



# Nexus between Sustainability Disclosure, Project Success and Competitive Advantage: Analyzing the Moderating Role of Stakeholder Pressure in Public and Private Organizations

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Article Information	Abstract
<b>Article history:</b> Submitted:13/11/2022 Accepted:28/12/2022 Published:31/12/2022	Project success is a vital element of any business that sustainability effects. Recently, many researchers have been trying to link sustainability with project management as there is very little information available on what is meant by sustainable project management and the responsibilities of the project management to disclose their sustainability activities. Organizations are trying to incorporate sustainability in their business strategies, marketing, and communication. Sustainability is receiving more and more attention, and the relationship between sustainability and project success is still in its infancy ,as shown in the extant literature. The main objective of this study is to investigate the impact of sustainability principles and sustainability disclosure on project success in the presence of competitive Advantage as a mediator and stakeholder pressure as a moderator. 314 valid responses were collected from project-based organizations across Pakistan. Hayes PROCESS and IBM SPSS 26 were utilized for data analysis. The study finds that sustainability principles and sustainability disclosure have a significant positive impact on project success. The study also identified that competitive Advantage significantly mediates the relationship between sustainability principles and project success and the relationship between sustainability disclosure and project success. The findings of the study have theoretical and practical implications. It will be helpful for the organizations to gain competitive Advantage and project success by incorporating sustainability principles and practicing sustainability disclosure.
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## Introduction

Project is a significant element of business operations; hence, a project's success directly impacts a business's success (Sirisomboonsuk, Gu, Cao, & Burns, 2018). Projects are responsible for almost 30% of the global economy (Turner, 2009), and hence the effect of

success or failure of a project is not limited to the organization that is running that project. Projects are not the feature of a single industry instead it is equally important for all industries that are contributing to the economy. Companies face substantial challenges to integrating sustainability practices in their projects because focusing on sustainability aspects in a project is often thought to cost time and money; therefore, 'it's not considered as supportive to the time and budget constraints of the project. This perception is mainly because there is so much disparate information linking sustainability with project management. Considering sustainability as a tradeoff between business and society and addressing this in the short term sometimes lead to long-term problems. Sustainability can stimulate efficiency when it is framed as a profit-planet tradeoff. Integrating this tradeoff with a short-term vs. long-term tradeoff can open up opportunities for the company that might otherwise be considered invisible (Bensal & Gehman, 2016). Sustainability should not just be analyzed as a requirement but as a source of competitive business advantage, a factor that contributes to the project's overall success (Carvalho & Rebecchini, 2011). The need for bridging the gap between sustainability and competitive Advantage along with the increasing importance of the impact of both sustainability and competitive Advantage on project success in the existing business environment, warrants the need to conduct this study.

Sustainability is one of the most significant strategic decisions for companies. The development of welfare and the upgradation of living standards for the present generations can further be refined through sustainability without compromising the fate of future generations. The concept of sustainability has been around for a long time but achieving sustainability and incorporating sustainability principles in business activities by linking social, financial, and economic aspects is now more than ever considered the most critical challenge organisations face. Firms are integrating sustainability in their core business operations and communication strategies as a source of competitive Advantage. Sustainability produces a community vision that ensures high economic security for the organizations while preserving the integrity of natural biological systems. Sustainability is receiving more and more attention and the link between sustainability and project management is still being built (Carvalho & Rebecchini, 2011). Taking into consideration the triple bottom line (TBL) –economic, social and environmental- or the triple P's-people, profit and planet- the lack of literature is still there in project management context, and there is still a gap in the existing literature and in actual practice (Thomson et al., 2011).

Project-based organizations are held accountable for their actions as they are challenged throughout the project lifecycle with various moral aspects fitting the interest of each group of stakeholders according to the power and level of control they have on these organizations. Therefore, these organizations need to understand their stakeholders more (Schneider & Wallenburg, 2012). The pressure of these stakeholders is more on these organizations as they have to face complex regulations and guidelines and when non-complying, face the risk of loss of reputation and even survival of the project for a long-term orientation (Giunipero, 2012). Organizations need a balance between various interests that affect their business policies, sustainability objectives, and, consequently, the rate of information or sustainability consideration strategies they disclose.

Organizations recognize sustainable disclosure as their voluntary and mandatory social responsibility toward stakeholders. The transparency of performance information between the organizations and its Stakeholder depends on the prioritization that managers grant to each group of stakeholders characterized according to their extent of interest and extent of their power (Herremens & Najari, 2016). Organizations that integrate sustainability and consider their stakeholders to be important integrate sustainability engaging more towards proactive environmental and social protection strategies and a more focused on sustainable reporting (Burrit & Schaltegger, 2010).

Sustainability disclosure is influencing and widespread among companies aiming at disclosing their impact on sustainable development and gaining legitimacy and satisfaction from the stakeholders. Stakeholder pressure has notably increased among these organizations in setting up business strategies to incorporate sustainability with managerial and reporting practices (Silivia & Thomos, 2018). Greater exposure to stakeholder pressure leads to the firm acting more sustainably, which leads to sustainable disclosure of social and environmental activities more sustainably, which leads to sustainable disclosure of social and environmental activities, giving these firms a competitive advantage (Lazano & Huisinigh, 2011).

This study aims to fulfil the gaps identified in the literature on sustainability in the context of project management. Sustainability is equally important for both developing and developed countries; however, achieving sustainability is more difficult and faces more challenges in developing countries as these countries have other priorities on hand such as political instability and poverty, etc. sustainability can have an important economic impact without threatening the social development and environmental resources, especially in developing countries like Pakistan so it is important to study how the public sector organization in Pakistan can achieve success by incorporating sustainability principles in their business strategies.

