or a failure.

In his research, Baccarini (1999) states that there are two components which much be considered when defining project success. He states that the first is project management success – in terms of the process and the achievement of cost, time, and quality, objectives – and the second is product success – which is concerned with the effects of the project when it is completed. Baccarini (1999) developed the Logical Framework Method as a means of combining criteria from both these components to determine if a project is a success or failure. The Logical Framework Method include four parts – project outputs, project inputs, project goal, and project purpose. The figure below illustrates Baccarini's Logical Framework.

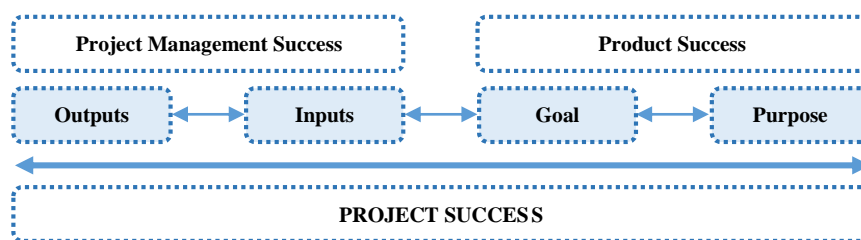


Figure 10 Logical Framework for Project Success (Baccarini 1999)

Baccarini (1999) explains that project outputs are the direct and tangible results of completing the project activities, project inputs are resources and activities which are required to achieve the project outputs, project goal defines how the project will contribute to the long-term organisational objectives and strategic goals, and project purpose is the short-term effects that the project outputs will have on their immediate end users. Baccarini categorises project outputs and inputs as components of project management success, while goal and purpose are explained as components of product success. As highlighted in the figure above, project success is a measure of the success of all these components, since their achievement defines whether a project has actually been implemented efficiently and was able to achieve its intended short and

long-term goals. In the same research, Baccarini (1999) further breaks down project management success and product success into their individual components as illustrated in the figure below.



Figure 11 Components of Project Success (Baccarini 1999)

Muller and Turner Project Success Criteria

Project success criteria are the assessment measures used to evaluate project success by measuring the outcomes of the project (Muller & Turner 2007). These constitute the dependent variables by which the project is assessed. Muller and Turner (2007) developed ten criteria, or measures of success as illustrated in the figure below.



Figure 12 Project Success Criteria (Muller and Turner 2007)

These criteria include end user satisfaction, supplier satisfaction, team satisfaction, other stakeholders' satisfaction, and customer satisfaction. They also include the iron triangle of time-cost-quality performance, meeting user requirement, achievement of project objectives, establishing recurring business, and other self-defined criteria which are project-specific.

In their research, Geoghegan and Dulewicz (2008) used the Project Success Questionnaire (PSQ) which was based on Pinto and Slevin's (1986) Project Implementation Profile Questionnaire. Pinto & Slevin's model was comprised of two main components – the project and the client. Their study states that the project must be completed according to technical standards and should perform according to its defined purpose, and that the project team must liaise continuously with the project client in order to ensure that it is completed according to their expectations. The compiled results of the abovementioned study resulted in the project success criteria questionnaire which includes elements as illustrated in the figure below. These include the traditional “iron triangle” measures of time, cost, and quality, as well as client measures regarding the usability of the product, client satisfaction, and impact of the project on organisational objectives.

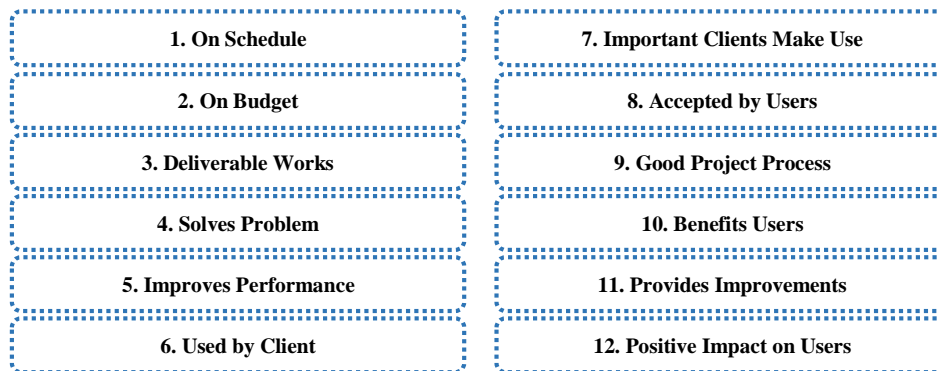


Figure 13 Project Success Questionnaire Elements (Geoghegan & Dulewicz 2008, Pinto & Slevin 1986)

In their assessment of the above questions, Geoghegan and Dulewicz (2008) identified three success criteria which had the most impact. These are usability, value of project outcome to clients, and project delivery. In their analysis, they show that five questions in the PSQ are related to project usability, in terms of it being a technically correct and usable as intended. These questions are: Q3 deliverable works, Q4 solves problem, Q6 used by client, Q7 important clients make use, and Q8 accepted by users. Four questions relate to the second criteria – value of project outcome to users, which is related to how the completed project benefits its client. The questions are Q5 Improves performance, Q10 benefits users, Q11 provides improvements, and Q12 positive impact on users. Also, three questions relate to the third success criteria – project delivery, which explains the project process. The questions are Q1 on schedule, Q2 on budget, and Q9 good project process. As per this analysis, the project success criteria are illustrated in the figure below (Pinto and Slevin 1986).

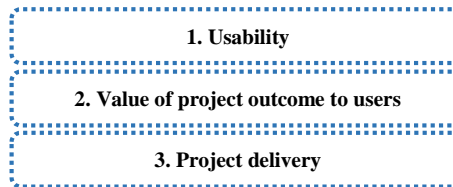


Figure 14 Project Success Criteria (Pinto & Slevin 1986)

Pinto and Mantel Project Success Criteria

In their research, Pinto and Mantel (1990) identified three measures of project success versus failure. These include the process through which the project was implemented, the assessed value of the completed project, and the satisfaction of the client with the final product.

Thus, the project process has become a recurring theme of the assessment of the overall project success – since it measures the overall value of the process and its impact on the project team involved. The assessment of the value of the end product is also explored in the success criteria defined by other studies. The notion of the satisfaction of the client with the end product is also a common theme in various studies since it deals with the impact of the project as a final product.

Freeman and Beale Project Success Criteria

Freeman and Beale (1992) identified seven success criteria used to assess projects. These criteria include technical performance, efficiency of the project execution process, impacts of the project on the organisation and the client, personal growth, project completion, technical innovation, and the business performance of the project. These are illustrated in the figure below.

Technical performance	Were the technical objectives of the project achieved?
Project execution	Were the time and cost targets followed?
Project impacts	Achieved benefits to the parent organization as well as the client?
Personal growth	Is the project team satisfied?
Project completion	Is the project completed without problems and with the required results during auditing?
Technical innovation	Were technical problems identified and solved efficiently during the project process?
Business performance	Does the project fulfill its commercial goals?

Figure 15 Project Success Criteria (Freeman & Beale 1992)

Shenhar et al. Project Success Criteria

Shenhar et al. (1997) identified three dimensions of project success in their research. These are project efficiency, impact on clients, and benefits to the organisation.

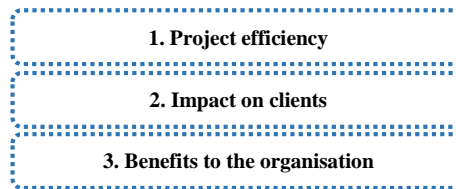


Figure 16 Project Success Dimensions (Shenhar et al. 1997)

Again, these are found to be recurring themes in the literature. In recent studies, there has been an increased tendency to assess the success of projects in terms of their benefits to the organisation of origin, the impact of the end product on the client's business, and the overall value and efficiency of the project. This is mainly because the assessment of the project's performance as a factor of time, budget, and quality was found to be a siloed manner which does not sufficiently reflect the wider impact of the project.

Dvir et al. Project Success Criteria

In their research, Dvir et al. (2006) identified four success dimensions used to assess projects. These include meeting design goals, end-user benefit, organisational benefit, and the benefit to community. Each of these success dimensions was allocated several success measures. The figure below illustrates the dimensions and measures developed by Dvir et al (2006).

