

# **The Impact of Competitive Intelligence on Project Success in Jordanian Construction Companies**

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## **Abstract**

The study aimed to verify the effect of competitive intelligence on the success of projects in Jordanian contracting companies. The results of the study indicated that there are high levels of competitive intelligence dimensions, while three dimensions of project success (quality, time and customer loyalty) were at high levels, while the fourth dimension, cost, was at a medium level. The results indicated that there is a significant effect of competitive intelligence on the success of projects in Jordanian contracting companies.

Key Words: Competitive Intelligence, Enterprise Success, Contracting Companies, Jordan.

## **1. Introduction**

The business environment of the current era is witnessing major developments in the field of construction and building. The success of construction projects includes several elements that must be taken into account. The completion of the project is within the budgeted cost and at the planned time to complete the activities with appropriate quality specifications and standards and obtain customer satisfaction, all of this contributes to Achieving the success of the project. Construction projects are among the most risky industries due to their unique nature, as human resource skills in construction projects have become a basic requirement in accordance with modern trends in preserving state resources and monitoring performance, and the need to work using modern methods in implementing construction projects from In order to complete projects in the shortest possible time and at the lowest cost without compromising quality.

The progress and prosperity of contracting companies depends on their acquisition of human resources with intellectual and technical skills in addition to communication skills, as companies seek to achieve progress by relying on their mental resources and directing them towards achieving their goals. Facing future risks and challenges requires the presence of human resources with high skills and capabilities due to the fact that projects are the construction works within a dynamic and changing environment. This calls for measures to strengthen the competitive capabilities of the construction sectors through developing the skills of human resources in order to achieve success in these companies. The contemporary environment has produced a set of obstacles that limit the ability of contracting companies to achieve the success that they aspire to and to enhance their competitive position among other contracting companies, as the success of projects depends heavily on human resources in carrying out the tasks and activities assigned to them as it requires the availability of a set of advanced skills that It has the nature of the activities, tasks and processes that the company carries out in order to achieve the goals it aspires to reach. Therefore, it also needs to highlight the importance of competitive intelligence as it is a tool in providing information and monitoring all changes in the internal and external environment that the company needs to make decisions that contribute to achieving success for contracting companies.

At the beginning of the nineties of the twentieth century, there was a clear increase in interest in human resources in institutions of all kinds and branches of their activity, as they are among the most important available resources through which the planned goals can be achieved; as the achievement of excellence in the performance of modern organizations is not based on the mere possession of technological or financial resources, but also on their ability to provide categories of human resources with special criteria so that they are more skilled, capable and efficient, thus possessing the capacity to maximize the benefits these human resources are able to absorb new concepts and ideas that help to face competitors and the challenges posed by environmental conditions.

The designations of the department responsible for personnel affairs in organizations have evolved with the development of the concepts and philosophy of this department and the tasks entrusted to it, from user management to personnel management to personnel management to personnel management to human resources management.

This development corresponds to a profound shift in the purpose of this administration and its new tasks, especially contributing to the realization of the organization's strategy. There have been numerous studies and literature that I have dealt with, and perhaps this reflects its importance in an era characterized by the explosion of knowledge, scientific development and openness in various fields (Harem, 2013, 30).

The importance of human resources management is highlighted by being a functional department found in various organizations, and its importance also in terms of its sensitivity in dealing with an important element of production, which is the human resource, and because the latter is variable in its strengths, thinking, level of performance, information and experience, and is affected by its various relationships with others in the internal and external environments, fluctuating in terms of mood, feelings of love, hate, desire, reluctance ... etc. are different human characteristics (Hammoud & Kharsha, 2013, 70).

Unique companies are currently seeking to develop competitive intelligence, as the importance of marketing intelligence and technological intelligence that the organization possesses has increased as a strategic resource to achieve competitive advantage, and one of the most important assets that it possesses.

There is no doubt that the efficiency and effectiveness of contracting companies stems from their capabilities to enhance the success of projects among employees, as this ability depends on the extent to which these companies adopt the dimensions of human resource skills, and at the same time this leads to strengthening the concept of competitive intelligence in these companies.

## 2. Study Questions

The success of projects contributes to enhancing the sustainability of contracting companies in an environment characterized by constant change and at all levels, and in depth in the essence of the success of projects, which focuses primarily on the most important element in business organizations today, namely the workers, as the success of projects supports these companies by making them more distinguished and competitive, as well as the success of the projects enhances their ability to achieve the vision and mission for which they were found through the concerted efforts of workers and their perseverance and the preservation of their survival and continuity.

Because of the great developments that business organizations are witnessing, and with the increase in competition between construction companies, the success of projects has become an indicator of the extent of a healthy work environment, and on the contrary it is noticed that companies that do not have effective competitive intelligence are described as weak companies that do not have the ability to survive Rapid changes and intense competition.

