Pakistan Journal of Commerce and Social Sciences
2020, Vol. 14 (3), 761-784
Pak J Commer Soc Sci

Linking Sustainability Management and Success in Construction Projects: Moderating Influence of High Performance Work Systems

Umer Zaman (Corresponding author)
Endicott College of International Studies, Woosong University, Daejeon, Republic of Korea
Email: umerzaman@endicott.ac.kr

Saba Abbasi
National Defense University, Islamabad, Pakistan
Email: abbasi.saba56@gmail.com

Shahid Nawaz
Department of Management Sciences, The Islamia University Bahawalpur, Pakistan
Email: shahidnawaz702@gmail.com

Muhammad Shahid Siddique
School of Business Management, University Utara Malaysia, Malaysia
Email: shahidmomin1@hotmail.com

Article History

Received: 28 June 2020 Revised: 23 Aug 2020 Accepted: 09 Sept 2020 Published: 30 Sept 2020

Abstract

The environmental footprint of the global construction industry has emerged as a major concern in an era of massive urbanization across the world. Drawing on the complex and under-explored role of project sustainability management (PSM) and high performance work systems (HPWS), this study investigates the moderating role of HPWS between PSM and construction project success (CPS). Using survey of 368 project professionals working in the construction industry in Pakistan, the hypothesized relationships were tested with the partial least squares based structural equation modeling (PLS-SEM) technique. The study findings establish empirical support for the significant positive influence of PSM and HPWS on CPS. Moreover, the findings confirmed that HPWS positively moderates the effect of PSM on CPS. This research provides the initial evidence to confirm that PSM and HPWS are significant predictors of CPS, especially the effects of PSM on CPS can be significantly enhanced by advancing HPWS in construction projects.

Keywords: project sustainability management, HPWS, construction project success, China-Pakistan economic corridor (CPEC).

1. Introduction

The emergence of globalization has channelized the world to wealth of opportunities e.g. an increased world GDP of 75 trillion USD in 2016 from 50 trillion USD in 2000, yet also exposed nations to dynamic environmental challenges and threats (UN-DESA, 2017). Moreover, environmental awareness has not only increased in recent decades, but has also attracted broad societal attention to finding comprehensive solutions to growing environmental concerns (Cojoianu et al., 2020). As a result, the integration of sustainability into the construction project environment has been considered central to achieving strategic organizational objectives (Khalifeh et al., 2019) in addition to addressing construction safety and environmental issues. The global construction industry has made rapid progress towards more sustainable construction by combining economic, environmental and social responsibilities in the sustainability framework. Sustainability in construction projects ensures that energy consumption and harmful components of construction activities are reduced by implementing socially and environmentally responsible behaviors and strategies. PSM combines the life cycle of project management with the objectives of economic, social and environmental sustainability, primarily based on the triple bottom line approach (Elkington, 1998). However, project sustainability management (PSM) requires enormous resources, particularly for managing mega-construction projects. This leads to rising resource constraints which requires project managers to ensure innovative solutions for sustainable practices to maintain their competitive advantage in the global construction industry (Khalilzadeh et al., 2016).

High performance work practices have been on the lead of management research and are comprehensive solutions to successful project outcomes (Zaman, 2020). For decades, HPWS has demonstrated its influential role in driving success for many organizations, hence HPWS research has become increasingly popular in multiple-industries and organizational contexts, including construction projects. The integration of HPWS in construction projects can deliver more valued and sustainable project outcomes, besides securing project success (Zaman, 2020; Turner et al., 2013). Construction executives and project sustainability managers may achieve better environmental efficiency, by shaping employees' behaviors and maximizing productivity using HPWS (Alatailat et al., 2019). Project sustainability management in developing countries (such as Pakistan) is still an alien concept to many, including contractors, workers, and consumers. Under the China-Pakistan Economic Corridor (CPEC), the Peoples Republic of China has sponsored USD 62 billion of mega-construction projects in Pakistan, since 2013. Hence, the construction industry has continued to consume massive amounts of natural resources, and discharging huge amounts of construction wastes, and causing severe environmental hazards. Although, sustainable development goals are embedded within the CPEC projects, Pakistan still lags behind many advanced nations in achieving the UN Sustainable Development Goals (Azad & Akbar, 2015).