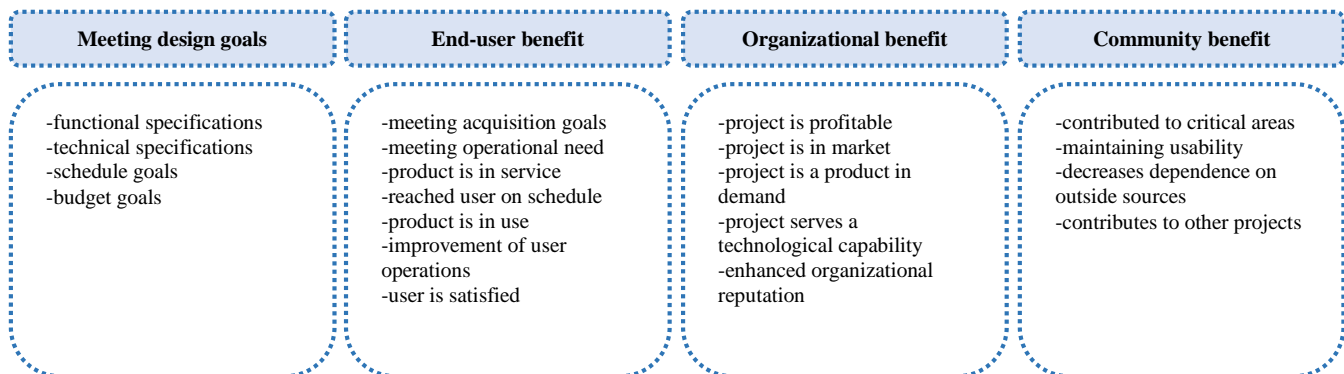


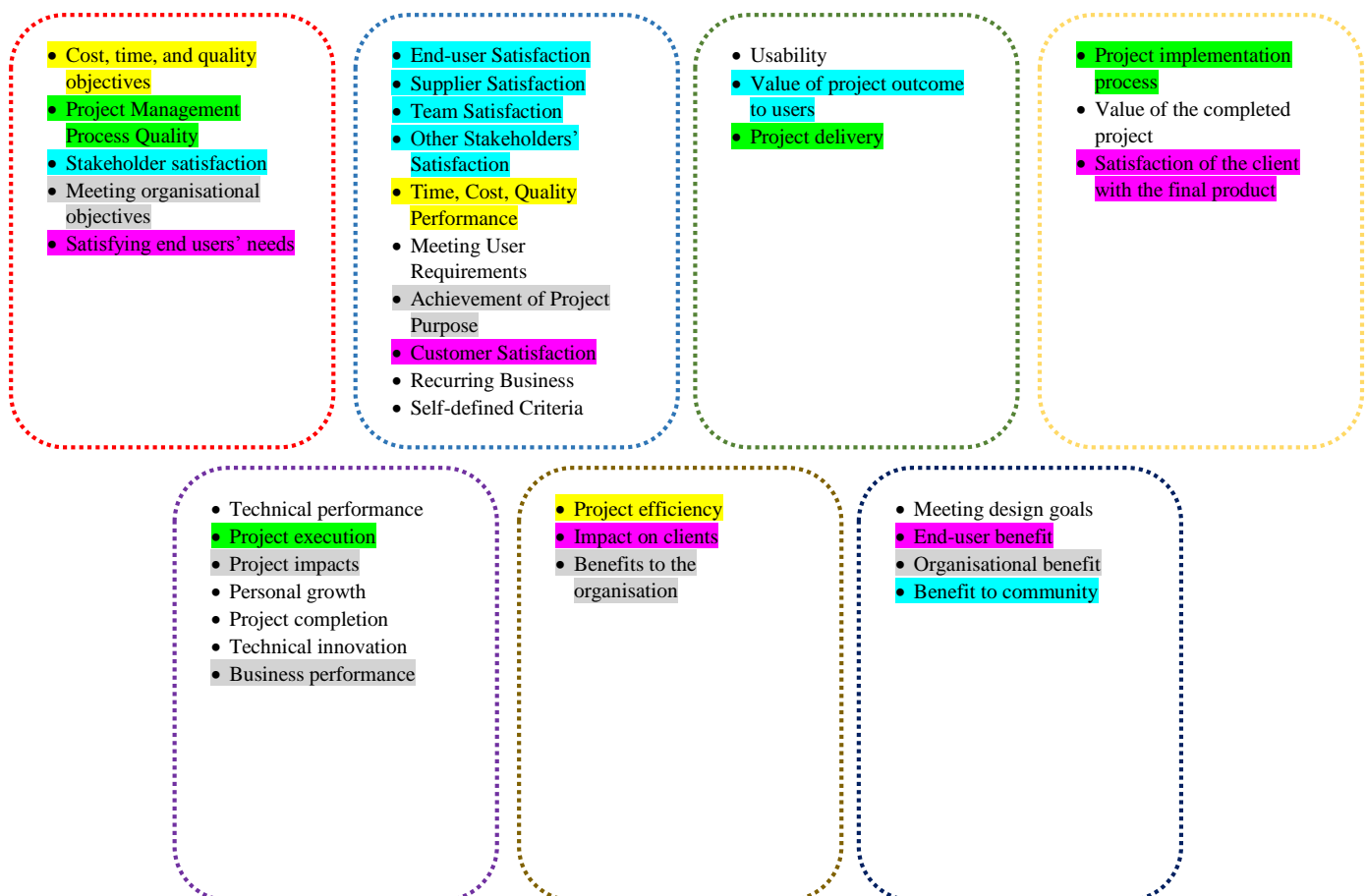
Figure 17 Project Success Dimensions and Measures (Dvir et al 2006)

In order to conclude the literature review on project success criteria, it is now important to recap on the common notion that these previous researches share. While there was a heavy reliance on solely utilising the traditional assessment criteria – project meeting the time, budget, and quality – previously, the project management literature has taken a shift in recent times. In his research, Atkinson (1999) states that the “operational mindset” – of assessing time, budget, and quality of process – is not in itself sufficient to assess whether a project is truly successful, and might even be regarded as misleading. He states that projects must also meet their clients' needs and

organisational business objectives as well in order to be considered successful. (Atkinson 1999, Dvir et al. 2006).

Conclusion: Project Success Criteria

In the above literature review, it is clear that most previous research distinguishes between two main aspects of project success. These are project management success – in terms of adherence to cost, time, and quality objectives – and project success – which is assessed against particular project objectives such as client satisfaction, for instance (Cook-Davies 2002, Baccarini 1999). The literature then diversifies in its definition of the individual assessment points of the overall success criteria. However, there are clear overlaps in the terminology and the themes of what the literature states are project success criteria. The figure below illustrates the overlaps which were found in the literature review in the previous section. Each box below contains the success criteria defined by each of the studies in previous literature. The highlighted text indicates overlaps and repetition of the criteria between the various researches from the literature review.



As demonstrated in the analysis in the above figure, the five project success criteria which will be further studied in this research are cost-time-quality performance, project implementation

process, stakeholder satisfaction, organisational benefit, and client satisfaction. The following table demonstrates the referenced sources in the literature review for each of the criteria.

Success Criteria	Referenced Sources
Cost-time-quality performance	Baccarini (1999), Muller & Turner (2007), Shenhar et al. (1997)
Project implementation process	Baccarini (1999), Pinto & Slevin (1986), Pinto & Mantel (1990), Freeman & Beale (1992)
Stakeholder satisfaction	Baccarini (1999), Muller & Turner (2007), Pinto & Slevin (1986), Dvir et al. (2006)
Organisational benefit	Baccarini (1999), Muller & Turner (2007), Freeman & Beale (1992), Shenhar et al. (1997), Dvir et al. (2006)
Client satisfaction	Baccarini (1999), Muller & Turner (2007), Pinto & Slevin (1986), Freeman & Beale (1992), Shenhar et al. (1997)

Table 2 Project Success Criteria

The success criteria demonstrated in the table above will constitute the questions in the survey which assess the degree of project success. These questions will assess the global dependent variable as will be further explained in the following section.

The *Literature Review* chapter began by relating the notion of project management to the more specific terminology of what this entails – that is – people management. This was then taken and further explored within the context of the construction sector, and that of the UAE in particular. It was demonstrated that the project management role is strongly influenced by the globalisation and the increased level of supply versus demand. It was also demonstrated that project management soft skills are a clear success factor for projects, as explored in the review of previous studies. Thus, in order to overcome strong market competition, the next step in the research was defining specific soft skills. Based on the conducted literature review, eight soft skills factors were identified along with their measures as the basis for the independent variable assessment. These eight soft skill factors include trustworthiness, effective communication, conflict management, adaptability, emotional intelligence, cultural awareness, motivation, and leadership.

Following that, the research presented a study of the assessment tools for measuring project success. Based on the literature review, five main success criteria were defined as the base for the dependent variable in this study – that is – project success. These five success criteria include cost-time-quality performance, project implementation process, stakeholder satisfaction, organisational benefits, and client satisfaction.

2.0 Framework and Methodology

2.1 Hypotheses and Conceptual Framework

Research Hypotheses

Based on the literature review conducted in the previous section, the research proposes that eight project management soft skill factors can enhance the success of construction projects in the UAE – which is measured by five project success criteria. Thus, the soft skills factors constitute the eight independent variables, while the five project success criteria constitute the research dependent variables. The figure below summarises these dependent and independent variables.

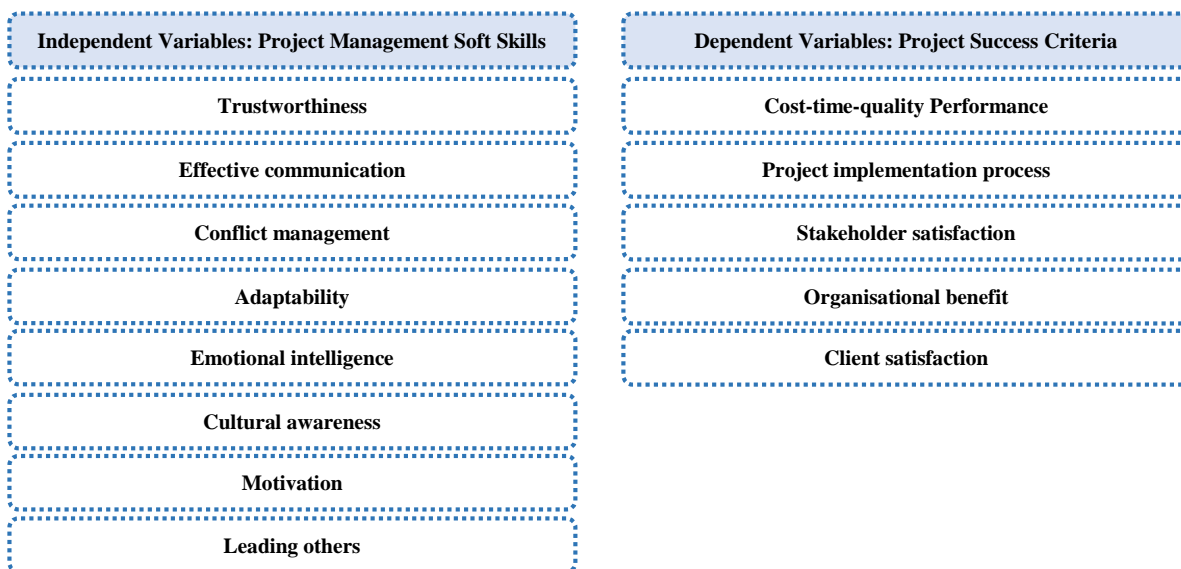


Figure 18 Research Independent and Dependent Variables

Based on the above analysis, the research proposes that the implementation of the eight project management soft skills factors will increase the prospects of success of construction projects in the UAE. The research hypotheses emerge as follows.

Hypothesis 1:

A project manager who exhibits trustworthiness has increased chances of a successful construction project in the UAE.

Hypothesis 2:

A project manager who exhibits effective communication has increased chances of a successful construction project in the UAE.

Hypothesis 3:

A project manager who exhibits effective conflict management has increased chances of a successful construction project in the UAE.

Hypothesis 4:

A project manager who exhibits adaptability to change has increased chances of a successful construction project in the UAE.

Hypothesis 5:

A project manager who exhibits emotional intelligence has increased chances of a successful construction project in the UAE.

Hypothesis 6:

A project manager who exhibits cultural awareness has increased chances of a successful construction project in the UAE.

Hypothesis 7:

A project manager who exhibits motivation has increased chances of a successful construction project in the UAE.

Hypothesis 8:

A project manager who exhibits effective leadership of others has increased chances of a successful construction project in the UAE.

Global Hypothesis:

A project manager who implements effective soft skills has increased chances of a successful construction project in the UAE.