This study seeks to research the success of projects for contracting companies, which enables them to increase their effectiveness and efficiency in achieving their goals, and the ability to work within the human resource skills represented. It is also considered the commitment of the top management to create a work environment that encourages workers to adopt the concept of project success, which is reflected in the flow of administrative processes from top to bottom smoothly and in a way that increases belonging and loyalty among workers, and this is what makes these organizations in a state of attention to the current moment, which increases their awareness the importance of generating a culture of rational thinking through human capital.

Based on the above, this study will focus on the concept of the success of projects in Jordanian contracting companies, and the effect of competitive intelligence in achieving this success. Depending on the above, the study problem can be identified with the following questions:

- What is the level of competitive intelligence in Jordanian contracting companies?
- What level of the project success in Jordanian contracting companies?
- What is the impact of competitive intelligence on project success in Jordanian contracting companies?

## 3. Study Importance

The importance of this study stems from the importance of the variables it included, as competitive intelligence is an important administrative concept that the researcher sees the need to research, for its importance in helping companies to survive and continue for business organizations. The concept of project success is also considered one of the modern administrative topics in the field of business, which often attracts researchers to study and research for its role in the growth of organizations and their assistance in achieving their goals. By looking at previous studies, the researcher noticed the lack of studies linking their variables, as studies in this field are still insufficient. Therefore, the researchers

hope that this study will be a qualitative addition that works to enrich knowledge in the field of its variables, and contribute to filling something short of the Arab library in its field.

The applied importance of the study is the extent to which the departments in the Jordanian construction companies will benefit from the results they will reach, in relation to the concept of competitive intelligence and the success of the projects for these companies.

The importance of the study also comes from the importance of the sector in which it will be applied, as the construction sector is considered one of the most promising economic sectors in Jordan, in terms of its contributions to economic development, as events in the last two decades indicated that this sector was not affected by many of the crises that the world and the region went through. On the contrary, it was a main tributary to the Jordanian economy when many other economic sectors were suffering from economic and security crises, and in terms of the dependence of most other sectors on the activity of this sector.

#### **4. Study Objectives**

1. Identify the level of competitive intelligence in Jordanian contracting companies.
2. Identify the level of project success in Jordanian contracting companies.
3. Identify the impact of competitive intelligence on the project success in Jordanian contracting companies.

#### **5. Theoretical Background**

##### **5.1 Competitive Intelligence**

When competition intensifies, the conclusions drawn regarding competitive products and the processes that allow for the emergence of mega-projects, as well as obtaining competitive intelligence are very important and are generally accepted by market research. It can be said that the dynamism of the competitive environment and the possibility of entering new competitors at any time increased the organizations' need for competitive intelligence, as it is considered the main source of information about competition (McDowell, 2017).

Competitive intelligence is considered an input that is used in managing the activities and functions of business organizations, as competitive intelligence is one of the fastest growth fields in the business world, and which confirms its importance is that it determines the behavior of the strategic choice of people in charge of organizations, and that it is an important part of the decision-making process. Competitive intelligence is an organized analytical process and not a random activity, as it includes the collection, analysis and distribution of information, and helps in predicting and appropriately visualizing what the future of the organization will be, its nature and objectives, and it is an integral part of knowledge and information management processes, and it represents the art of determining where to collect, operate and classify information to make it available to all levels in the organization in order to build a common perception of its future and protect it from competitive risks. Competitive intelligence refers to being a process aimed at monitoring the external environment of the organization in order to identify information relevant to decision-making, and competitive intelligence is concerned with information about the capabilities and procedures of current and potential competitors and considers them as inputs for the formulation of the organization's long-term goals and strategies (Al-Maadi & Suleiman, 2015, 49). Intelligence represents the ability to acquire basic knowledge in situations. There are important assumptions that form the basis of intelligence, which is that people are born with a latent and stable intelligence. Intelligence helps in controlling the fluctuations of administrators, creating opportunities for efficiency at work, and also contributes to enhancing creativity, and improves the culture of the organization. Competitive intelligence represents the ability that inflames the mental processes of workers within the organization and fuels the mind and leads to speed of understanding and high readiness to preserve, update and recycle useful information and knowledge to face situations, solve problems, make decisions to adapt to the environment and achieve the set goals, as it is an organized process to obtain public information about competitors And its analysis to distinguish them and target them in the market (Al-Yasiri & Al-Shamri, 2020, 2017).

Because of the speed of change in the business world, organizations that want to maintain their competitive position have difficulty in being able to remain in front of competing organizations, and it is necessary for those organizations that want to remain steadfast in their position and remain successful not only on the quality of the products they provide, but on the quality of information that they own it about markets, customers, products, the technological process, etc., and this is called competitive intelligence. Competitive intelligence is an effective management tool for managing the future and anticipating changes that may occur and affect the organization. It contributes to examining the work environment of the organization, identifying risks and threats, identifying opportunities, and knowing what is

going on in the surrounding environment, as it contributes to developing strategies to adapt to any change and to be fully prepared for that (Hamid & Ibrahim, 2019).