Successful integration of sustainability in construction projects in a time of increased competition and changing environment is a challenge for global construction firms (Bhatti et al., 2020), and Pakistan is no exception. The scarcity of resources is leading related industries into acceptance of project sustainability management tools and HPWS (Bhatti et al., 2020; Carvalho & Rabechini, 2017). In this context, HPWS along with

project sustainability is a new area in the construction management research. Fewer studies have discussed and researched on sustainability management and its effect on project success, especially in the construction industry. Based on some visible shortcomings identified in the existing literature, the present study considered China Pakistan Economic Corridor (CPEC) projects to examine the impact of PSM and HPWS on CPS, and to explore the moderating role of HPWS in the relationship between PSM and CPS. This study reconfigures the significance of HPWS and explores its role in enhancing the effects of sustainability management on project success.

2. Theoretical Background and Research Hypothesis

2.1. Project Sustainability Management

Sustainability is a vital aspect of modern construction project management. Setting the sense of the community's corporate project management techniques made sustainability a clear global force for industries. Sustainability is mistaken as green industry or environmental issues, but it requires more than that. Sustainability in companies encompasses human rights, labour standards, non-corrupt governance and environmental responsibility, according to Lacy and Hayward (2011). Sustainable development seeks to achieve fiscal sustainability with regard to time and expenditure management, social sustainability in terms of workers ' rights and employees' rights, and environmental sustainability (Yazici, 2020). Bolis et al. (2014) have shown that sustainable development is a way for all people worldwide to lead healthy, satisfying and economically secure lives without harming the environment. A project's sustainability should also be viewed from a political, social and economic perspective (Cojoianu et al., 2020).

The common ground of sustainability and project management is fairly a new topic of interest amongst the researchers. To understand this relationship, it is required to shift the perspective of sustainable development from a requirement to a competitive tool. Sustainability in project management can be perceived both internally and externally. Internal is linked to the project life cycle and external is focused on project social and environmental issues (Carvalho & Rabechini, 2017). The project management scope is larger than just the project itself. Silvius (2017) studied the sustainability impact on project management and concluded that PSM introduces a new school of thought in project management literature. Marcelino-Sádaba et al. (2015) presented PSM based conceptual framework and analyzed sustainability through the lens of product design, project process, organizational commitment, and managerial training.

In the construction industry, Koser (1994) introduced environmental sustainability. Apart from the environmental perspective, many researchers have studied the social side of sustainability which discuss the performance of social sustainability in the construction industry (Zuo et al., 2012). However, the inclusion of sustainability indicators and principles in infrastructure and construction projects is a key issue in the developed and developing world (Liu et al., 2020) because the construction industry accounts for more than 40 % of the world's energy consumption. The construction industry was far behind other sustainability reporting industries, but the industry is now focusing on the social responsibilities of linking sustainability practises to the objectives of the construction

project. (Loosemore, 2016; Glass, 2012; Goddard, 2016).Green construction is being adopted by construction companies and builders indicating the sustainability mindset.

2.2. High-Performance Work System

High-performance work systems (HPWSs) are conceptualized as the practice of activities related to human resource management which provide better operational performance in organizations (Bhatti et al., 2020). It is considered as an organizational design that aims at achieving its goal of operational effectiveness through leadership support, team-based work, and opportunities for employees, innovative HRM, performance measurement, and knowledge which lead to better organizational performance (Al-Ajlouni, 2020). The term "organizational performance" in all its vagueness can be viewed from the perspective of organizational financial profits and value for workers. Gomez-Mejia (2014) discussed the organizational performance measures and provided subjective tools such as employee behaviors, customer satisfaction, and executive views to evaluate the overall performance of organizations.