Conceptual Framework

The figure below is the conceptual framework of the research, which demonstrates the relationship between the dependent and independent variables in the global hypothesis. The global hypothesis of the research proposes a link between the implementation of effective soft skills to an increased prospect of construction project success rate in the UAE. This positive relationship is measured through the achievement of the five project success criteria determined by the literature review. The conceptual model below illustrates the eight independent variables consisting of the soft skill factors, and the five dependent variables comprised of project success criteria. This will form the basis of the quantitative analysis which will be presented in the next chapter.

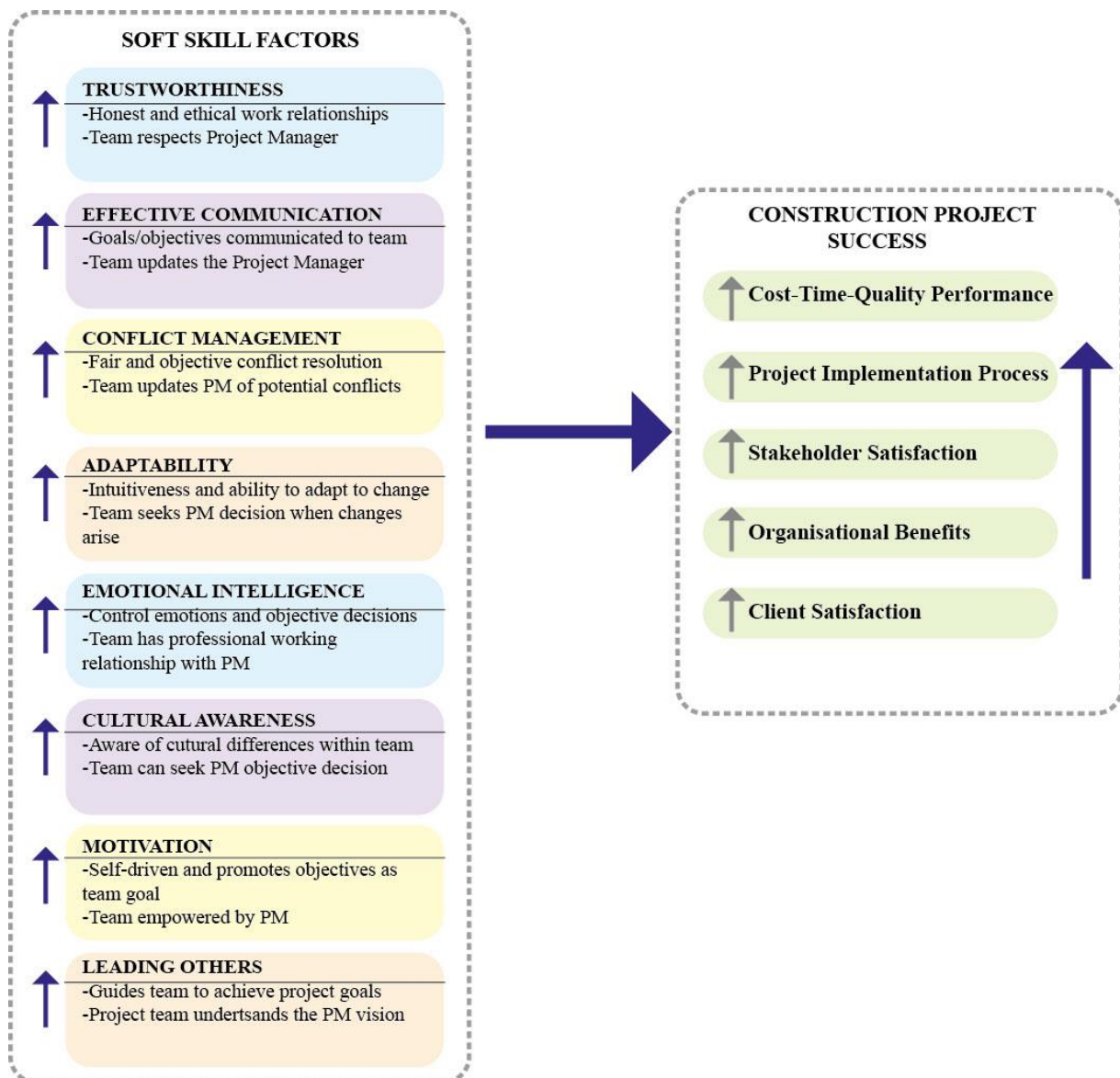


Figure 19 Research Conceptual Model

2.2 Research Methodology

The previous sections discussed the subject matter of the study, presented a literature review, and proposed research criteria on that basis. A conceptual framework to illustrate the relationships found in the research was demonstrated. In this section, the methodology through which data will be collected, analysed, and interpreted to support the research hypotheses will be explored.

According to the literature, research methodology involves the way that the researching tools and techniques will be sequenced and implemented in order to derive knowledge which will support the research questions (Goddard & Melville 2004). The main research question is formulated based on the global hypothesis as follows:

Does a project manager who implements effective soft skills have increased chances of a successful construction project in the UAE?

Research Epistemology: Positivism and Realism

Epistemology refers to the philosophical background behind how data is derived and the nature of its analysis in a research (Creswell 2014). The notion of positivism is discussed as a concept in research epistemology. Positivism defines facts as unbiased, proven realities which exist and are observed independently from the subjective opinion of the researcher (Gall et al. 2003).

Thus, a positivist approach relies on the collection of hard data and its interpretation. This can be achieved through conducting quantitative analysis which relies on formulating a survey and assimilating information from a selected sample frame.

Realism is a concept of epistemology which considers a fixed reality of circumstances which constitutes the facts independently of how a researcher might interpret otherwise (Gall et al. 2003). Quantitative research relies on the usage of mathematical models and interpretations of data which support or disprove a research question based on scientific facts (Krathwohl 2004). This eliminates bias by studying and testing proposed relationships between sets of variables in the research. This is usually achieved through quantitative analysis of data collected by means of a questionnaire (Sarantakos 2005). For the purpose of this research, it is thus concluded that a quantitative analysis through the implementation of a survey is most appropriate to answer the proposed research question.

Methodology Overview

In order to derive an answer to the main research question, and support the global hypothesis which asserts a positive relationship between the independent (soft skills) and dependent (project

success) factors, quantitative analysis through the conduction of a survey will be utilised. The target population of the survey will include project managers and consultants in the context of an international consultancy firm as well as a global developing firm. This target sampling encompasses the project management, and the client organisation as the two main entities – thus allowing for capturing different perspectives on what constitutes project success, and how the project manager's soft skills are perceived. Collecting data for evaluation from both these ends of the project spectrum will limit the prospect of bias in terms of capturing and determining the significance of soft skills in project management as well as their impact on project success. Moreover, the selected sample frame also includes respondents from contractor and consultant roles. This enable gathering a more varied and impartial view of the impact of project management soft skills on these various entities. As a results, the answers to the proposed research queries will be formulated out of a general opinion which captures the perspective of all the different teams involved in a project. These are the project management teams, the client/client representative teams, the contractors, and the consultant team. Acquiring a view which encompasses all these varied opinions will further enhance the validity of the resultant observation, mainly because it will be comprised of the perspectives from the entire construction project population.

Questionnaire

The questionnaire which is implemented in this research is largely based on assessment elements derived from the Leadership Dimensions Questionnaire (LDQ) and the Project Success Questionnaire (PSQ). The leadership dimension questionnaire was developed by Dulewicz and Higgs (2003, 2005) and utilises the 15 leadership dimensions as discussed in the literature review in **Section 1.4**. In their research, Dulewicz and Higgs (2005) propose a questionnaire which determines three leadership style – engaging, goal-oriented, and involving – based on the assessment of the 15 dimensions they state are the basis for measuring leadership qualities. These 15 dimensions assess three categories as defined by Dulewicz and Higgs (2005) – Intellectual Aptitude (IQ), Managerial Competencies (MQ), and Emotional Intelligence (EQ). The 15 leadership dimensions were previously discussed in the literature review section of this research, and the figure below illustrates these main components. Under each of the color-coded categories, several dimensions or components are presented – each along with an explanation of what it entails.

Intellectual Dimensions (IQ)	
Critical Analysis and Judgement	Does the project manager make sound decisions based on facts and appropriate judgement?
Visions and Imagination	Is the project manager innovative and capable of interrelating his vision with business objectives of the organization?
Strategic Perspective	Is the project manager capable of seeing long and short term implications as part of the wider organisational perspective?
Managerial Dimensions (MQ)	
Resource Management	Does the project manager effectively manage resources to achieve project objectives, continuously evaluating progress?
Engaging Communications	Is the project manager capable of clearly communicating objectives and engaging the project team to gain support?
Empowering	Does the project encourage the project team to be more autonomous and self-challenging?
Developing	Does the project manager effectively encourage the project team and provide them with the necessary support?
Achieving	Is the project manager capable of making assertive decisions despite risks as an active measure to achieve objectives?
Emotional/Social Dimensions (EQ)	
Self Awareness	Is the project manager aware of personal emotions and their impact, and is thus able to control them?
Emotional Resilience	Is the project manager capable of adapting to challenging situations while retaining focus on the objectives?
Intuitiveness	Is the project manager capable of making decisions based on intuition even when the situation is not entirely clear?
Interpersonal Sensitivity	Is the project manager aware of the project team's perceptions and considers them when making decisions?
Influence	Is the project manager capable of convincing the project team in the presence of opposing viewpoints?
Motivation	Does the project manager possess the necessary drive to achieve project objectives in the face of adversity?
Conscientiousness	Is the project manager ethical and committed to his/her word in order to gain support from the project team?

Figure 20 Leadership Dimensions (Dulewicz & Higgs 2005)

The questionnaire will incorporate elements from the LDQ as demonstrated in the above figure, and will also include questions based on some of the other researches which were explored in the literature review chapter. The first part of the questionnaire will this aim to convey the eight project management soft skill factors which were listed at the conclusion of **Section 1.4** – trustworthiness, effective communication, effective conflict management, adaptability, emotional intelligence, cultural awareness, motivation, and leading others.

The second part of the questionnaire will be assessing elements of the dependent variable in this research – that is, project success. The Project Success Questionnaire (PSQ) is based on the Project Implementation Profile which was developed by Pinto and Slevin (1986). Their research presented project implementation as an assessment consisting of two parts – the project itself as well as the client view. They explain that the first stage-gate for success is completing a project

which is technically sound, serves its original function as per the project objectives, and cost-time-quality performance. The second condition for success, as stated by Pinto and Slevin (1986) is the client's perspective of the completed project. This is assessed through the overall relationship between the project team and the client as well as satisfaction with the project performance and whether it fulfils the client's business objectives. The following figure illustrates the 12 questions which were presented in the PSQ as a means to assess project success.