Chevallier et al. (2016) that competitive intelligence is a strategic tool that is based on assistance in administrative decisions and affects knowledge management, which constitutes a pioneering challenge when the management is able to compete. Competitive advantage needs to create, transfer, use and protect knowledge and this requires development and creativity based on an organizational basis for the objectives, and all this it requires the existence of intelligence, which is the interface between the information economy and the knowledge economy. Competitive intelligence means searching for, analyzing and exploiting information related to the organization, its competitors, and its sector of activity, with the aim of increasing its productivity and competitiveness (Saleh et al., 2017, 50).

Competitive intelligence accelerates a full set of determinations of the organization's goals, strengths and weaknesses, aspects of the executive personalities of the most important competitors, the product and the market in question, as well as the strategies ... etc. In short, how competitors will behave, how they will behave in the future, as well as identifying potential behaviors for them in the environment. On the other hand, the information that is collected may be sourced from trade and specialized organizations, through speech and dialogue with colleagues and friends, so this information may be incorrect or false, as it must be checked and verified to ensure its validity and correctness. Also, regardless of the difference in the method and process of collecting intelligence, it includes or is first developed a pre-chart consisting of questions as well as sources or goals, and also places the information as if it is before the goal that it must reach and not the goal in itself (Al-Hilalat, 2016, 206)

Competitive intelligence includes several features, as it is the art of collecting, processing and storing information, so that it is available to members of the organization at all administrative levels, so that the organization can adapt to the future, prepare and protect itself from facing the risks of current competition, and it respects the law and the applicable system and ethics, in addition to that it ensures the transfer of knowledge from the external environment to the organization in order for the rules to be established. Although information is considered the center or axis around which competitive intelligence revolves, it has recently been discovered that gathering information is nothing but a veil behind which the goal of collecting information is hidden (Bernhardt, 2013, 117). Competitive intelligence is a strategic tool that focuses on assistance in administrative decisions and affects knowledge management, which constitutes a pioneering challenge when the management is able to compete. Competitive advantage needs to create, transfer, use and protect knowledge and this requires development and creativity that depends on an organizational basis for the objectives, and all this requires the presence of intelligence which is the interface between the information economy and the knowledge economy (Mustafa, 2017, 252).

The use of competitive intelligence contributes to improving the performance of the organization, as well as helps it to ensure continuity, and helps in the process of strategic decision-making such as merger and acquisition by providing information that helps in the negotiation process during integration stages, and it is also used in reallocating the organization's resources in order to meet the needs of customers. With the required specifications and gaining their satisfaction and confidence, in other words, it indirectly contributes to activating the organization's approach towards customers (Waters, 2017, 23).

Researchers have identified several types of intelligence, including philosophical intelligence that includes three elements of thought, emotion, management, and spiritual intelligence where the prophets were great models in embodying what others could not reach, and emotional intelligence is an important tool for the success of work, and social intelligence represented in the ability to visualize and explain Social attitudes and adaptability, moral intelligence that competition cannot imitate or reproduce, business intelligence to obtain, interact and analyze information to fortify performance, discover opportunities and work efficiently, and executive intelligence as a group of individuals' abilities in three contexts of accomplishing tasks and working with others through them and adapting according to the individual's assessment of the positions, and competitive intelligence, which includes an organized process to obtain information about competitors and analyze it to distinguish them and target them in the market, and includes technological intelligence and marketing intelligence (Najm, 2011, 47). This study will be based on a classification of the dimensions of competitive intelligence into marketing intelligence and technological intelligence.

1. Marketing intelligence: marketing intelligence represents a set of procedures and resources that are used by managers to obtain daily information and relevant developments in the marketing environment that enables the organization to know competitors, their movements and their business strategies (Al-Yasiri & Al-Shamri, 2019, 239). Marketing intelligence is defined as “a set of methods that allow marketing managers to continuously inquire about developments and changes in the marketing environment”. The role of marketing

intelligence is to improve strategic decision-making, follow-up and evaluate competitors' actions, avoid risks or threats, address them early, and seize opportunities available in the market (Alyan, 2014, 74).

This system allows the organization to observe and monitor its environment and to capture the information and signals it emits in order to use it in building or modifying its strategies, and in making its decisions, and thanks to the marketing intelligence system, the organization is constantly aware of what is happening in its environment, which leads to achieving environmental adaptation (Abdul Salam & Sharman, 2011, 74).