### **Problem Statement**

The concept of sustainability is broad and multifaceted, and the link between existing literature and its practical implication is still being built. The current study's practical implications are to highlight that the added value of sustainability is not just reporting but also that it yields profitability and success. The focus of this study is to analyze how sustainability and sustainability disclosure is impacted by stakeholder pressure and how these two variables can be aligned better with the project objectives and analyze the integration of sustainability in organizational strategy to give them a competitive advantage leading to the overall success of the project.

Thus, this study aims to investigate the effect of sustainability and sustainable disclosure on project success. As these organizations are more under stakeholder pressure, their sustainability objectives and strategies are influenced by stakeholders. The main objective of this study is to fulfil the gaps identified in the literature on sustainability and sustainability disclosure in project management in the public sector context. The concept of sustainability is equally important in both developing and developed countries; however, achieving sustainability is more difficult and faces more challenges in developing countries as these countries have other priorities on hand such as political instability and poverty, etc. Sustainability can have an important economic impact without threatening the social development and environmental resources, especially in developing countries like Pakistan so it is important to study how the public sector organization in Pakistan can achieve success by incorporating sustainability principles in their business strategies.

Simultaneously, this study is also important as the literature available on sustainability and sustainability disclosure is based on developed countries, making it difficult to generalize the result to developing countries as they are dealing with different priorities. This highlights the significance of this study, making it more important academically giving useful insight to practitioners by allowing them to understand sustainability and sustainable reporting and how incorporating these practices can develop a 'business's competitive Advantage to achieve long-term success. Specifically, this study aims to corroborate the importance of sustainability in 'today's changing business environment and its effects on project success in project-based organizations. The two main variables sustainability principles and sustainability disclosure, hold a significant place in the project management literature, henceforth the effect of mediation through competitive Advantage and moderation through stakeholder pressure is anticipated to

verify significant results. The study aims to gather data from organizations working in different sectors, including Pakistan's IT, Research, Engineering/Construction, Health, and Education sectors. Hence, the study aims to test the relationship of variables in the Pakistani context.

### **Significance of the study**

Literature in the context of Pakistan provides less evidence on the comprehensiveness of the framework that explains the connections of variables of this research rather than merely addressing whether sustainability is essential in a project context. This research endeavours to provide a conceptual model that aims to raise questions for the academicians, researchers and practitioners to know whether sustainability principles and its disclosure practices enhance competitive business advantage or not, and serve them to further test the variables diversely concerning other important variables in the context of project management and have results that are applicable in the context of project-based organizations in either Pakistan, in developing countries and or in the countries worldwide. This study attempts to make two major contributions; Firstly, it tests the direction of the relationship between SP and project success and SD and project success. Secondly, it analyzes the moderation and mediation effects of stakeholder pressure and competitive Advantage on the relationship between sustainability and overall project success. The practical implication of this study attempts to provide insight related to the ability of the organizations engaged in different projects to smartly integrate sustainability to enhance their reputation and market value for long-term success. The managers can potentially gain insight that the sustainability structure should be in congruence with the specific needs of the projects and that the generalized policies, laws, and regulations need to be tailored per the 'project's sustainability needs. By engaging in such practices, enhanced performance and profitability will be assured, leading the project towards success. Theoretically, by testing the evidence gathered in the light of disclosure and management theories, it will be unjust to claim that one theory works perfectly well and others do not because the data is being collected through convenience-based sampling and the results do not generalize on the larger population.

## **Literature Review**

### **Sustainability Principles and Project Success**

One of the current era's major concerns is restoring our planet's sustainability. Schwaninger (2015) stated that the separation of economic and ecological motives has led to various conflicts over the last 200 years. Sustainability is perceived beyond purely environmental concerns it includes economic aspects issues as well as social wellbeing. Khan (2000) defined sustainability as "the ability of a project to maintain an acceptable level of benefits flow through its economic life". The balance between economic growth, prudent use of natural resources, and social well-being has been challenging for many organizations. Sustainability generates a community vision that ensures present generations can achieve economic security and preserve the integrity of the ecological system by respecting the discreet use of natural resources (Elkington, 1997).

The social, environmental, and economic aspects of sustainability identified as the "triple bottom line", are constantly being influenced by environmental, political movements, and economic pressures, which produces impacts when these aspects are linked together (Gimenez, 2012). To achieve sustainability, there should be a unity between economic activity and its natural basis (Brundtland, 1987). The essence of implementing sustainability principles in business strategies is the consideration of long-term Planning in decision-making (Bagheri & Hjorth, 2007). In the previous literature, multi-criteria decision theory is used to analyze the various data relating to sustainability and sustainable decisions. Carvalho and Rabechini (2011)

argued that there is a need to study how to incorporate sustainability principles into organizational processes, mainly at the managerial level.

Firms participate in sustainability principles generally due to stakeholder pressure (Sprengel & Busch, 2011) and disclose their sustainability performance in search of social and environmental support as a source of legitimacy and competitive Advantage. These theories emphasize that for organizations to continue surviving in the current business environment, economic progress and competence are crucial but not adequate. Organizations also need to adopt sustainability practices for long-term survival and success. Some organizations may adopt sustainability practices simply to satisfy the shared expectations and interests of their clients, where legitimacy is the only reward. But some adopt sustainability as a result of their commitment to pertinent stakeholders leading to future benefits and opportunities that may have been otherwise invisible (Tavares & Alcina, 2018).

Sustainability incorporation can provide project managers with a new perspective that will be supportive of their decisions and planning to allocate organizational resources assigned to the projects, ensuring that the actions they take are in the best interest of their stakeholders without compromising on the wellbeing of society and environmental concerns (Silvius & Schipper, 2014).