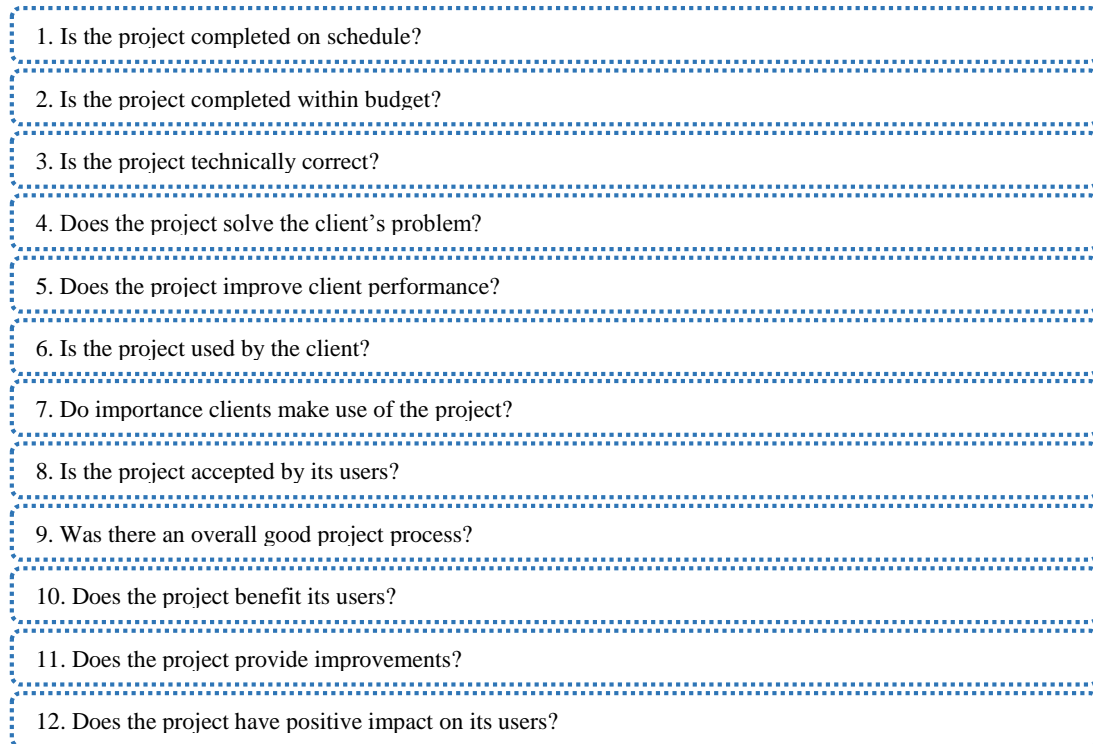
- 
1. Is the project completed on schedule?
 2. Is the project completed within budget?
 3. Is the project technically correct?
 4. Does the project solve the client's problem?
 5. Does the project improve client performance?
 6. Is the project used by the client?
 7. Do importance clients make use of the project?
 8. Is the project accepted by its users?
 9. Was there an overall good project process?
 10. Does the project benefit its users?
 11. Does the project provide improvements?
 12. Does the project have positive impact on its users?

Figure 21 PSQ questions (Pinto & Slevin 1986, Geoghegan & Dulewicz 2008)

The questionnaire which was devised to conduct the quantitative analysis of this research is comprised of questions which are largely based on the literature review and the assessment factors of the LDQ and PSQ as previously discussed. The full questionnaire survey is attached in the **Appendix 1** Section, and it is comprised of three main parts. The first part of the questionnaire is comprised of questions aimed to collect demographic information about the respondents. These include professional background enquiries such as the profession and years of working experience. The second part includes questions which assess the significance of each of the soft skill factors (independent variables) discussed in the **Conceptual Model** Section, on the basis of a Likert Scale. The third part of the questionnaire is comprised of enquiries regarding the assessment of project success as the dependent variable.

Sample Frame

In order to further examine and support the positive correlation between a project manager's soft skills and project success, as asserted by the research hypotheses, a survey comprised of 45 respondents was conducted. The study was conducted in business settings of three firms which operate within the construction industry in the UAE. The choice of firms included a global design/project management consultancy, a regional project developer, and an international contracting company. The main reasoning for this was to obtain varied perspectives of the main entities which operate in a project environment – project managers, consultants, clients, and contractors. This will allow the research to gather the viewpoints of different parties which constitute the project team. This will generate a global opinion which will be used to assess the impact of soft skills on project success, and will eliminate bias which could have resulted from conducting a survey focused on only one segment of the project team. Respondents from the project management, client representative, contractor, and consultant sides will have varied views on how soft skills can impact the project process, and they will also have different priorities and perspectives on what constitutes project success. Thus, obtaining survey results which support a positive relationship between the project manager's soft skills and project success, will be a valid basis for accepting the global hypothesis of the research.

The respondents within the sample frame possess professional experience within the construction sector, ranging between project managers, consultants, clients/client representatives, and contractors. Of the 45 acquired responses to the survey, around 33% were project managers, 29% were client representatives, 20% were various consulting professionals (architects, engineers, quantity surveyors), and 18% were contractors. Further information and a demographic analysis of the sample frame will be presented in the next section.

The following section will analyse the data acquired from the completed surveys using SPSS. A demographic analysis demonstrating the male to female distribution will be presented. This will be followed by a breakdown of the percentages of different professional roles of the respondents, as previously mentioned, these include project managers, clients/client representatives, contractors, and consultants. Following that, the distribution of years of working experience is provided. The next step in the data analysis is presenting the reliability analysis to measure the degree of consistency in the acquired responses. Then, a correlation analysis is completed to demonstrate the relation between the independent and the dependent variables. Following that, regression analysis is completed to assess the strength and the direction of the proposed relationship.

3.0 Research Findings, Interpretation, and Discussion

The next step after obtaining the conducted survey results from the respondents was to analyse the acquired data using SPSS. The first section of the data analysis presents a demographic overview of the sample frame. Following that, a factor Reliability analysis was completed in order to test the consistency and reliability of the obtained data. In order to determine the relationship between the project manager's soft skill factors (independent variables) and construction project success factors in the UAE (dependent variable), a correlation analysis was conducted. In order to then further analyse the survey data, a Regression analysis was completed in order to confirm the strength and direction of the relationship between the independent and the dependent variables, and to test the proposed hypotheses. In the following research findings, the independent variables are trustworthiness, effective communication, conflict management, adaptability, emotional intelligence, cultural awareness, motivation, and leading others. The global dependent variable is the success of construction projects – and this is constituted of sub-criteria which include time-cost-quality, the project process, stakeholder satisfaction, organisational benefits, and client satisfaction.

3.1 Demographic Analysis

The following is an overview of some demographic information of the surveyed sample. The figure below shows the gender distribution of the sample frame. Out of the 45 respondents, around 36% of the surveyed sample were female and 64% were male.

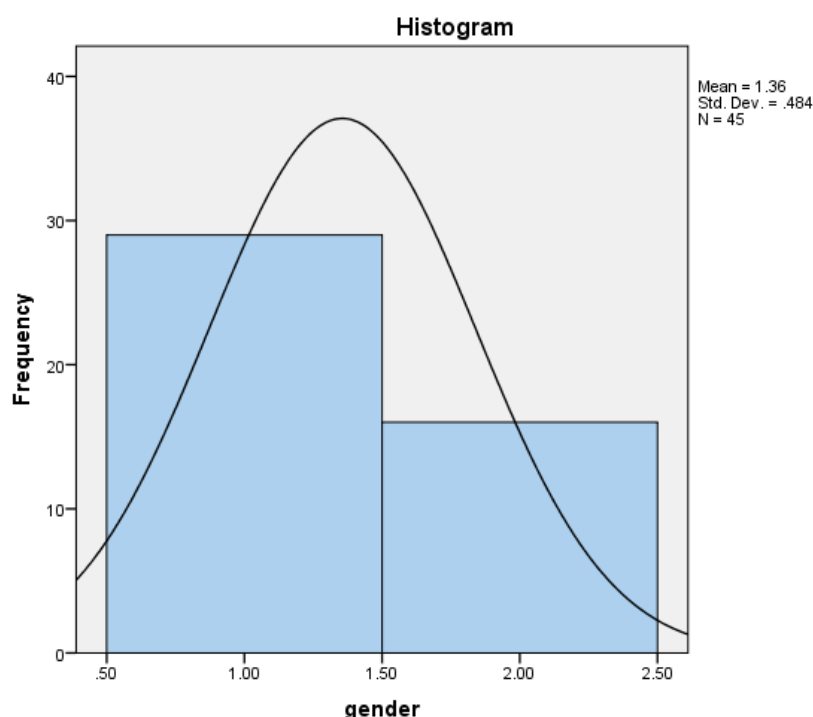


Figure 22 Respondent Gender Distribution

In fact, this ratio was anticipated given the male-oriented nature of the construction industry worldwide. Moreover, the effect is further magnified within the UAE construction industry mainly because the client mindset and the nature of the market demands a more masculine distribution of the workforce.

As previously explained in *Section 2.2*, the surveyed sample is constituted of various backgrounds in the construction industry. These include project managers, clients/client representatives, contractors, and consultants. The figure below shows the percentage distribution of the acquired responses to the survey.

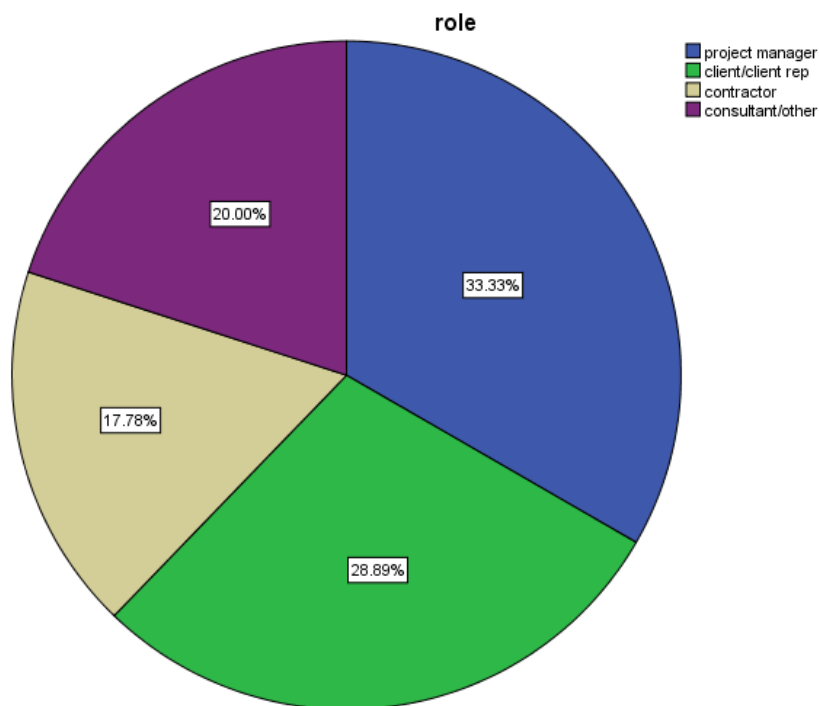


Figure 23 Respondent Industry Role Distribution

According to the figure above, the highest number of respondents to the survey were from either the project management or client/client representative teams. Following that, the third largest portion of respondents worked in the consulting teams, while the fourth portion were from contractor teams. The distribution of responses is fairly broad, rather than being heavily focused on one of the four professional roles. Because the responses were varied and not skewed in their concentration, this enables the collection of a more general opinion with higher impartiality, factoring in the different perspectives of the four key players involved within a construction project team.