2. Technological intelligence: the era of the knowledge and technology economy has imposed on many organizations the trend towards relying on intangible resources in comparison with tangible resources in order to create value for business outputs, by focusing on patents, trademarks, and the reputation of the organization, and paying attention to the quality standard in providing services to customers (Hussein, 2018). The role of technological intelligence emerges from the fact that it helps organizations obtain the information required to perform their work. A successful organization is one who can balance between the abundance of information and its scarcity. It provides managers with accurate information and this increases their ability to control the implementation of their decisions with their subordinates. It also gives organizations new market opportunities that make them leave the traditional system in conducting their business, thus providing a group of opportunities to establish business networks between different parties around the world (Majeed & Abbas, 2019). AI technology improves organizations' performance and productivity by automating processes or tasks that previously required manpower. Technological intelligence can also understand data at a scale that no human being can achieve, and this ability can have significant benefits for business (El-Kady, 2017).

## 5.2 Project Success

The success of projects is one of the most important issues that are widely discussed, and there is no agreement on the criteria according to which success is evaluated. Khader (2018) defined the project as an effort undertaken with the aim of achieving a specific one-time achievement of a special nature that does not repeat the same way during a period of specific timelines and within the limits of an estimated budget established. Saqr (2019) indicates that a successful project may require human forces at a distinguished level of competence, as well as good training in communicating with others and providing detailed reports on all the achievements that have been made during the implementation of the project. All this is done in light of certain and predetermined criteria, which in turn contribute to the identification of all those in charge of the project and those involved in it. The term project success or failure is often poorly understood, especially when it comes to small businesses and their management. Whereas, small commercial enterprises depend on the viewpoint of the parties concerned, from the point of view of one party, the project is considered successful while from the point of view of another party it is a failure, and therefore there is a need to neutralize some personal opinions from acknowledging the success or failure of the project (Al-Hasani, 2014, 85).

A project is a journey, and project plans, schedules, and cost reports are a roadmap that helps team members measure and locate them precisely. Project audits are similar to checkpoints spread along the road, to ensure that the project is on track. If the project deviates from its correct course, the review will quickly identify the deviation and help in making the appropriate adjustment (Sakarneh, 2017, 55).

Project reviews help motivate team members, clients, and clients. Evaluations provide feedback, which helps everyone stay focused on project goals. People work better when they know they are progressing toward the goal, and good feedback helps them stay committed and motivated to achieve success (Al-Hasani, 2014, 74).

Achieving success in projects as indicated by Dehli and Anbar (2017) is based on several dimensions such as quality, time, cost, and customer satisfaction, and this requires managing the project in an appropriate and correct manner that leads to reducing costs, correcting defects and utilizing time as required, which contributes to raising efficiency the organization for progress and success and taking a distinguished position in the market. Many organizations are pouring their efforts and capabilities into planning and implementing projects in order to be distinguished from other competing organizations, and the changes witnessed by the world have pushed to influence organizations and projects, which are one of the development sectors affected by these changes, so the management of organizations has strived to achieve success in projects on its basis. In several aspects such as cost, time, quality, and achieving consumer satisfaction from the services provided, how much knowledge in project management contributes significantly to affecting the efficiency and effectiveness of the project's success (Al-Ghamdi, 2019). The current study relied on a four-way classification of the dimensions of the success of the projects: cost, quality, time, and customer satisfaction.

1. Cost: cost is the estimation of the financial, human and material resources needed for the project with the collection of those estimated costs and working on controlling the budget for the project by monitoring the course of work so that the project is completed within the framework of the specified budget, in addition to controlling the variables that will affect the cost in the various stages of the project. Estimating project costs requires good planning, which contributes to the production of an appropriate plan for managing costs for the project, and the process of planning and estimating the costs well contributes to accurately estimating the cost of each activity in the project, while determining the control points in the variables that occur in the project cost management system and the limits of the permissible flexibility and related to the changes that occur on the project during the different stages of work, and the owners of the project usually determine or measure the costs of the project in different ways and at different times, and the project costs must also be estimated according to the requirements and capabilities of the project owners (Al-Ghalabi, 2015, 19).

2. Quality: quality is seen as a method of work and a goal at the same time, and that it is a continuous process and not a stage that requires the end of a specific period or stage. Quality focuses on creating a culture of collective responsibility, accountability and excellence. It also focuses on prevention that is preventing the occurrence of problems and defects rather than dealing with problems and solving them after they arise. When organizations deal with quality as a new management tool, in other words as a quick remedial measure, they will rule their efforts with failure before they start, and unfortunately some organizations that take this approach and as a result of their inevitable failure become opponents of total quality, so the organizations must pass this cultural change first, in order to succeed in applying the concepts of total quality (Barahuma & Sharif, 2014). The quality planning process has to do with setting the quality measures that fit the project, and determines how to implement it. Quality planning is done during the planning of the project completely to coordinate quality with other project elements. The main purpose of planning for the quality of the project is to develop a plan that is followed to ensure that the project meets the necessary quality standards to meet all necessary needs, in addition to designing a tool to measure the quality of the project (Al-Manawi, 2014, 102)