The literature on HPWS suggests that it has a strong effect on employee performance and overall business structure and organization environment (Boxall, 2012). HPWS is a combination of human resource strategies that generate a multiplier effect in organizational performance. Every strategy works in order to improve personnel development, increase productivity, and workforce effectiveness. It has been suggested that such systems lead to higher commitment, productivity, and better performance by the workers (Messersmith et al., 2011). Researches on HPWS discuss the principles and the impacts of the system on organizations and the workers (Brief, 1995). Integrating HPWS practices in businesses benefits the organization by increased loyalty and productivity of employees and increased profits as well. On the other hand, the employees gain employment security and confidence boost. Collectively the results of applying HPWS have been identified by performance improvement and cost-efficiency (Gittell et al., 2010). These aims can be achieved by increasing employee satisfaction and engagement through HPWS.

High-performance concerns have emerged as a dominant theme within the HRM discipline (Becker & Huselid, 1998). With the introduction of the strategic HRM (SHRM) model, the HRM study has examined the potential HR policies and their effect on affective employee commitment in an organization. HR practices strongly influence overall employee performance by enhancing employee skills and abilities, motivational level, and providing equal opportunity to participate (Kaufman, 2010). A review of literature in the combined field of HRM and HPWS leads to various arguments that indicate the direct and indirect effect of these practices on the project performance or success (Al-Ajlouni, 2020; Delery & Roumpi, 2017; Lai et al., 2017; Shin & Konrad, 2017). Alatailat et al. (2019) analyze the dynamic of the relationship between strategic thinking and organizational performance in banking and conclude that intelligent thinking has a positive effect on business overall performance while HPWS moderated the relationship of both. Recent studies have shifted their focus from the relationship of HR practices and performance to how this relationship is built.

2.3. Construction Project Success

The success of a project is an abstract concept and there is no standard definition of this term. Nevertheless, the identification of success criteria in project management is crucial for progress monitoring and resource allocation of projects (Goel et al., 2020; Zaman et al., 2020). The traditional approach of success of the project relates to fulfilling the objectives i.e. completion, satisfaction (Lim & Mohamed, 1999). The achievement of success also depends on the personnel factor i.e., project team. Conflict management, human behaviors, and the relationship of team members from top positions to the workers play a vital role in project completion and success (Wu et al., 2017). Scholars distinguished the 'project success' and 'project management success' from each other considering the 'cost, quality, and time' as project management success criteria and final objectives as project success (Goel et al., 2020; Pheng & Chuan, 2006). Modern project managers are inclined towards the value created by the project rather than the project completion objective (Khalilzadeh et al., 2016). The traditional "triple constraint" criteria of time, scope, and budget are insufficient and long term goals of the project are considered more important in a project's success (Pakistan Management Institute, 2016; Musawir et al., 2017).

From the construction context, prior studies suggest that project success criteria in the industry are identified by factors such as cost efficiency, schedule and quality, conflict management, project duration, stakeholder satisfaction, efficient resource utilization and environmental impact of projects (Ahadzie et al., 2008; Toor and Ogunlana, 2010). Construction projects are complex in nature and successful delivery is a challenge for the contractors. The definition of success in construction projects is also a complex construct for its perception from different stakeholders' viewpoint. However, contractors play a major role in project management success. Budget, quality, safety, cost, and contractor impact are collectively responsible for quality formation in a construction project (Alzahrani & Emsley, 2013). Conversely, knowledge management in projects by integrating the nine knowledge areas (Pakistan Management Institute, 1996) is also being adopted in many industries (Ali et al., 2018). In the construction industry, the guidelines can be directed towards contractor competency and knowledge (Hwang & Ng, 2013).