***H1: Sustainability principles significantly and positively affects project success.***

### **Sustainability Disclosure and Project Success**

Most organizations use sustainability reports as a substantial means of disclosing their long-term and short-term business strategies and to provide transparency of business activities to their stakeholders (Chang, Oh & Park, 2017). According to the legitimacy theory, firms continuously try to adopt principles within society's norms and bounds. These organizations voluntarily disclose their activities which they think are according to 'society's environmental expectations. The legitimacy theory is mostly used to build the relationship between organizations and their responsibility toward social and environmental aspects of sustainability. The theory also explains how organizations legitimize the social, environmental, and economic activities that help them develop sustainability and achieve success in the existing paradigm of the business world (Zyznarska & Dworczak, 2018). To achieve legitimacy, organizations voluntarily adopt sustainability disclosure to ensure their customers and stakeholders are incorporating sustainability principles in their business strategies (Burritt & Monroe, 2018).

The stakeholder theory is closely aligned with the legitimacy theory and both are often used to complement each other and complete the understanding of disclosure activities, despite their different points of view. Sustainability disclosure is mainly motivated by organizations' requirement to legitimize their sustainability actions and as a response to the 'community's expectations. Project-based organizations are externally oriented and have to involve all the stakeholders and their interests when establishing their policies as these disclosure reports are a means of communication between them (Tavares & Alcina, 2018). As the influence of stakeholders on these 'organizations' image is crucial, they need to manage their relationships with the stakeholders more closely and frequently provide data as a voluntary disclosure on their annual reports or on their official websites. These organizations analyze the disclosure reports to gain business competitive advantage.

Aras and Crowther (2013) argued that sustainable disclosure is important for all aspects of sustainability, and it is essential for long-term success and even a critical factor for survival. Many annual reports disclosed by the companies, called environmental reports or CSR reports, are nowadays being recalled as sustainability reports (Aras & Crowther, 2013). Currently, companies are being flexible with disclosing information as sustainability-related reports are of voluntary nature (Chen & Bouvian, 2009). According to Schaltegger et al. (2006),

sustainability reporting can be viewed as a 'manager's attempt to overcome sustainability challenges faced by the company to move toward achieving a competitive advantage in their business.

Organizations with good overall performance in all aspects of sustainability will be more motivated to disclose information to gain reputation and meet societal and environmental regulatory pressures, which can turn into a strong organization performance. This study will analyze the relationship between sustainability disclosure and how it can help gain project success which the strong performance of the organization can exacerbate. Thus, based on the above discussion, we can propose the hypothesis as:

***H2: Sustainability disclosure significantly and positively affects project success.***

### **Moderating Role of Stakeholder Pressure**

'Stakeholder's pressure is an influencing factor of sustainability. Freeman (1984) explains two meanings of stakeholders. The first concept shows the individuals or groups that influence the organization or those whom the organization is influencing. Later he gave another concept of Stakeholder in which he described the stakeholders as the ones ""who are the fundamental source of 'firms' survival"" (Freeman, 2004, p.23). Whereas the Stanford Research Institute (SRI) described stakeholders as ""the groups without whose support organizations would not be able to work"." There are various other definitions of stakeholders present in the literature (Walker, 2008).

According to the stakeholder theory, stakeholders not only encourage the organizations to focus on short-term economic interests as their ultimate objective but also push the organizations toward implementing sustainable practices in their business strategies (Buysse, 2006; Eesley, 2003). Henriques and Sadosky (1996) were the first ones to study the relationship between stakeholders and their pressure on the organizations whether to implement the sustainability plan, using empirical data, the results show that stakeholder pressure positively affects the 'organization's sustainability implementation plan. But this effect depends on the priority and influence of the Stakeholder that the organizations give to their group of stakeholders. The pressure to implement the plan is more when it is from customers, shareholders, government, and regulatory authorities, but it tends to reduce under the pressure of the lobby groups.

Lee and Kim (2018) studied the pressure of external stakeholders and the support of internal stakeholders impacting the implementation of sustainability practices. By incorporating sustainability demands, including economic, social, and environmental demands, organizations can gain legitimacy, establish a reputation, and gain a competitive advantage in the market by including sustainability practices in their business activities according to the priorities of their stakeholders (Delmas & Toffel, 2014).

Moreover, market pressure comes from the external market stakeholder', which also impacts the company's decisions. Organizations need to enhance their sustainability technologies and environmental strategies to make a good reputation for external Stakeholder and to obtain a competitive advantage in the market. As more organizations within the same industry or sector incorporate sustainability principles in their business operations, external stakeholders will be more inclined toward the organization that is focused not only on economic profit but also on environmental and social concerns (Lunkes & Rosa, 2019).

External stakeholders such as government entities and regulatory authorities that exert too much pressure and have strict environmental and social policies can cause a cost burden for the organizations which is difficult for most of the organizations to withstand. Wang and Heugens (2018) conducted a study on the listed companies of China and proposed a u-shaped inverted relation between government entities, and regulatory authorities. Government and

regulatory authorities are considered one of the most important factors that impact firm sustainability incorporation.

Sustainable reporting is considered as a key factor that leads to a more sustainable way of doing business, which benefits the organization and as well as its stakeholders (Aras & Crowther, 2008; Lazano & Huisingh, 2011). The literature highlights the significance of stakeholder power on sustainability disclosure. According to the legitimacy theory, organizations that are more environmental and social sensitive tend to have a higher quality of disclosure reports to legitimize the 'company's activities. This is due to the pressure exerted by external stakeholders such as environmental regulatory groups and social welfare communities (Sulaiman et al., 2014). Only those organizations will participate in proactive strategies of social and environmental concerns that truly integrate sustainability, recognize their stakeholders to be important and be more focused on sustainable reporting (Burrit & Schaltegger, 2010).