3. Time: it is necessary that the project be completed on a specific time and not remains for an unlimited time. Therefore, the project's time must be managed and the time for its completion determined on the specified date (Pinto, 2013, 35). The methods of estimating the success of the project differ from one side to the other, and from the point of view of one group to another, according to the relationship of this entity or persons to the project and its place thereof, for example, the project is considered successful in the view of the implementer if he has achieved profits equal to a certain percentage, or succeeded in achieving income, whereas, the project may be considered successful in the view of the supervisor if all the specifications related to the project elements are followed and implemented properly and in conformity with the plans and designs and in a time that does not exceed the time required to implement the project during it (Blyton et al., 2017, 93). The project management is concerned with distributing the available time on the activities of the project, and then adhering to the start and end times of the project activities that are scheduled throughout its life, and in the event that the project is delayed, it must be speeded up and returned to the established plan. Time management methods are usually used to manage the project in terms of monitoring the start times of different activities or the project as a whole, as well as their endings and trying to use the extra time for activities (Smiley & Amara, 2017).

4. Customer satisfaction: the concept of customer satisfaction is one of the most prominent modern commercial concepts that aim to meet the needs and requirements of customers, respond to all their inquiries, and secure their requirements on time, according to the required characteristics, and within the specified conditions, in a manner that ensures their continued dealings with them, and achieves more sales, thus ensuring an increase material profits (Ahmad, 2019). Norton (2017, 153) indicates that satisfaction represents the joy that customers feel when they achieve the desired satisfaction, the benefits they expect, and satisfaction is formed by comparing what the customer expects and what the customer actually gets. Satisfaction represents the emotional response to the experiences that the customer goes through, related to the products he has purchased, and the emotional response represents the customer's reaction resulting from the evaluation process and the cognitive awareness of what he believes he will receive (Al-Hadid et al., 2014). Customer satisfaction requires communication between organizations and the customer, and it may include personal communications, such as a technical support system, service offices, or other programs, and each type of communication creates experiences that lead to adjustments about customer expectations, and satisfaction is based largely on individual experiences and thus is The satisfaction of persons is viewed in the meaning as a personal or individual measure because in the end it is based on psychological and physical factors (Heagney, 2017, 71).

### **5.3 Competitive intelligence and enterprise success**

The importance of competitive intelligence in the success of projects is evident in its clear role in developing the organizations' ability to collectively learn, because it is considered a tool for building tomorrow's organizations, and a factor for developing innovation and competition in them, and it also helps in building organizational memory, when it makes human resources management shift from non-systematic processes in performance working to more structured and organized, from adopting tactical information to strategy with higher added value, and being recognized as an important resource. Competitive intelligence requires having the ability to detect and interpret competitors' signals in the markets, so that decision-makers can adopt a specific strategy to confront competitors (Daoud, 2016, 218).

Competitive intelligence provides organizations with understanding and insight into the means of potential change in policies, strategies, programs and legislation, and enables it to examine the work environment of the organization, and to identify the risks, threats and opportunities they face, and provides the opportunity to know what is going on in the environment in which the organization operates, which helps them anticipate the changes that may occur. In the future, managing them and developing appropriate strategies to adapt to these changes, and being fully prepared for any sudden change that may occur (Knoush, 2016).

Competitive intelligence plays an important strategic role in the success of projects, as it provides the organization with detailed information about the market and competitors when negotiating, and this helps the organization move and tact in the market. The modern vision and strategic theories see that there is an urgent need to know the capabilities of the organization and its directions to build trustful relationships with customers, suppliers, and friendly organizations, and this helps the organization to activate its future in the changing environment. On the other hand, there are those who believe that competitive intelligence is a necessity in the face of the dynamic of the environment within which the organization is active, as well as the changes imposed by technological developments, as these changes lead to the emergence of competitors who were not accounted for (Knoush, 2016).

## 6. Literature Review

Joslin & Müller's (2015) study aimed to qualitatively verify the theoretically derived study model while gaining insights to guide the direction of a larger study on the methodologies and their elements and their impact on the success of the project, and to verify whether the different project environments affect the relationship between methodologies and project success. Among the results of the study, there is a positive relationship between the elements of the project methodology and the characteristics of the project's success. However, environmental factors, especially project management, affect the use and effectiveness of the project methodology and its components, with the resulting impact on the characteristics of project success, and project management plays a major role in the modifying effect of the effectiveness of the project methodology on its success. Sawar et al. (2015) study sheds light on the role of human resource management in project success. The results indicated that there is a significant relationship between human resources management and the success of the project, and that the proper management of human resources is one of the main factors for the success of the project, and that there is a moral relationship between the educational level and experience with the performance of human resources, as well as there is a moral relationship between project planning, monitoring and feedback with the success of the project and the impact of senior management intervention, which confirms the vital role to manage human resources, and the importance of the human resource itself in achieving success and excellence for projects, the study also found that there are three factors associated with project management within the framework of the human resource management strategy represented in project planning, project resource management, meeting customer needs and benefiting from previous projects.