2.4. Project Sustainability Management and its Effect on Construction Project Success

A sudden shift of the construction industry from traditional development to sustainable construction has added some more specific factors in success criteria (i.e., environmental, economic, and social sustainability). Sustainability in construction projects ensures a balanced performance with regards to economic, social, and environmental elements (Lozano et al., 2015; Huemann & Silvius, 2017; Martek et al., 2018). The success of green construction projects can be measured with its energy and resource efficiency and the environmental disruption it caused (Hwang & Tan, 2012). This has however been identified as having only a 50 per cent chance of economically sustainable green construction projects, while meeting environmental efficiency requirements (Onubi et al., 2020). Incorporating sustainability objectives in construction projects requires enough resources of labor and skill and knowledge competency of project managers.

Developing countries put economic development before sustainability development, and as all the focus is on the construction itself, therefore, these issues have overshadowed sustainability concerns in the project management and the industry (Marcelino-Sádaba et al., 2015; Chang et al., 2016). The success of the project is subjective to the demands and expectations of end-users and stakeholders. Scope, time, and budget, the three traditional success factors somehow relate to the economical sustainability, but environmental and social sustainability needs to be incorporated into project goals (Elkington, 1998). A project manager can integrate the sustainable objective in his project and sustainability can indirectly influence the success factors in the construction projects. A strong knowledge base, competency, and skills of a project manager are linked with the success in project sustainable management (Hwang & Ng, 2013). To assist project managers in integrating project sustainability management, contextual success factors identification is required in the construction industry. Contextual success factors to measure project success can facilitate the incorporation of project sustainability management (Zhang et al., 2014). In the construction area, Banihashemi et al. (2017) examined the critical success factors which play an important role in the success of the construction project.

For project success measurement, sustainability absorption is being considered very crucial (Yuan, 2017). A study on sustainable infrastructure assessment reveals that PSM has a direct effect on construction project success (Krajangsri & Pongpeng, 2017). A sustainable evaluation of construction projects using a conceptual SEM model reveals that sustainable assessment during design, construction, and operation of the construction projects has a direct effect on the project. Sustainable assessment criteria were environment, quality, safety, expenses, duration, and customer satisfaction (Krajangsri & Pongpeng, 2017). In addition, Martens and Carvalho (2016) also investigated the relationship between PSM and project success by conducting survey-based research and concluded that project success has a positive relation with PSM. Further, a literature review by Khalifeh et al. (2019), suggests that relationship between PSM and project success is still not adequately addressed in literature making it a research gap for future studies. Based on the above existing empirical studies, the relevant hypothesis has been developed.

- **H_1:** Project sustainability management has a significant and positive effect on construction project success.

2.5. Moderating Effects of HPWS

The HPWS has been the topic of debate for quite some time in academics and industry (Bhatti et al., 2020). It is regarded as an important research subject considering its positive impact on organizational performance (Jyoti & Rani, 2017). In the area of strategic HRM, high performance work system is a special topic of research for the scholars from the past few years. The HPWS is now globally being used as a competitive advantage in the market and they are important in attracting, retaining, selecting, motivating, and developing the workforce in an organization. HPWS has an appositive relationship with firm culture and organizational performance (Den Hartog & Verburg, 2004). This development in the workforce proves significant in improving the chances of project success. Besides improving the human resource working on a project, high-

performance work systems offer other benefits as well, such as higher employee resilience and engagement, better organization results, and most importantly, having a competitive advantage over the competitors in the market (Galang, 1999; Shih et al., 2013; Cooke et al., 2019).

The study conducted by Messersmith et al. (2011) showed through research that the HPWS are associated with desired customer outcomes. These outcomes included effects like increased individual performance, decreased employee turnover, job satisfaction, psychological empowerment, and commitment to the workplace. These variables have a direct relationship with departmental performance. A research conducted by Huang et al. (2016) stated that an HPWS contributed to delivering out the desired outcomes in employees which in turn increased the overall organizational productivity and the success of any business project. Similarly, another study conducted by Heffernan and Dundon (2016) suggested that HPWS contributed to the wellbeing of the employee, increased job satisfaction, and increased organizational commitment. These factors were key objectives to address in HRM as they contribute directly to the success of any organizational project.