Many organizations are held accountable for their actions, especially when these organizations are oriented externally, and therefore, these organizations need to have more understanding of their stakeholders (both internal and external) and prioritize their interests according to the extent of their power (Schneider & Wallenburg, 2012). The pressure of these stakeholders is more on the public sector, where organizations face complex rules and regulations and the risk of loss of reputation when non-complying (Giunipero, 2012).

The contribution discussed above allows us to observe a substantial effect of stakeholder pressure on SP and SD and the relationship with the competitive business advantage that depends on the prioritization the organization grants to the stakeholders interests on others. Based on the literature available on stakeholder pressure and corporate sustainability practices, and sustainability disclosure strategies, there are still many controversies on measuring these strategies based on standard data that can be collected from annual reports, social responsibility reports, or corporate GRI reports (Walls & Berrone, 2011). This makes it difficult to conduct the research through empirical analysis as research is usually carried out using surveys and questionnaires for data collection which usually creates limitations in the research conclusions.

***H3: Stakeholder pressure moderates the relationship between sustainability disclosure and Competitive Advantage.***

***H4: Stakeholder pressure moderates the relationship between sustainability principles and Competitive Advantage.***

The degree to which organizations establish a strong defensible position against their competitors gives them a competitive advantage (Vallopra, 1999). Having a competitive advantage means that the organization will have the following capabilities compared to its competitors; lower prices, high quality, and more dependability which will improve the organizational performance, stakeholder satisfaction, reliability, and relationship effectiveness leading to project success. (Mentzer, Zacharia, 2000). There are some dimensions of sustainability based on processes and management which have a direct influence on competitive Advantage: resource usage, flexibility, innovativeness, and disclosure. So, integrating sustainability principles has become one of the critical factors for gaining the competitive Advantage for companies (Cai et al., 2009).

Profit-making and economic growth is the primary goal of most of the organizations but it is also crucial for these organizations to ensure the achievement and existence of a long-term success. Organizations need to adopt strategies that will not only meet their economic growth but also focus on outperforming their rivals to survive in this competitive business world. The primary objective of the organizations is maximizing their shareholder wealth which can be achieved through competitive advantages (Wijayanto & Suhadak, 2019). In 'today's business world, competitive Advantage is considered as an essential factor that ensures

long-term success and it is being reflected in firms, industries, and at the national level (Vilani, 2017). Based on the literature cited above, we can hypothesize that:

***H5: Sustainability disclosure significantly affects competitive Advantage.***

Michael Spencer (1973) presented the theory of signaling which was based on the need for organizations to reduce information asymmetry with their stakeholders by voluntarily disclosing essential information to their stakeholders. The theory suggests that by voluntarily disclosing information, organizations can stand themselves out from their rivals as being more responsible and better in performance (Adekunle & Asaolu, 2013). Thus, the reduction in information asymmetry will increase their public loyalty and increase demand for the market share of such organizations which will result in a competitive advantage.

According to signaling theory, incorporating sustainability practices, and disclosing information related to their social, environmental and economic activities, firms send signals to the public and their stakeholders informing them of their positive sustainability strategies that create reputational benefits giving the firm a competitive advantage (Loh, Thomas & Wang, 2017). The magnitude of competitive Advantage achieved by the company can be measured by the difference between the net value created and comparing it to the cost of their competitors. If the profit achieved is greater than their competitors, only then the firm gains competitive Advantage. If the value generated is equal to that of its competitors, then the firm has competitive equality and if the value generated is less than its competitors, then they have competitive disadvantage (Aswini, 2013; Rothaermel, 2008). Thus, we can propose the following hypothesis as:

***H6: Sustainability principles significantly affect competitive Advantage.***

**Mediating Role of Competitive Advantage**

To achieve competitive Advantage that can exceed their business rivals, organizations need to understand and analyze how their strengths surpass their 'rival's weaknesses. By incorporating sustainability principles in their business strategies, organizations will be able to stand out from their rival firms which are in the same industry, and by disclosing their sustainability strategies they will be able to boost their reputation in the market. These organizations will be able to meet the sustainability demands of their stakeholders and will reduce information asymmetry by disclosing reports from which organizations can derive competitive Advantage (Zhao et al., 2019).

Some researchers pointed out that competitive Advantage has relative features that depreciate with time. Most organizations after achieving some level of success become static because of lack of a need for advancement or lack of motivation to gain more advantages. These organizations tend to lose their success in the long run due to the dynamic changes in the business environment (Paweł, 2016; Wang, Senaratne & Rafiq, 2015).

Competitive Advantage is widely used to measure the 'firm's performance and profitability as it indicates its reputation, its market value, quality of goods and services, and its innovation capability. The ideal condition that leads to the competitive Advantage of a firm includes resource diversity and mobility, ex-post and ex-ante limits to competition (Aswini, 2013). Firms can outperform each other by establishing unique set of attributes that guarantees the enhancement of its performance related to low cost, utilizing firm resources sustainably and adopting policies that make the company accountable and superior to its competitors and reveal its competitive Advantage (Wirda, 2019).

Competition is the key factor in driving profitability and reputation that leads to better organizational performance contributing to overall project success. The rationale of this study is to analyze how sustainability principles and sustainability disclosure can help project-based organizations in Pakistan gain business competitive advantage in 'today's business world when the key demand of the majority stakeholder is sustainability strategies that can ensure project

success in the long run. Limited studies have been carried out for this purpose in developing countries but the recent competitive urge in the market for the organizations to move toward a more sustainable approach in utilizing their resources for long-term success has led the companies to practice sustainability principles and disclosure (Aladwan, 2018). This study will help assess the role of competitive Advantage through a sustainable approach in gaining project success in the context of developing countries. Thus, we propose the following hypothesis:

***H7: There is a positive relationship between competitive Advantage and project success.***

***H8: Competitive Advantage mediates the relationship between sustainability principles and project success***

***H9: Competitive Advantage mediates the relationship between sustainability Disclosure and project success***

## **Methodology**

### **Research design**

The research approach is dependent on the objectives of the study and is decided on the nature of the research problem, and the population for whom the research is being carried out (Saunders, Lewis & Thornhill, 2009). The research approach is based on the understanding of the context from the literature and explains the relationship between the adopted variables. Thus, a deductive approach is used, based on existing theories hypotheses were developed and a suitable research strategy is selected to test these hypotheses.