Edike and Ujene (2016) study attempted to assess the nature and impact of contractual claims on the performance of traditional construction projects. It also aimed to assess the frequency of occurrence and size of them, as well as the effect of factors on claims, the effect of claims on cost, time, quality, and the importance of claims mitigation strategies. The results showed that there were significant differences in the effect of the factors between the claims of owners and contractors, while there were no significant differences in the effect of contractual claims between cost, time, and quality. The purpose of the Albert et al. (2017) stud knowing whether there are specific patterns for selection, as project success criteria appeared across various areas of applications that were not taken into account in the previous literature. Barns' Iron Triangle was one of the first attempts to evaluate project success based on time, cost, and performance, pictured as interconnected dimensions. With the passage of time, these criteria were and became expanded, especially criteria that take into account the satisfaction of customer groups, as they became more used. Moreover, the researchers sought to identify the additional main factors that affect the success of the project. The results showed that Barns' ideas are an integral part of all the approaches examined in the study. In addition, the relevance of the so-called "soft criteria" related to customer satisfaction, can be demonstrated. However, the

researchers found no indications of patterns for choosing project success criteria across various application areas. The results indicated that there is a relationship between the selected project success criteria and the field of application. The results also revealed that no patterns have been developed yet to assess project success. As for the study of Dahlis and Anbar (2017), which focused on examining the effect of the knowledge areas of project management in increasing the quality of the project, and aimed at identifying the extent of these institutions' awareness of the standards and the extent of their application, and identifying the level of quality in the projects offered by these institutions. The results showed that there is a significant relationship between the knowledge areas and the increase in project quality.

As for the study of Al-Mahawi and Al-Waeli (2018), it tried to examine the effect of knowledge domains on the quality of the project. The study adopted three dimensions to measure the quality of projects: design quality, process quality, and organization quality. The study found that there is a significant correlation between the knowledge areas with their dimensions (project scope management, project time management, project cost management, project resource management, project stakeholder management, project risk management, project communication management) and project quality, as the results indicated there is a moral impact relationship between the knowledge areas and the project quality, and that the areas that most affect the quality of the project is the area of project stakeholder management, project cost management, and project communication management. Hidjazi and Fatushi (2018) attempted to elucidate the role of competitive intelligence in achieving competitive advantage. The results of the study showed that there is a strong correlation between the four dimensions of competitive intelligence (customer intelligence, marketing intelligence, technological intelligence, and competition intelligence) and competitive advantage, and there is also a positive effect of competitive intelligence in creating a competitive advantage. In another conducted by Musa and Farhat (2018) to clarify the effective role of competitive intelligence in its dimensions (technological, market intelligence, and customer intelligence) in influencing the performance of the industrial enterprise through several aspects, including: profitability, technological innovations, and market shares.

The results indicated that competitive intelligence has positive effects on organizations as it provides all smart information, whether it is related to products, new technologies, patents and their expiration time, or the market and the consumer, as it contributes to the quality of the decisions taken that reach the company to its strategic goals. As for Chen et al. (2018) study, it aimed to focus on linking project governance to project success, because senior management support is necessary for the success of the project. The study also aimed to address the problem of insufficient time for senior managers, and to identify project management mechanisms that are linked to success. The study provided evidence that effective project management is a critical factor in pushing projects towards success that project success depends on improving cost and resource management, and that project governance mechanisms (vision, culture, control, and change) are closely related to project success and are effective in different stages of the project life cycle. The results also indicated that activating project governance in six projects is based on corporate governance theories, and it has been found that five of these six projects have important links with the project's success.

Another study conducted by Alili and Diab (2019) attempted to test the impact of HRM practices on project success in project-based organizations, and also aimed to evaluate the modified role of project life cycle on the relationship between HRM practices and project success. The results of the study indicated that human resource management practices (human resource planning, employee selection and appointment, training and development, performance appraisal system, and compensation system) have a positive and significant impact on project success (cost, time, quality, and customer satisfaction), as they indicated that The relationship between human resource management practices and project success varies according to the stages of the project life cycle, and the organizations' reliance on time, cost, quality and customer satisfaction criteria in evaluating the success of their projects. Al-Shawabkeh et al. (2020) study aimed to identify the impact of strategic directions on the success of projects by showing the mediating role of intellectual capital. The researchers concluded that there is a significant effect of the strategic directions on the success of projects through intellectual capital as an intermediate variable. Zaman et al. (2020) study aimed to knowing how transformational leadership, flexibility, and insight work in improving project response to a great extent, influencing and unpredictable events are referred to as "black swans" in mega projects however these concepts have not been tested empirically in a single test to determine their significant impact. On the success of the multi-dimensional project the purpose of this study is to learn the interactive effects of project flexibility, project clarity on the relationship between transformational leadership and the "multiple dimensions" of project success, including meeting design, client influence, and benefits for a project-based organization. The results indicated that the transformational leadership of project managers, project flexibility, and project vision are strongly correlated with the dimensions of project success, and the results of the study help project leaders fulfill their escalating commitments in achieving the success of their projects from a multi-dimensional viewpoint. Additionally, the results confirmed a renewed transformational leadership perspective and project success.