The following figure illustrates the distribution of the respondents' years of experience in the construction industry. Most of the respondents had between 11-15 years of experience.

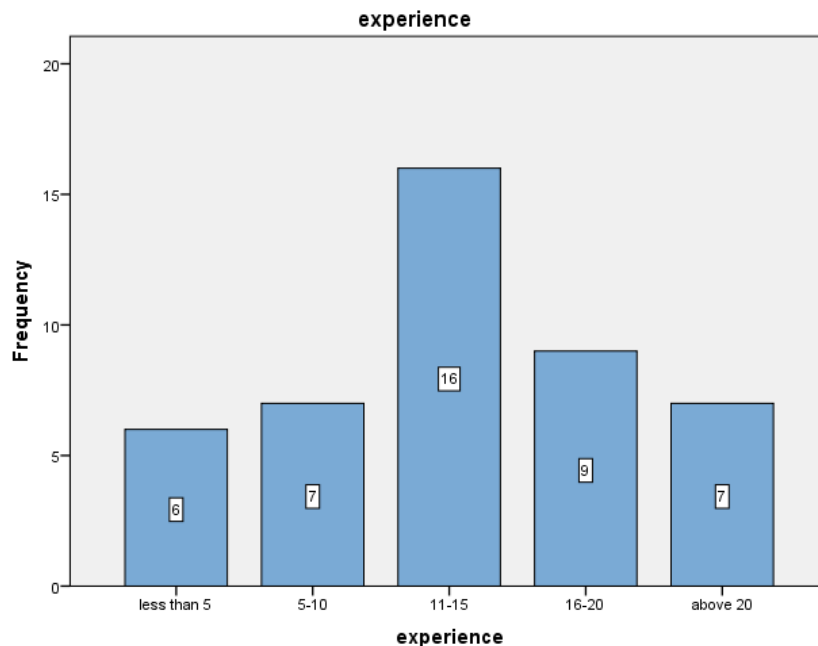


Figure 24 Respondent Years of Experience in the Construction Industry

The skewedness of the obtained data in this distribution of professional years of experience within the construction industry is in fact favourable. Rather than acquiring the majority of opinions from young professional who may not have been in the industry long enough to accurately assess its needs and trends, having a large portion of the respondents being experienced professional who possess between 11-15 years of experience strengthens the credibility of the findings from the responses, this is mainly because professionals who have been in the industry for a longer time are more capable of observing trends and factoring in comparative analysis of how project management soft skills – or their lack thereof – might have influenced the success of the projects in which they were involved. This results in a more accurate measure of data since the respondents with more work experience are more likely to be able to successfully factor in comparative analysis and lessons learnt from their extensive work experience and the multitude of projects in which they were involved.

The next step following the demographic analysis of the surveyed sample is to measure the consistency of the data acquired. The following section presents the reliability analysis of the obtained results.

3.2 Reliability Analysis

In order to test the reliability of the data, the consistency between the 16 measures which constitute the 8 independent variables (trustworthiness, effective communication, conflict

management, adaptability, emotional intelligence, cultural awareness, motivation, and leading others) was measured by their Cronbach's Alpha value as illustrated in the figure below.

Reliability Statistics	
Cronbach's Alpha	N of Items
.907	16

Figure 25 Cronbach's Alpha Reliability

Cronbach's Alpha value for the measures of the independent variables is 0.907, which shows significant reliability of the data. In order to further analyse and confirm this value, the Split Half method test was also conducted. The independent variable measures were grouped into two halves, each constituted of eight items. The figure below indicates the Guttman Split Half coefficient value of 0.901, which is very close to the overall Cronbach Alpha value of 0.907 – thus confirming the reliability.

Reliability Statistics			
Cronbach's Alpha	Part 1	Value	.806
		N of Items	8 ^a
	Part 2	Value	.876
		N of Items	8 ^b
	Total N of Items		16
	Correlation Between Forms		.849
Spearman-Brown Coefficient	Equal Length		.918
	Unequal Length		.918
Guttman Split-Half Coefficient			.901

Figure 26 Split Half Reliability

Following the reliability analysis, the next step is to complete the correlation analysis to test the relation between the independent variables and the dependent variables. For this exercise, the dependent variable comprised of the five project success criteria (time-cost-quality performance, overall project process, stakeholder satisfaction, organisational benefits, and client satisfaction) were combined in the Global Dependent Variable (Global DV) which is project success.

3.3 Correlation Analysis

In order to test the correlation between the independent and dependent variables, a Pearson Correlation test was conducted. The 8 independent variable factors (trustworthiness, effective communication, conflict management, adaptability, emotional intelligence, cultural awareness, motivation, and leading others) were analysed against the Global Dependent Variable (Global_DV) which includes cost-time-quality, project process, stakeholder satisfaction, project process, and client satisfaction. The figure below shows the Correlation analysis values.

		Correlations								
		trustworthiness	effective_comm	conflict_mgmt	adaptability	emotional_intel	cultural_aware	motivation	leadership	Global_DV
trustworthiness	Pearson Correlation	1	.567**	.407**	.505**	.556**	.556**	.398**	.300*	.482**
	Sig. (2-tailed)		.000	.006	.000	.000	.000	.007	.046	.001
	N	45	45	45	45	45	45	45	45	45
effective_comm	Pearson Correlation	.567**	1	.629**	.768**	.666**	.666**	.757**	.711**	.414**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.005
	N	45	45	45	45	45	45	45	45	45
conflict_mgmt	Pearson Correlation	.407**	.629**	1	.628**	.657**	.657**	.668**	.549**	.359*
	Sig. (2-tailed)	.006	.000		.000	.000	.000	.000	.000	.016
	N	45	45	45	45	45	45	45	45	45
adaptability	Pearson Correlation	.505**	.768**	.628**	1	.673**	.673**	.712**	.548**	.341**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.022
	N	45	45	45	45	45	45	45	45	45
emotional_intel	Pearson Correlation	.556**	.666**	.657**	.673**	1	1.000**	.609**	.507**	.426**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.004
	N	45	45	45	45	45	45	45	45	45
cultural_aware	Pearson Correlation	.556**	.666**	.657**	.673**	1.000**	1	.609**	.507**	.426**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.004
	N	45	45	45	45	45	45	45	45	45
motivation	Pearson Correlation	.398**	.757**	.668**	.712**	.609**	.609**	1	.722**	.372**
	Sig. (2-tailed)	.007	.000	.000	.000	.000	.000		.000	.012
	N	45	45	45	45	45	45	45	45	45
leadership	Pearson Correlation	.300*	.711**	.549**	.548**	.507**	.507**	.722**	1	.333*
	Sig. (2-tailed)	.046	.000	.000	.000	.000	.000	.000		.026
	N	45	45	45	45	45	45	45	45	45
Global_DV	Pearson Correlation	.482**	.414**	.359*	.341**	.426**	.426**	.372**	.333*	1
	Sig. (2-tailed)	.001	.005	.016	.022	.004	.004	.012	.026	
	N	45	45	45	45	45	45	45	45	45

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

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

Table 3 Correlation Analysis

As demonstrated in the correlation analysis table above, the Pearson correlation values show moderate strength of correlation since they are between 0.3 and 0.6. The values also indicate high significance between the Global_DV (project success) and all the eight Independent Variables (0.001-0.05 scale). This shows that there is a relationship between project manager soft skills – trustworthiness, effective communication, conflict management, adaptability, emotional intelligence, cultural awareness, motivation, and leading others – and construction project success in the UAE (Global_DV). The results of the correlation analysis show that there is higher correlation between project success (DV) and trustworthiness, effective

communication, emotional intelligence, and cultural awareness (with values of 0.001, 0.005, 0.004, and 0.004, respectively). Although the correlation is still significant, it is less in value between project success and conflict management, adaptability, motivation, and leadership (with values of 0.016, 0.022, 0.012, and 0.026, respectively). The results acquired show that the hypotheses presented previously are accepted, since there is a significant correlation between all the Independent Variables and the Global Dependent Variable. The null hypotheses are rejected.

3.4 Regression Analysis

Backward Stepwise Regression

In order to provide an accurate equation which would demonstrate the model of the relationship between the soft skills factors and the project success criteria, regression analysis was undertaken. To begin, the basis of the equation is that of a linear input and output equation – where the input is the project management soft skills (independent variables) and the output is the project success criteria (dependent variables). As asserted in the literature review and the previous analysis, project success is impacted by the presence or lack of the project management soft skills. The project success DV is measured by five criteria, and the project management soft skills include eight variables. The input variables will be determined based on their respective significance in affecting the output variable. The IVs which are found to have the most impact on the Global DV will be the basis of the equation of construction project performance in terms of likelihood of success, based on the implementation of the soft skill factors.

$$y = f(x_1 + x_2 + \dots)$$

$$y \text{ (project success)} = f(\text{trustworthiness} + \text{effective communication} \\ + \text{conflict management} + \text{adaptability} + \text{emotional intelligence} \\ + \text{cultural awareness} + \text{motivation} + \text{leadership})$$

$$y = \text{Constant Coefficient} + (\text{Coefficient}_1)(x_1) + (\text{Coefficient}_2)(x_2) + \dots$$

Equation 1 Equation to Model the Relationship between PM Soft Skill factors and their Impact on Project Success

The equation presented above suggests a linear relationship between the inputs (x) and output (y). Stepwise regression would allow the testing of the impact of each of the independent variables individually, and this might overlook some of the interdependencies between the variables. For example, some variables might work as subsets which together create a heightened impact on the dependent variable when they are present concurrently. As an alternative approach, testing the overall group of independent variables, followed by elimination of the IVs with less significance values would enable a more comprehensive analysis of interrelationships. This can be achieved through backward stepwise regression. In order to select the most significant input variables as predictors, regression models are created as per the following table.