### **Unit of Analysis**

Unit of analysis was experienced professionals working in different project-based organizations including the private and public sectors. Key informants such as project managers and program managers will be selected on the basis of their area knowledge, experience, and most importantly because the mid-level managers are responsible for adopting sustainability principles and overseeing sustainability in projects (Joslin & Muller 2016, Khan et al., 2013).

### **Sampling Technique**

A sample is an appropriate representative portion selected from the total population to determine different parameters (Singleton, Straits, & Straits, 2005). This study considered both public and private sector organizations registered under PEC. Project-related staff working in both private and public sector projects in Pakistan is the sample size. The list of these organizations is acquired from Pakistan Engineering Council (PEC). A total of 75,713 firms (both public and private firms) are currently registered with PEC was the 'study's target population. For data collection, a non-probability sampling technique i.e., the convenience sampling technique was used as all the characteristics of our population are unknown. In this study, the sample size for a sample frame of 75,713 is 384 (Sekaran & Bougie, 2016).

### **Measurement**

Sustainability is measured by the questionnaire adapted by Maetinez et al. (2013) having three dimensions namely social, economic, and environmental sustainability. The measurement scale includes 16 items. The first four items are related to activities aimed at economic dimensions of sustainability, the next six items are related to the social dimension and the next six items are related to environmental dimensions of sustainability.

The perceived stakeholder pressure is measured using the scale of (Buysse & Verbeke, 2013). The respondents will be requested to specify the level of influence on a five-point Likert scale ranging from no influence (1) to moderate (3) and very strong influence (5).

Organizations that have a competitive advantage indicate that they will have the following capabilities as compared to their competitors; lower prices, high quality, and more dependability which will improve organizational performance, client satisfaction, and relationship effectiveness leading to project success (Mentzer & Zacharia, 2000). The constructs that measure competitive Advantage is adopted from Zhang (2011).

The project success questionnaire examined the 'respondent's understanding of the success of the project. The items of the questionnaire were adopted from Khan et al. (2013). This study used content analysis to measure sustainability disclosures. There are two approaches used for content analysis. In this study, the index approach was used to measure disclosure. In this approach, the presence or absence of an item from a list of items required by the reporting standards is checked. The individual reports will be scored through a simple coding method, assigning 2 for full disclosure of an item and 1 for partially disclosed, and 0 for undisclosed (Bebbington, 2008; Khan, 2010)

The study sample included data from reports prepared by different organizations according to GRI guidelines. Seventy-seven of these reports were obtained from the GRI website and the rest of them will be collected from multiple secondary. Reports that are not according to the GRI guidelines will be excluded or coded as 0. A suitable scoring index is used by adopting the inclusive guidelines specified in the GRI social, economic, and environmental indicators (Aktaş et al. 2013). The data obtained was analyzed in the SPSS 26.0.

Following existing literature, a checklist of items is developed that can be applied in the perspective of developing countries, like Pakistan, to measure the disclosure index. These items are classified into 3 dimensions: strategy and profile, management approach and performance indicators of different organizations of Pakistan. If the information about the item is fully disclosed then it is scored 2, if partially disclosed then 1, otherwise 0. The indicators that are mostly disclosed and never disclosed have been identified (Leszczynska, 2012; Aktaş et al., 2013)

### **Data Collection**

The current study is cross-sectional study and attempted to gather evidence from 250-300 professionals currently working in the project-based organizations of Pakistan. The online survey which was meant to be easily understandable and approachable was used for the participant amid COVID-19 and quarantine. The participants of the study were chosen using the convenience sampling method hence there was no geographical limitation applied. Google Forms were opted to gather data.

The national language of Pakistan is Urdu but the language of the construct remains in English as it is an international language and is accepted as the auxiliary language in most of countries (Smith, 1976). The participants of the study are also anticipated holding higher education, which in Pakistan is taught through the English medium education. Therefore, every participant can understand English (Raja, Johns & Ntalianis, 2004).

A web-based questionnaire using Google Forms has been developed for the current study. The respondents were approached through e-mails, telephonic calls, and LinkedIn profiles with the request to fill in the questionnaire during any time of the day. Two reminders to use e-mail and a follow-up message was also sent for filling the questionnaire. The data was collected within the time frame of three months. As the nature of the study was cross-sectional, the data was collected only once from the participants.

### **Statistical Technique**

It is suggested to remove any incomplete or missing value questionnaire filled by the respondents before the analysis of the data. Data screening was confirmed by identifying or checking any random values or outliers. Before performing any statistical analysis, it is important to check the normal distribution of the data by normality tests. Also, the verification

of the reliability and validity of the instruments used in the study survey. Reliability and validity are quite important steps to be performed from a research perspective. Reliability states to the internal uniformity of the instruments used in the study and provide confirmations that the result of the corresponding measures is predictable to be the same under different circumstances. A highly suggested constructed construct is likely to produce similar results in similar settings (Cresswell, 2009). The range of reliability from .70 to .80 is considered good.

Validity shows whether measures are able to produce the preferred concept and whether they are according to the theory suggested in the study. Construct validity is classified into convergent and divergent validity. Convergent validity is to ensure that the correlation between the items is the same as expected by the theory whereas, divergent validity measures the dissimilarity between the variables that are theoretically not correlated to each other. After all the data is processed, the next step is to run a statistical analysis on SPSS 26 to check the trend and correlation of the constructs. The hypothesis relationship of this study was tested through multiple regression and correlation analysis. These analyses were performed on the SPSS module which was also used for path analysis and factor analysis.