## 7. Study Hypotheses

- Ho1: There is a significant impact of competitive intelligence on project success in Jordanian contracting companies.  
 Ho2: There is a significant impact of competitive intelligence on project cost for Jordanian contracting companies.  
 Ho3: There is a significant impact of competitive intelligence on project quality for Jordanian contracting companies.  
 Ho4: There is a significant impact of competitive intelligence on time of project in Jordanian contracting companies.  
 Ho5: There is a significant impact of competitive intelligence on Customer satisfaction of Jordanian contracting companies' customers.

## 8. Methodology

### 8.1. Sample

The study population is represented by all the companies operating in the field of contracting, the buildings section, category A in the capital, Amman, which number (144) companies, according to the website of the Jordan Contractors Association for Contracting Companies (<http://jcca.org.jo/FindContractor.aspx>). The two researchers relied on a comprehensive survey method for Jordanian contracting companies for the purposes of representing the study population. The two researchers designed an electronic questionnaire after distributing it to companies via email and WhatsApp, after contacting the companies and taking permission from them and determining their choice in the application through which the questionnaire could be sent. After the completion of the distribution process and the completion of the responses received, it was found that (118) questionnaires were all completed and valid for statistical analysis.

### 8.2. Instrument

The researchers resorted to a questionnaire, where the study tool was developed, as follows:

The first part: includes the items which were used to measure competitive intelligence (independent variable). The researchers used many studies to obtain the items to cover the dimensions of this variable (Sanclemente-Téllez, 2017; Al-Yasiri & Al-Shamri, 2019; Abdul Salam & Al-Sharman, 2011; Levy, 2010; Al-Naimi, 2016; Majeed & Abbas, 2019; Axner, 2017; Obaidat, 2012; Hassan & Abraham, 2019).

The second part: the items that were used to measure project success (dependent variable), and the researchers used many studies to obtain the paragraphs, to cover the dimensions of this variable (Hassan & Yaqoub, 2018 ; Pinto, 2013; Al-Ghalibi, 2015; Campbell, 2015; Brewer & Dettman, 2013; Radwan, 2012; Aishouni, 2014; Dahlis and Unblr, 2017; Kepha, 2015; Al-Ghalabi, 2019; Blyton et al., 2017; Kanoush, 2016; Al-Feki, 2010; Khalaf, 2018; Grigoroudis & Siskos, 2010; Rabiawi, 2020; Ahmad, 2019; Heagney, 2017).

The answer for items of the questionnaire is according to the fifth scale. The quintile that begins with the lowest rating, which is, completely disagrees (1), and the highest estimate, which is completely agree (5).

## 9. Results

Table (1) shows the Cronbach alpha test for items of the dimensions of the two variables of the study, where its alpha values exceeded (0.70), which is the lowest value that can be accepted for the reliability of items (Sekaran, 2012). The table indicates the values of the mean averages of the dimensions of competitive intelligence and the success project success, as it was found that mean averages of the dimensions of the two variables were high, except for the mean average of the cost, whose level was medium (3,441), the highest for marketing intelligence (3,858).

Table (1) Reliability and mean dimensions of variables

Dimension	Items	Alpha	Mean	Std.
Marketing intelligence	6	0.836	3.858	0.846
Technological intelligence	6	0.855	3.814	0.659
Cost	6	0.793	3.441	0.639
Quality	6	0.841	3.769	0.840
Time	6	0.908	3.774	0.753
Customer Satisfaction	6	0.862	3.735	0.757

Ho1: There is a significant impact of competitive intelligence on project success in Jordanian contracting companies. Table (2) indicates the results of a linear multiple regression analysis for the competitive intelligence on project success. It showed that there is impact of competitive intelligence on project success, where the value of  $R^2$  reached (0.462), this means that competitive intelligence explains (46.2%) of the variance in project success, and the value of  $F$  (49.417), and the significance level was (0.000). About the dimensions of competitive intelligence, found that it has individual impact and it was significant for marketing intelligence and technological intelligence, where  $B$  value (0.201, 0.270),  $T$  value (3.463, 4.868) and significantly  $Sig.$  (0.001, 0.000). The test results indicate acceptance of the first hypothesis of the study.

Table (2) Impact of competitive intelligence on project success

Dimension	B	T	Sig.
Marketing intelligence	0.201	3.463	0.001
Technological intelligence	0.270	4.868	0.000
$R = 0.680$ $R^2 = 0.462$ $F = 49.417$ $Sig. = 0.000$			

Ho2: There is a significant impact of competitive intelligence on project cost for Jordanian contracting companies. Table (3) shows the results of a linear simple regression analysis for the impact of competitive intelligence on project cost, it showed that there is a significant impact of competitive intelligence on project cost, where the value of  $r^2$  reached (0.298), this means that competitive intelligence explains (29.8%) of the variance in project cost, and the value of  $b$  (0.510), while the value of  $f$  (49.170) with a significant level (0.000). The results of regression analysis indicate to accept of the second study hypothesis.