Model Summary^f

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.541 ^a	.292	.158	2.28632	.292	2.182	7	37	.059	
2	.540 ^b	.292	.180	2.25635	.000	.010	1	37	.920	
3	.539 ^c	.290	.199	2.22966	-.002	.083	1	38	.775	
4	.536 ^d	.287	.216	2.20685	-.003	.186	1	39	.669	
5	.534 ^e	.285	.232	2.18326	-.002	.128	1	40	.722	1.765

a. Predictors: (Constant), leadership, trustworthiness, conflict_mgmt, adaptability, cultural_aware, motivation, effective_comm

b. Predictors: (Constant), leadership, trustworthiness, conflict_mgmt, adaptability, cultural_aware, motivation

c. Predictors: (Constant), leadership, trustworthiness, adaptability, cultural_aware, motivation

d. Predictors: (Constant), leadership, trustworthiness, cultural_aware, motivation

e. Predictors: (Constant), leadership, trustworthiness, cultural_aware

f. Dependent Variable: Global_DV

Table 4 Backward Stepwise Regression Model Summary

According to the table above, the most significant predictors (IVs) which impact construction project success are leadership, trustworthiness, and cultural awareness. The summary table above shows the adjusted R-Square value of the 3 IV predictors in Model 5 – leadership, trustworthiness, and cultural awareness – accounts for 23.2% of the variance in the dependent variable data.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	79.835	7	11.405	2.182	.059 ^b
	Residual	193.409	37	5.227		
	Total	273.244	44			
2	Regression	79.782	6	13.297	2.612	.032 ^c
	Residual	193.462	38	5.091		
	Total	273.244	44			
3	Regression	79.360	5	15.872	3.193	.016 ^d
	Residual	193.885	39	4.971		
	Total	273.244	44			
4	Regression	78.437	4	19.609	4.026	.008 ^e
	Residual	194.808	40	4.870		
	Total	273.244	44			
5	Regression	77.814	3	25.938	5.442	.003 ^f
	Residual	195.431	41	4.767		
	Total	273.244	44			

a. Dependent Variable: Global_DV

b. Predictors: (Constant), leadership, trustworthiness, conflict_mgmt, adaptability, cultural_aware, motivation, effective_comm

c. Predictors: (Constant), leadership, trustworthiness, conflict_mgmt, adaptability, cultural_aware, motivation

d. Predictors: (Constant), leadership, trustworthiness, adaptability, cultural_aware, motivation

e. Predictors: (Constant), leadership, trustworthiness, cultural_aware, motivation

f. Predictors: (Constant), leadership, trustworthiness, cultural_aware

Table 5 Regression Model Significance Analysis

As demonstrated in the table above, Model 5 predictors have very high 0.003 (at $p \leq 0.05$) significance in terms of their impact on construction project success as per the equation. The three predictors – leadership, trustworthiness, and cultural awareness – explain 23.2% of the variance with a p-value of 0.003 which is considered sufficiently significant to confirm this relationship. Thus, it can be deduced that if project managers implement soft skills such as effective leadership, trustworthiness, and cultural awareness – this can accurately predict 23.2% of the factors which can lead to a successful construction project.

Residuals Statistics ^a					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.9683	10.5820	8.2889	1.32985	45
Residual	-3.51108	5.79130	.00000	2.10751	45
Std. Predicted Value	-1.745	1.724	.000	1.000	45
Std. Residual	-1.608	2.653	.000	.965	45

a. Dependent Variable: Global_DV

Table 6 Residual Statistics

In order to assess the accuracy of the model, the dispersion of the dependent variable results around its mean is explored. The table above illustrates that the dependent variable mean is 8.3 and the standard deviation is 1.3. Also, the standard error of this estimate is 2.18 as shown in Model 5 in Table 4. The standard error estimate 2.18 exceeds 10% of the value of the dependent variable mean which is 8.2. Thus, in order to prove the adequacy of the predictors as the basis of a regression model, further analysis is undertaken.

Coefficients ^a														
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics			
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF		
5	(Constant)	3.767	1.243		3.031	.004	1.257	6.277						
	trustworthiness	.535	.243		.351	2.207	.033	.046	1.025	.482	.326	.292	.691	1.448
	cultural_aware	.240	.271		.156	.887	.380	-.307	.788	.426	.137	.117	.564	1.773
	leadership	.325	.336		.148	.968	.339	-.353	1.003	.333	.150	.128	.743	1.347

a. Dependent Variable: Global_DV

Table 7 Coefficient values of Regression Model

The table above shows the extracted coefficient factors which specify the ‘weight’ or value of change that each IV predictor has relative to the dependent variable when all other factors remain constant. Cultural awareness and leadership do not contribute significantly, but Trustworthiness

is significant at 95% confidence. The constant coefficient of the equation is also significant at 99%. The obtained Beta values are all positive, which demonstrates that the predictors are positive contributors to the dependent variable. The VIF value range is fairly low (1.4, 1.7, 1.3) which shows that the values are not inflated, therefore there is no significant collinearity between the IV which could impact the validity of the data. A VIF value of 1 indicates no multicollinearity, and a range between 1 and 5 is moderate collinearity (statisticshowto 2017).

Correlations

	Global_DV	trustworthiness	effective_ _comm	conflict_ mgmt	adaptability	emotional_ intel	cultural_ awar	motivation	leadership
Sig. (1-tailed)									
Global_DV	.	.000	.002	.008	.011	.002	.002	.006	.013
trustworthiness	.000	.	.000	.003	.000	.000	.000	.003	.023
effective_comm	.002	.000	.	.000	.000	.000	.000	.000	.000
conflict_mgmt	.008	.003	.000	.	.000	.000	.000	.000	.000
adaptability	.011	.000	.000	.000	.	.000	.000	.000	.000
emotional_intel	.002	.000	.000	.000	.000	.	.000	.000	.000
cultural_aware	.002	.000	.000	.000	.000	.000	.	.000	.000
motivation	.006	.003	.000	.000	.000	.000	.000	.	.000
leadership	.013	.023	.000	.000	.000	.000	.000	.000	.

Table 8 Correlations between Independent Variables

The table above shows that the significance values of the correlations between all of the independent variables is highly significant. However, VIF shows that the values are in the lower range so they are not inflated and thus are not detrimental to the value and predictability of the data.

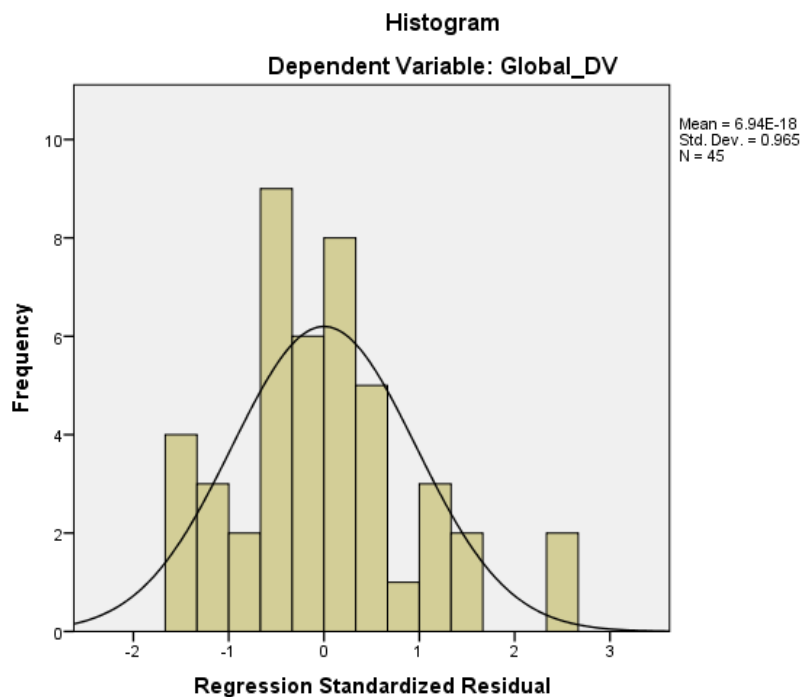


Figure 27 Histogram and normal curve of the regression residuals

The Residual Statistics Table 6 shows that the residual mean value is 0. The figure above illustrates that the residuals sufficiently adhere to the normal curve on the graph.

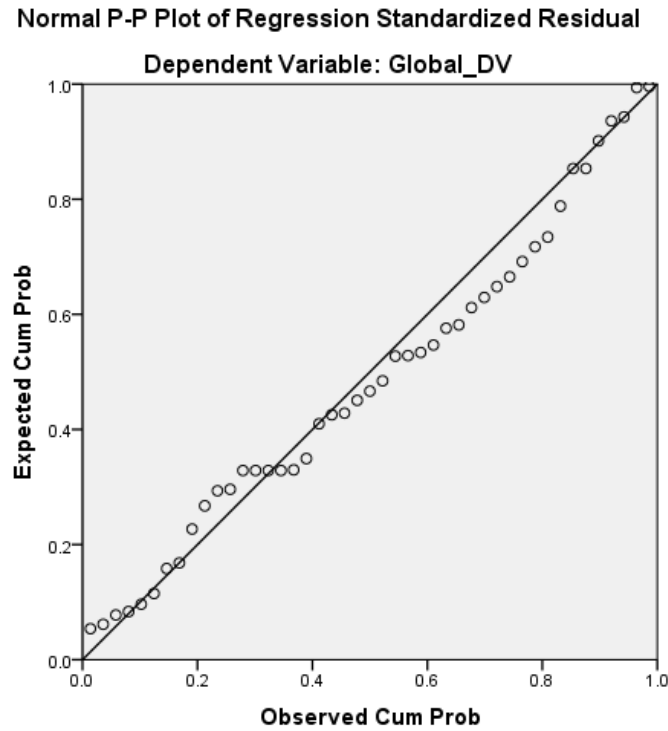


Figure 28 Regression PP plot

The figure above illustrates the PP regression plot, in which the respondent information follows the straight line of the graph. The values between 0.6 and 0.85 show a slight deviation from normality, however the rest of the data follows the regression line.

Therefore, the following equation can be used to measure the influence of the soft skill factors. in relation to project success. The equation of the regression model, based on the previous analysis, is as follows.