## Results

### Frequency Distribution (Demographic Variables)

Table 4.1 depict that about 58.2 % of respondents had a 'Bachelor's degree, 23.9% have a Master degree and 0.3% had a Ph.D. The majority of the respondents i.e., 70.4% have experienced between 1 to 5 years. 21.1 percent got 6-10 years and the rest have 16 or more years of experience. The majority of our respondents are team leaders i.e., 48.5% and 24.5 %are project managers. 39% of respondent belongs to Construction/Engineering while the ""others"" belong to Research and Development, IT/Telecom Sector.

**Table 1 Demographic variables**

<b>Particulars</b>	<b>Percentage</b>
<b>Education</b>	
Diploma	15.4
Bachelors	58.2
Masters	23.9
M. Phil /PhD	0.3
Others	0.9
<b>Experience(years)</b>	
1-5	70.4
6-10	21.1
11-15	5
16-20	1.9
Above 20	3
<b>Position</b>	
Project Manager	24.5
Team Leader	48.5
Others	27
<b>Organizations</b>	
Construction/Engineering	39
Research and Development	21.4
IT/Telecom Sector	18.9
Other sectors	20.7

**Table 2 Reliability text**

Sr No.	Variables	No of items	Reliability
1	Sustainability principles	17	.974
2	Competitive Advantage	12	.971
3	Stakeholder pressure	13	.932
4	Project Success	24	.974

### Reliability Statistics

'Cronbach's alpha reliability is used to measure the internal consistency between the construct items. In this table 4.2 the reliability value is 0.84 to 0.93 demonstrating the high dependability and inward consistency in measurement. Sustainability principles have 17 items having Cronbach alpha 0.974. Competitive Advantage has 12 items scale having Cronbach alpha 0.971. Total number of items of stakeholder pressure is 13 with Cronbach alpha 0.932. The project success scale is of 24 items having Cronbach alpha 0.974.

The table 4.3 exhibits the correlation between the variables. Sustainability disclosure and Sustainability principles are positive and significantly related to Project success ( $r=.237$ ,  $p<.01$ ), and ( $r=-.620$ ,  $p<0.01$ ) respectively. Sustainability disclosure and Sustainability principles are positive and significantly related to Competitive Advantage ( $r=.165$ ,  $p<.01$ ) and ( $r=.602$ ,  $p<0.01$ ) respectively. Competitive Advantage is significantly and positively related to Project success ( $r= 0.665$ ,  $p<0.01$ ). Stakeholders pressure has also positive and significant relationship with sustainability disclosure ( $r= 0.166$ ,  $p<0.01$ ), sustainability principles ( $r= 0.631$ ,  $p<0.01$ ), stakeholder pressure ( $r= 0.538$ ,  $p<0.01$ ) and project success ( $r= 0.624$ ,  $p<0.01$ ).

**Table 3. Correlation Matrix**

		SD	1	2	3	4	5
<b>Mean</b>							
Sustainability Disclosure	1.70	.854	(-)				
Sustainability principles	3.33	.971	.161**	(.97)			
Competitive Advantage	3.31	1.12	.165**	.602**	(.97)		
Stakeholder pressure	3.12	.914	.166**	.631**	.538*	(.93)	
					*		
Project Success	3.63	.912	.237**	.620**	.665*	.624*	(.97)
					*	*	

### Statistical Analysis

Results of regression analysis for Competitive Advantage, sustainability disclosure, sustainability principles, stakeholder pressure, and project success are given in Table 4.4.

**Table 4 Direct Effect**

Model	Sig	B
SP → PS	.000	0.629
SD → PS	.000	0.237
SD → CA	.003	0.165

SP → CA	.000	0.660
CA → PS	.000	0.665

SP=Sustainability Principle, PS=Project Success, SD=Sustainability Disclosure, CA=Competitive Advantage

Regression analysis is performed to check the effect of sustainability principles on project success. Result ( $\beta = .629$ ,  $p < 0.01$ ) shows that there is a positive significant relationship between sustainability principle and project success. Results ( $\beta = .237$ ,  $p < 0.01$ ) showed that the relationship between sustainability disclosure and project success is positive and significant. Regression analysis was executed to test the effect of sustainability disclosure on the competitive Advantage. The result shows a positive significant relationship between sustainability disclosure and competitive Advantage ( $\beta = .165$ ,  $p < 0.01$ ). Moreover, there is a positive significant relationship between sustainability principles and competitive Advantage has found ( $\beta = .660$ ,  $p < 0.01$ ). The result also depicts a positive and significant relationship between competitive Advantage and competitive Advantage ( $\beta = .665$ ,  $p < 0.01$ ).

**Table 5 Mediation analysis Sustainability Principles →Competitive Advantage  
→Project Success**

Sustainability principles Advantage →Project success	→Competitive	Effect	SE	LLCI	ULCI
Total		0.552	0.393	0.475	0.629
Direct		0.307	0.044	0.221	0.392
Indirect		0.245	0.033	0.185	0.318

N = 318. Reported estimates are unstandardized. SE = standard error; LLCI = lower limit confidence interval, ULCI = upper limit confidence interval

The study also examines the presence of mediation (5,000 random samples) by using SPSS with Hayes PROCESS (Model 4) and results are being presented in Table 4.5. The confidence interval for the indirect effect of sustainability principles on project success via competitive Advantage does not include 0 (LLCI = 0.185; ULCI = 0.318), suggesting the presence of mediation. Further results explain the direct effect that does not have zero (LLCI = 0.221; ULCI = 0.392) indicating the case of partial mediation.