Table (3) Impact of competitive intelligence on project cost

$r$	$r^2$	$b$	$f$	Sig.
0.546	0.298	0.510	49.170	0.000

Ho3: There is a significant impact of competitive intelligence on project quality for Jordanian contracting companies.

Table (4) shows the results of a linear simple regression analysis for the impact of competitive intelligence on project quality, it showed that there is a significant impact of competitive intelligence on project quality, where the value of  $r^2$  reached (0.334), this means that competitive intelligence explains (33.4%) of the variance in project quality, and the value of  $b$  (0.564), while the value of  $f$  (58.093) with a significant level (0.000). The results of regression analysis indicate to accept of the third study hypothesis.

Table (4) Impact of competitive intelligence on project quality

$r$	$r^2$	B	f	Sig.
0.578	0.334	0.564	58.093	0.000

Ho4: There is a significant impact of competitive intelligence on time of project in Jordanian contracting companies.

Table (5) shows the results of a linear simple regression analysis for the impact of competitive intelligence on project time, it showed that there is a significant impact of competitive intelligence on project time, where the value of  $r^2$  reached (0.185), this means that competitive intelligence explains (18.5%) of the variance in project time, and the value of  $b$  (0.392), while the value of  $f$  (26.411) with a significant level (0.000). The results of regression analysis indicate to accept of the fourth study hypothesis.

Table (5) Impact of competitive intelligence on project time

$r$	$r^2$	b	f	Sig.
0.431	0.185	0.392	26.411	0.000

Ho5: There is a significant impact of competitive intelligence on Customer satisfaction of Jordanian contracting companies' customers.

Table (6) shows the results of a linear simple regression analysis for the impact of competitive intelligence on customer satisfaction, it showed that there is a significant impact of competitive intelligence on customer satisfaction, where the value of  $r^2$  reached (0.273), this means that competitive intelligence explains (27.3%) of the variance in customer satisfaction, and the value of  $b$  (0.428), while the value of  $f$  (43.505) with a significant level (0.000). The results of regression analysis indicate to accept of the fifth study hypothesis.

Table (6) Impact of competitive intelligence on customer satisfaction

<b>r</b>	<b>r<sup>2</sup></b>	<b>b</b>	<b>f</b>	<b>Sig.</b>
0.522	0.273	0.428	43.505	0.000

## 10. Discussion and Recommendations

The study focused on examining the impact of competitive intelligence on project success in Jordanian contracting companies. The results of the study indicated that there are high levels of competitive intelligence, which indicates the interest of companies in obtaining information about their marketing environment that enables them to know competitors strategies', which reflects positively on decision-making processes in a way that enables them to seize opportunities and avoid threats and risks by addressing them in a manner, in addition to their ability to adjust their strategies, which enables them to adapt to their environment, in addition to that, companies pay great attention to technology as they rely heavily on intangible resources to reach their planned outputs, benefiting from patents, the brand, their reputation, so companies are able The balance between the abundance and scarcity of information, which enables it to control the implementation of its decisions. In the same direction, the majority of the dimensions of the success of the projects came, as they appeared at high levels for three of them: quality, time and customer satisfaction, while the cost is at medium levels, as companies pay great attention to The time of project completion without neglecting the quality, which is reflected in customer satisfaction with the projects they implement companies. Companies are keen on completing projects at the times specified in the project plan by following up the beginnings and ends of the activities specified for the project, taking into account the quality levels established for the project, and considering quality as a social responsibility on the one hand and achieving the competitive advantage of the company on the other hand. All of this leads to the satisfaction of the customers of these companies by meeting the desires and needs of customers and in the time and quality agreed upon, which ensures that they continue to deal with these companies. Regarding the average level of cost, it indicates that the companies, despite their interest in them, do not make progress on quality and adhere to the time specified for the delivery of the project in order to satisfy its customers. It is also important to note the inability of companies to control many environmental factors related to the cost of projects in the period of spread of Covid-19 and the additional costs that companies were exposed to.

The results of the study indicated that there is a significant impact of competitive intelligence on project success, and this means that the companies' knowledge of their environment and the players in them and the results from collecting information about competitors, the labor market and the use of technology secures the company the ability to achieve the required quality levels, and also guarantees the ability to commit to implementing projects according to the specified schedule, which reflects positively on customer satisfaction.

In light of the results of the study, the researchers recommend the following:

1. Jordanian contracting companies should pay more attention to the cost of projects in both the financial and human sides by monitoring work paths and adjusting the project's budget.
2. Firms should define control points in the changes that occur to the project cost management system and the flexibility limits surveyed.
3. Companies re-evaluate project costs in different ways and at different times.

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