Project Success

$$= 3.767 + 0.535 \text{ trustworthiness} + 0.24 \text{ cultural awareness} + 0.325 \text{ leadership}$$

Equation 2 Regression Model Equation for Project Success

Simple Regression

In order to further analyse the relation between the Global Independent variable and the Global Dependent variable, a simple regression analysis was conducted. The eight independent variables were grouped into the Global_IV, which was analysed in comparison with the Global_DV to confirm the direction and the magnitude of the relationship. The figure shows that the obtained F value is 13.154 and has high significance, which shows that the regression line model which will be presented later in this section predicts the DV sufficiently.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.008	1	64.008	13.154	.001 ^b
	Residual	209.237	43	4.866		
	Total	273.244	44			

a. Dependent Variable: Global_DV

b. Predictors: (Constant), Global_IV

Table 9 Regression Analysis between Global IV and Global DV

In order to test the value of the percentage of which the Global_IV causes the variance in the Global_DV, the R Square and Adjusted R Square values are obtained. The figure below indicates the R Square Value as 0.234 and the Adjusted R Square value as 0.216. These two values are very close, which confirms that the variance in the Global DV is an implication of the Global IV. According to the table below, the Global IV causes around 22% of the variance found in the Global DV results.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.484 ^a	.234	.216	2.20589

a. Predictors: (Constant), Global_IV

Table 10 Regression Analysis: R Square Values

The next step is to confirm the direction of the relationship between the Global IV and the Global DV factors. In order to do that, the Beta factor is obtained as per the table below. The acquired value based on the data analysis is 0.484. Since the Beta value is positive, this indicates a positive relationship in which the Global DV is enhanced through the implementation of the Global IV. This further strengthens the Global Hypothesis which asserts that the Global IV further enhances the Global DV (construction project success in the UAE).

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.119	1.196		3.444	.001
	Global_IV	.115	.032	.484	3.627	.001

a. Dependent Variable: Global_DV

Table 11 Regression Analysis: Beta Factor

The figure below shows the normal curve, and maps the regression line obtained by the slope of the Beta value (showing positive relationship between variables) against the survey responses.

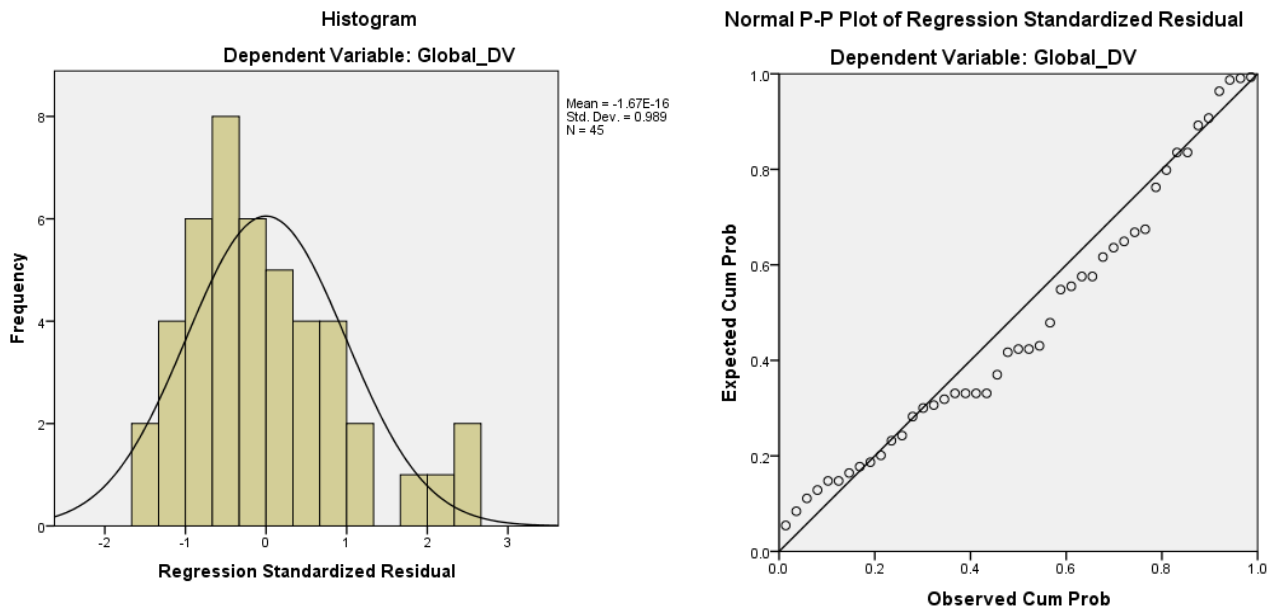


Figure 29 Regression Normal Curve and Regression Plot

In order to further strengthen the approval of the global hypothesis, the next step is to demonstrate how the implementation of all of the Independent Variables causes further positive variance in the value of the Global_DV. This will be achieved through the comparison of the adjusted R squared values, the F Values and significances acquired through the regression analysis of the independent variables individually, versus the value obtained through the Global_IV. If the values of the individual assessments is lower than that of the Global Independent variable, this further strengthens the notion that the combination of the independent variables has a greater enhancing effect on the global dependent variable. The tables below show the regression analysis with the R square and F values and significances of each of the eight independent variables – trustworthiness, effective communication, conflict management, adaptability, emotional intelligence, cultural awareness, motivation, and leadership – measured against the Global Dependent variable (construction project success in the UAE).

TRUSTWORTHINESS		ANOVA ^a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.441	1	63.441	13.002	.001 ^b
	Residual	209.803	43	4.879		
	Total	273.244	44			

a. Dependent Variable: Global_DV

b. Predictors: (Constant), trustworthiness

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.482 ^a	.232	.214	2.20888

a. Predictors: (Constant), trustworthiness

EFFECTIVE COMMUNICATION**ANOVA^a**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	46.798	1	46.798	8.886	.005 ^b
1 Residual	226.446	43	5.266		
Total	273.244	44			

a. Dependent Variable: Global_DV

b. Predictors: (Constant), effective_comm

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.414 ^a	.171	.152	2.29482

a. Predictors: (Constant), effective_comm

CONFLICT MANAGEMENT**ANOVA^a**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	35.134	1	35.134	6.345	.016 ^b
1 Residual	238.110	43	5.537		
Total	273.244	44			

a. Dependent Variable: Global_DV

b. Predictors: (Constant), conflict_mgmt

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.359 ^a	.129	.108	2.35318

a. Predictors: (Constant), conflict_mgmt

ADAPTABILITY**ANOVA^a**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	31.707	1	31.707	5.645	.022 ^b
1 Residual	241.537	43	5.617		
Total	273.244	44			

a. Dependent Variable: Global_DV

b. Predictors: (Constant), adaptability

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.341 ^a	.116	.095	2.37005

a. Predictors: (Constant), adaptability

EMOTIONAL INTELLIGENCE		ANOVA ^a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.592	1	49.592	9.535	.004 ^b
	Residual	223.653	43	5.201		
	Total	273.244	44			

a. Dependent Variable: Global_DV

b. Predictors: (Constant), emotional_intel

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.426 ^a	.181	.162	2.28062

a. Predictors: (Constant), emotional_intel

CULTURAL AWARENESS		ANOVA ^a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.592	1	49.592	9.535	.004 ^b
	Residual	223.653	43	5.201		
	Total	273.244	44			

a. Dependent Variable: Global_DV

b. Predictors: (Constant), cultural_awar

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.426 ^a	.181	.162	2.28062

a. Predictors: (Constant), cultural_awar

MOTIVATION		ANOVA ^a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.758	1	37.758	6.895	.012 ^b
	Residual	235.486	43	5.476		
	Total	273.244	44			

a. Dependent Variable: Global_DV

b. Predictors: (Constant), motivation

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.372 ^a	.138	.118	2.34018

a. Predictors: (Constant), motivation

LEADERSHIP		ANOVA ^a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.211	1	30.211	5.345	.026 ^b
	Residual	243.034	43	5.652		
	Total	273.244	44			

a. Dependent Variable: Global_DV

b. Predictors: (Constant), leadership

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.333 ^a	.111	.090	2.37738

a. Predictors: (Constant), leadership

Table 12 R Square and F Values of Individual Independent Variables

As demonstrated in the tables above, the adjusted R Square and F Values and significances measured individually for each of the independent variables results in values which are all less than Adjusted R Square=21.6% and F=13.154 with 0.001 significance (the values of the Global IV against the Global DV). This proves that the combination of the eight independent variables and their effective implementation will result in greater enhancement of the prospects of project success in the UAE construction sector.

Thus it can be concluded that the SPSS data analysis confirms the assertion of the proposed Global Hypothesis.

The survey and the quantitative data analysis on SPSS thus prove that a project manager who implements effective soft skills has increased chances of a successful construction project in the UAE. This conclusion was formed based on the Reliability Analysis, Correlation Analysis, and Regression Analysis, which all proved the significance and the direction of the positive relationship between the dependent and independent variables. The data analysis shows that there is a positive relationship between the variables, and that this positive relationship is further magnified when the combination of all the eight specified independent variables are implemented together as the project management soft skills, rather than factoring in one of these soft skills as independent variables individually.

4.0 Recommendations and Conclusion

4.1 Discussion

As explained in the outset of the research, the main aim of this research is to explore and confirm the positive relationship between the implementation of effective project management soft skills and its impact on enhancing the prospects of success for construction projects in the UAE. The research aim, as explored previously, is achieved through the completion of five research objectives which are reiterated below. The following analysis will illustrate how the individual research objectives which were outlined in the Introduction have been met.

***Objective 1:** Determine the project management soft skills which result in a more effective project team, and thus enable the successful management of the various people and entities involved in the project.*

The research first examines the context of the proposed relationship between the project management soft skill factors and project success through the exploration of the nature of the project environment, as well as the role of the project manager. The literature review in Section 1 illustrates the importance of effective people management, mainly since the project objectives are ultimately achieved through the individuals involved in the project team. The context of the construction sector is also explored, explaining how construction projects require more complex interactions of teams. This effect is further magnified in the UAE, since companies which operate within the industry are largely international. For this reason, it is apparent that construction projects in the UAE require a significant degree of coordination and relationship building between the various teams and entities which are involved in each project. Thus, the project manager acts as a mediator and communicator – relying on both technical and interpersonal skills – in order to guide the project team and ensure the achievement of the project goals. The literature review included analysis which was based on several previous studies of the interpersonal and leadership skills which constitute the soft skills aspect of project management. In the conclusion of the literature review on this matter, eight project management soft skill factors are proposed as the independent variables which can enhance or impede the success of construction projects in the UAE. These eight factors are trustworthiness, effective communication, conflict management adaptability, emotional intelligence, cultural awareness, motivation, and leadership. These factors include 16 measures for assessing whether these independent variables are in fact implemented by the project manager. The 16 measures are listed in the Table of Soft Skills factors in Section 1, and they are also reflected in the survey form which is attached in the Appendix section.