**Table 6 Mediation analysis Sustainability Disclosure →Competitive Advantage  
→Project Success**

Sustainability Disclosure Advantage →Project success	→Competitive	Effect	SE	LLCI	ULCI
Total effect		0.253	0.058	0.138	0.368
Direct effect		0.140	0.044	0.051	0.228
Indirect effect		0.113	0.038	0.037	0.192

N = 318. Reported estimates are unstandardized. SE = standard error; LLCI = lower limit confidence interval, ULCI = upper limit confidence interval

Table 4.6 reports mediation results for the presence of mediation (5,000 random samples) by using SPSS with Hayes PROCESS (Model 4). The confidence interval for the indirect effect of sustainability disclosure on process success via competitive Advantage has not included 0 (LLCI = 0.037; ULCI = 0.192), suggesting the presence of mediation. Further results explain the direct effect that it does not have any zero in that (LLCI = 0.051; ULCI = 0.228) indicating the case of partial mediation.

**Table 7 Moderation analysis**

Competitive Advantage							
Variables	$\beta$	S.E.	<i>t</i>	<i>p</i>	LL 95% CI	UL 95% CI	
<b>SP</b>	.904	.167	5.407	.000	.575	1.23	
<b>SHP</b>	.747	.169	4.402	.000	.413	1.08	
<b>SP*SHP</b>	-.131	.048	-2.73	.006	-.226	-.03	

Hayes process (Model 1) is used to test the moderation hypothesis. Moderation results are shown in Table 4.7. Significant interaction value ( $\beta = -.131$   $p < 0.05$ ) shows there is moderation of Stakeholder pressure between sustainability principles and competitive Advantage.

**Table 8 Moderation analysis**

Competitive Advantage								
Variables	$\beta$	S.E.	<i>t</i>	<i>P</i>	LL CI	95%	UL CI	95%
<b>SD</b>	.495	.224	2.209	.027	.054		0.93	
<b>SHP</b>	.863	.133	6.458	.000	.600		1.126	
<b>SD*SHP</b>	-.123	.067	-1.82	.068	-0.25		0.009	

Hayes Process (Model 1) was used to test the moderation hypothesis. Moderation results are shown in Table 4.8. The non-Significant interaction value ( $\beta = -.123$   $p > 0.05$ ) shows there is no moderation of Stakeholder pressure between sustainability disclosure and competitive Advantage.

## Discussion and Conclusion

### Results Discussion

The objective of the study is to examine the impact of the incorporation of sustainability principles and sustainability disclosure on project success in the presence of business competitive advantage as a mediator and stakeholder pressure as a moderator. The proposed nine hypotheses were tested to explain whether the incorporation of sustainability principles in the core business strategies and sustainability disclosure practices can increase the competitive Advantage of an organization for long-term project success. And how the role of stakeholder pressure can moderate the relationship of the independent variables with competitive Advantage.

Hypothesis 1 is supported by the findings. It states that sustainability principles and project success are positively related. The regression results show a positive and significant relationship between sustainability principles and project success. The findings of this study are in line with the literature, which states that the incorporation of sustainability principles within organizational strategies can ensure long-term project success (Silvius & Schipper, 2014; Gimenez, 2012). These Sustainability aspects give a practical view to access organizational performance. The concept of sustainability incorporation enables all project

managers to make sensible decisions regarding projects and hence projects will end with success.

Hypothesis 2 stated that sustainability disclosure and project success are positively related. The results support this hypothesis that sustainability disclosure practices of an organization and project success are positively and significantly related to each other. Positive economic, environmental, and social impacts can be derived from sustainability disclosure. Organizations covering all aspects of sustainability should be more concerned to disclose their information and then has pressure to maintain that standard which eventually leads to the success of projects (Chang, Oh & Park, 2017).

The findings also support the legitimacy theory which states that organizations disclose the social and environmental activities that are expected to be performed by society to legitimize their business activities and gain an advantage which raises the value and overall performance of the organization leading to long-term success (Zyznarska & Dworczak, 2018).

Hypothesis 3 of the study is also supported by the results which study the moderation effect of stakeholder pressure between sustainability principles and competitive Advantage. The results show that stakeholder pressure positively moderates the relationship between the predictor and outcome variable. The internal stakeholders have a significant influence on the 'firm's business strategies and both types of stakeholders have a common goal to get maximum profit through competitive Advantage. Greater exposure of the organization to stakeholder pressure both external and internal will lead them to perform in a more sustainable manner and motivate the organization towards a disclosure of social and environmental actions (Alsayagh, Mehmood, 2018).

Hypothesis 4 is to investigate the moderating effect of stakeholder pressure between sustainability disclosure and competitive advantages. The results do not support our hypothesis. Another reason for the rejection of this hypothesis can be limited knowledge of sustainability disclosure of the organizations. Firms disclose their financial activities in the annual report but hesitate to disclose their social and environmental activities due to the risk of not complying with the environmental regulations and not meeting the expectations of the Stakeholder.

Hypothesis 5 states that there is a positive relationship between sustainability disclosure and competitive Advantage. The results show that there is a positive and significant relationship between these two variables. This is also supported by signaling theory which states that by disclosing information related to their social, environmental, and economic activities, firms send signals to the public and their stakeholders informing them of their positive sustainability strategies that creates reputational benefits giving the firm a competitive advantage (Loh, Thomas & Wang, 2017). Organizations that voluntarily report their social and environmental activities along with their financial reports tend to gain more stakeholder support and increase in market value within the same industry or sector leading to competitive Advantage. The transparency of information between the organizations and their Stakeholder improves their relationship with their external and internal Stakeholder and organizations can justify their sustainability activities through these disclosure reports (Hahn & Lulfs, 2014).

According to hypothesis 6, there is a positive relationship between sustainability principles and competitive Advantage. The results are in line with the literature. Firms can outperform each other by establishing a unique set of attributes that guarantees to enhance their performance related to low cost, utilizing firm resources sustainably, and adopting policies that make the company accountable and superior to its competitors and reveal its competitive Advantage (Wirda, 2019). The sustainability principle is a key factor in 'today's age to strengthen the organizational decisions and strategies which can lead them far ahead to get a better competitive edge. Such organizations will be competent enough to satisfy the demands of stakeholders and will from which organizations can develop a competitive advantage.

Hypothesis 7 states that there is a positive relationship between competitive Advantage and project success. The results also support the hypothesis and show that there is a positive and significant relationship between competitive Advantage and project success. As the firm gains market value and gain support from the stakeholders, this gives them a competitive edge over other firms within the same industry. This leads to more stakeholders investing in the firm and more opportunities for the firm to enhance its business activities for the long-term and effective execution of the project.

According to hypothesis 8, competitive Advantage mediates the relationship between sustainability principles and project success. The results support this mediation, and both are significantly correlated. The results show a positive and significant relationship between both variables. Previously, Rolstadås et al., (2014) stated that Projects are an economic activity, and the amalgamation of sustainability has been considered crucial for gaining a competitive advantage for a successful project.

Hypothesis 9 stated that competitive Advantage mediates the relationship between sustainability disclosure and project success. The results support this mediation, and both are significantly correlated. The results show a positive and significant relationship between both the variables. Organizations that have good overall performance in all aspects of sustainability will be more motivated to disclose information to gain reputation and meet societal and environmental regulatory pressures, which can turn into a strong performance of the organization leading to overall project success.

### **Theoretical Implications**

This study has numerous significant theoretical contributions to the existing literature on project management in the context of sustainability and disclosure practices and their relationship with project success and competitive Advantage. Firstly, there is limited literature present, which focuses on the sustainability principles and disclosure and its influence on the firm's competitive Advantage. The indirect role of competitive Advantage as a mediator between sustainability principles and sustainability disclosure, and project success is a unique contribution to the existing literature. The impact of sustainability principles and competitive Advantage in the past has been studied under the organization's context. Still, limited studies have discussed the role of sustainability practices in the context of projects. The mediation effect of competitive Advantage on these variables has not been addressed in detail previously. Therefore, this study tested hypotheses 8 and 9, which test the mediation of competitive Advantage on project success for the first time. The study was conducted purely in Pakistan's project-based public and private sectors; hence, it provides culture-specific findings. Therefore, this study contributes to the theoretical and contextual gap in developing countries' current research areas.

Moreover, most of the study related to sustainability was conducted in developed countries such as the United States of America or Australia. Hence, this study is also helpful for adding to the literature on developing economies with high power distance due to cultural similarities. The existing research encompasses previous research in the context of project-based private and public sector companies. It contributes contextually by proposing a new theoretical framework, which has not been studied before or does not repeat any current model. Moreover, the stakeholder context is also a valuable contribution to the regarding as nowadays stakeholders can influence competitive Advantage.

### **Practical Implication**

The study has important managerial implications for project managers and managers of the organizations. The study provides a better understanding of sustainability practices and management's influence by linking it to competitive Advantage and project success. The study reveals that organizations should educate their employees about sustainability and expand the

sustainability reporting and disclosure to projects. Recent COVID-19 pandemic shocks to the economy of many countries worldwide have revealed that long-term sustainable practices are becoming important if organizations want to survive any future economic crisis. Managers should communicate their sustainable goals, visions, and strategies to the public to gain their stakeholders' trust. Keeping the dialogues open related to sustainability can enhance the chances of better sustainability development.

### **Future Direction and Limitations of the Study**

The study investigated the impact of sustainability principles and sustainability disclosure for enhanced competitive Advantage as an antecedent for project success. Future studies can study the effect of improvement in sustainability practices and information on firm performance. Research should also include the feedback received from the report and stakeholders' users to improve the disclosure quality and transparency of reporting sustainability. Future research should positively encourage the deployment of accountability regarding sustainable development and attitude and sustainability behavior.

Future research can also perform comparison analyses between two or more industries in developing countries to understand the inclination, attitude, and direction of economies towards sustainability. Competitive Advantage is a mediator in this study, but future research can take Sustainability intention, Industrial ecology, or corporate brand trust as the mediator in the same framework. In place of stakeholder pressure, other moderators, such as organizational culture, can be used. Future studies can also research project outcomes through sustainability principles and disclosure. The relationship can also be explored by comparing the impact of sustainability disclosure with CSR disclosure practices on the firm's performance in future studies.

The limitation of the study is the unit of analysis, i.e., the data collected is from Pakistan's public and private sectors. Future studies can analyze these relationships in different geographical regions. Future researchers can also do a comparative analysis of the public and private sectors to better understand the direction and impact of sustainability in both industries. The data was self-reported which can create biased data.

### **Conclusion**

The current quantitative research aimed to examine the impact of sustainability principles and sustainability disclosure on project success through the mediation of competitive Advantage. The conceptual model also included the moderation of stakeholder pressure on sustainable principles and competitive Advantage and on the relationship between sustainability disclosure and project success. It is also concluded that there is a significant positive impact of sustainability principles and sustainability disclosure on project success. Additionally, this study also contributes to the body of knowledge by concluding that competitive Advantage mediates the relationship between sustainability principles and project success and behaves as an antecedent to project success. The results also indicated that stakeholder pressure positively moderates the relationship between sustainability principles and project success. However, the results show no moderation of stakeholder pressure on sustainability disclosure and competitive Advantage indicating that there is still less understanding and activities related to sustainability disclosure practiced by the organizations and their stakeholders.

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