Objective 2: Determine the most crucial measurement criteria for the assessment of a project's success.

The second part of the literature review includes an analysis of previous research on the topic of project success, and the measures used to assess it. The research challenges the notion of the iron triangle of time, cost, and quality; and the literature on the subject also shows that this assessment is insufficient if utilised as the only measure of success. Through the exploration of the existing studies on this subject, it was found that the larger context which the project impacts after its completion is also a significant measure of whether it has achieved its intended objectives. Five success criteria were identified based on the literature. These include time-cost-quality performance, project implementation process, stakeholder satisfaction, organisational benefits, and client satisfaction. The five success criteria constitute the dependent variables which were further examined in the research.

Objective 3: Propose a conceptual model which illustrates the relationship between a project manager's soft skill factors and the enhancement of project success – as independent and dependent variables, respectively.

Following the literature review, a conceptual model was proposed as a diagram which demonstrates the independent variables and the dependent variables. The conclusion of information obtained through the literature review regarding the project management soft skills and the project success criteria, constitute the independent the dependent variables relationship which was further examined in the research. The conceptual model shows that the implementation of the eight previously mentioned project management soft skill factors, will increase the prospects of construction project success – that which is measured by the five success criteria previously explained as well. The conceptual model proposes a positive relationship in which the success of construction projects in the UAE is directly proportional to the implementation of the project management soft skills factors effectively. The set of hypotheses are a reflection of the conceptual framework, since they state that there is a positive relationship between each of the eight independent soft skill variables and project success. The Global Hypothesis summarises this by stating that a project manager who implements effective soft skills has increased chances of a successful construction project in the UAE.

Objective 4: Explore the practicality and the relation between project management soft skills and its effect on the success of construction projects within the professional working environment in the UAE, through conducting a survey among a carefully selected sample frame in order to analyse the acquired data and support or disprove the proposed hypotheses.

The next research objective was to support the relationship proposed between the project manager's soft skills and the success of construction projects. This was achieved through the completion of a quantitative analysis obtained through the conduction of a survey among a selected sample frame. This sample frame included professionals from the construction industry from various role of either project managers, clients/client representatives, contractors, and consultants. The survey included the elements and variables which were concluded at the end of the literature review. The independent variables in the study included the eight soft skills factors of trustworthiness, effective communication, conflict management, adaptability, emotional intelligence, cultural awareness, motivation, and leading others. The global dependent variable is project success, which includes the five success criteria – time-cost-quality performance, project process, stakeholder satisfaction, organisational benefit, and client satisfaction. Following that, the data was entered into SPSS and further analysed. The data analysis included a demographic overview, reliability analysis, correlation analysis, and regression analysis. The results of the data analysis confirm the positive relationship between the soft skills factors and construction project success. The research hypotheses were thus all approved.

Objective 5: Provide a framework of recommendations of how to effectively implement project management soft skills in order to enhance project success in the UAE construction industry.

Following the approval of the hypothesis which states that the implementation of project management soft skills will further enhance the prospects of a successful construction project in the UAE, a conclusion of the research as well as a framework of recommendations is presented. The set of recommendation which are proposed are found in the following **Section 4.2**.

4.2 Recommendations

As illustrated in the research progress diagram in the Introduction chapter, the research begins with the completion of the literature review, the demonstration of a conceptual model illustrating the research aim, the conduction of a quantitative analysis, and the proposal of a set of recommendations. These recommendations are derived from a combination of the research findings and are proposed as follows.

1. Training and strategies for the effective implementation of project management soft skills should become the focus of project-based organisations, especially ones that operate within the construction sector in the UAE.
2. Increased awareness amongst the management levels of organisations regarding the increased capability of exploiting the full potential of soft skills resources within the organisation's project management team in order to increase the likelihood as well as magnitude of the achieved success criteria of projects.
3. Implementation of team training sessions which aim to enhance understanding of the terminology, aspects, and constituents of project success. This will ensure that the vision of a successful end product becomes a shared understanding amongst all involved entities in the project team, and will thus facilitate working towards common objectives.
4. Increasing focus on team bonding events which include both technical project progress meetings, as well as socialising events which enable the team to recognise the project managers as team players rather than a consolidated, order-initiating entity.
5. Conducting internal assessments within organisations in order to survey various teams' opinions about the overall project process in terms of the effectiveness of the soft skills factors which were involved, and the degree to which they were carried out.
6. Developing an organisational model for project improvement based on the feedback from teams involved in different projects within the organisation, in order to assemble knowledge and reinstate the importance of certain project management soft skills and leadership qualities which are proven to have added to the value of a certain project.

Applying the above recommendations will facilitate the operational process within organisations in the construction industry. This is achieved through the proposal of the mentioned steps through which a standardised practice can be implemented among the project management teams within each organisation. These standard practice strategies would be specific to each

organisation, in terms of their alignment to the business objectives and the nature of the projects which the company is involved in. Applying these recommendations will help develop core values which transform the organisation into a brand within the market. This in turn is related to the issue of increased market competition and the notion of increased supply versus demand. Thus, an organisation which becomes known for its standardised project management approach which focuses on both the technical as well as the soft skills of its project management team will acquire an edge and a distinguishing brand over its competitors. It is important to bear in mind that clients are ultimately looking for ways which will make the project process smoother and more efficient. For this reason, offering unparalleled project management expertise which focuses on all aspects of the construction project process will certainly make an organisation more successful.

4.3 Conclusion

The research was set out to explore the value of project management soft skills as a project success factor. This is mainly because of the nature in which construction projects operate dictates that all matters of progress and their interrelated project objectives are achieved through the people involved in that particular project. Also, because construction projects are highly complex in their stakeholder relationships, this further highlights the need for effective people management. A project manager who possesses the skillset of an effective people manager is able to bring together various teams and project entities such as contractor, consultant, and client, in order to achieve common project goals. Thus, the soft skills factors which enable this were further explored in the research. Based on the conducted literature review, a list of eight project management soft skill factors were proposed. These include trustworthiness, effective communication, conflict management, adaptability, emotional intelligence, cultural awareness, motivation, and leadership.

In order to realise the full potential of implementing the proposed soft skills factors, the constituents of project success were then explored. In the second part of the literature review, different measures of success criteria were studied in order to conclude five main criteria which would become the basis of the assessment of the success of a construction project. The five proposed criteria include time-cost-quality performance, project implementation process, stakeholder satisfaction, organisational benefits, and client satisfaction.

Following that, a conceptual model illustrating the relationship between the project management soft skills factors as the independent variables, and the project success criteria as the dependent

variables was proposed. A set of hypotheses was also presented as a basis for the quantitative analysis which was carried out. A survey was conducted amongst 45 respondents from various roles and professional backgrounds within the construction industry, the data acquired from the surveys was analysed using SPSS in order to present values which all confirmed the assertions made in the hypotheses. Thus, the positive relationship between project management soft skills and the enhanced success of construction projects was confirmed. The regression data analysis shows that the implementation of a combination of the soft skill factors has a greater effect on enhancing project success than would the implementation of individual soft skills. Based on this data, a set of recommendations was provided in order to summarise the value of the research in terms of initiating organisational improvement.

As a future area of further research into this subject, the applicability of the approved Global Hypothesis of this research in international organisational contexts can be considered. The UAE presents a somewhat specialised phenomenon especially within the construction sector since it involved numerous organisations which are based in countless global headquarters. Thus, it is important to determine the level of applicability of the research findings within other contexts where the construction projects are of smaller scale, more relaxed timelines, and involving more local entities as the project team. The comparison of various contextual spectrums would allow the research on this topic to expand and span a multitude of situations and strategies which can be applied on a case-by-case basis. This would allow the establishment of a standardised strategy which can be applicable within several organisational contexts.

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APPENDIX

Questionnaire Survey

The following survey will assess how project management soft skill factors can enhance project success within the construction industry in the UAE. Please tick your answer for each question below.

Part 1 Respondent Details

Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
Age	<input type="checkbox"/> less than 25 <input type="checkbox"/> 25-35 <input type="checkbox"/> 36-46 <input type="checkbox"/> 47-57 <input type="checkbox"/> 58 and above
Nationality	<input type="checkbox"/> UAE <input type="checkbox"/> Arab <input type="checkbox"/> Asian <input type="checkbox"/> American <input type="checkbox"/> European <input type="checkbox"/> Other
Education Level	<input type="checkbox"/> High School <input type="checkbox"/> Bachelor's <input type="checkbox"/> Masters <input type="checkbox"/> PhD
Career Level	<input type="checkbox"/> Junior <input type="checkbox"/> Mid-level <input type="checkbox"/> Senior
Industry Role	<input type="checkbox"/> Project Manager <input type="checkbox"/> Client/client representative <input type="checkbox"/> Contractor <input type="checkbox"/> Consultant/Other
Years of experience in Construction Industry	<input type="checkbox"/> less than 5 <input type="checkbox"/> 5-10 <input type="checkbox"/> 11-15 <input type="checkbox"/> 16-20 <input type="checkbox"/> Above 20

To answer the questions below, please consider the projects you have been involved in to assess the project manager's soft skills in PART 2, and then determine whether the project was completed successfully in the following PART 3 section.

Part 2 Project Management Soft Skills

Please tick the answer for each question below.

Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.1 The project manager maintains honest and ethical work relationships with the project team					
1.2 The project team (including the client, consultant, contractor) shows respect for the project manager					
2.1 The project manager effectively communicates project goals and objectives to the team					
2.2 The team regularly updates the project manager regarding the project process					
3.1 The project manager resolves conflicts in a fair and objective manner					
3.2 The team regularly updates the project manager regarding potential conflicts					
4.1 The project manager exhibits intuitiveness and is able to adapt to change					

4.2 The team seeks the project manager's decision when changes arise					
5.1 The project manager makes objective decisions and is able to control his/her emotions					
5.2 The team has a strong professional relationship with the project manager					
6.1 The project manager is aware of cultural differences in the team					
6.2 The whole project team is able to seek the project manager's advice and is able to rely on him/her to make objective decisions					
7.1 The project manager is motivated, self-driven, and promotes project objectives as a team goal					
7.2 The team is empowered by the project manager to be increasingly self-initiating and take on further tasks					
8.1 The project manager effectively leads and guides the team to achieve project goals					
8.2 The team perceives the project manager as a strong leader and is able to understand his/her vision					

Part 3 Construction Project Success

Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.1 The project was delivered on time, within budget, and with the agreed quality standards					
1.2 The team was satisfied with the project process					
1.3 The project serves the purpose intended for its end-users					
1.4 The project achieved the organisation's business objectives and was beneficial to the company					
1.5 The client was satisfied with the completed project					