Employee turnover plays a critical role in the success or failure of a project regardless of the nature of the project. Concerning this, a study by Fan et al. (2014) found that the application of an HPWS in the form of careful staffing, effective training, performance management, and subjective wellbeing of employees resulted in increased employee outcomes. A study on entrepreneurial orientation (EO), and the moderating effect of HWPS on EO and job stressors, states that the concept of HWPS mitigates the job stressors and EO in some contexts (Giannikis, Grougiou & Kapoutsis, 2019).

Concluding the study, it is innocuous to say that HWPS has a positive impact on project success (Zaman, 2020) regarding employee engagement and increased overall performance and it has been the primary focus of researchers in this subject area. This phenomenon captivatingly links to economic sustainability. The identification and subsequent implementation of HR practices needed for PSM and their application with sustainability on construction projects can lead to success of the project. HPWS is balancing out the success metrics of a construction project with the internal and external sustainable practices, therefore, we can draw our second hypothesis on the crux of the discussion.

- **H_2:** High performance work system positively moderates the effects of project sustainability management on construction project success.

In order to encourage sustainable growth, businesses are increasingly conducting their business systematically to align their environmental and economic interests along with having a legitimate acceptance by the society (Li et al., 2019). As a significant topic for the organization's sustainability and growth, Aaltonen (2013) highlighted the legitimacy of an organization identified by acceptance of an organization by their community. The lens of legitimacy theory is therefore used by this analysis in order to investigate the relationship between project sustainability management, HPWS and construction project success.

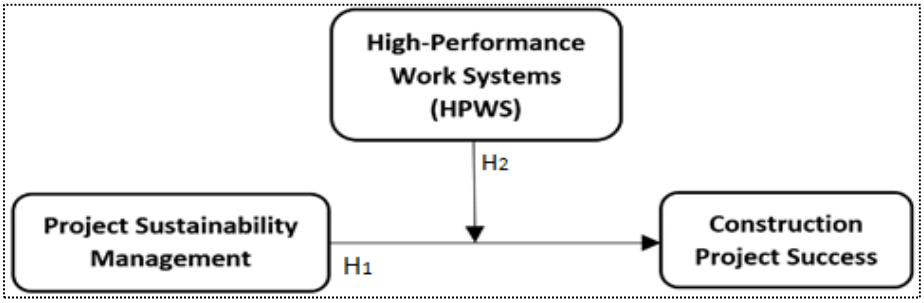

Figure 1: Conceptual Framework

3. Methods

The study used a deductive and quantitative approach to examine the proposed effects including moderating effects of a high-performance work systems on construction project success. For this purpose, we used three multi-dimensional scales that were dedicated to, PSM, HPWS and CPS (Myers, 2005). The sample size for this research was 368 professionals who were working on construction projects under CPEC. The study applied a non-probabilistic sampling technique (i.e., convenience sampling) in order to conveniently collect the data from the related persons by saving the cost and time. Convenience sampling was considered more appropriate as the participants were not randomly selected rather the willing candidates contributed to the survey. The study used a self-administered questionnaire as a research instrument in order to get an authentic result (Memon & Rahman, 2014). This questionnaire was adapted from past study and items selected for each construct variable were measured on 5 points Likert scale (1= Strongly Disagree to 5= Strongly Agree).

This study has employed variance-based PLS-SEM to examine the measurement and structural model. PLS-SEM has gained wide-ranging popularity across multiple disciplines including project management, hospitality and tourism ,strategic management, accounting, operations management, human resource management, marketing, supply chain management, management information systems, (Cheah et al., 2019; Hair et al., 2017). SEM was used to estimate the data and analyze structural relationships between study constructs. Smart PLS is a graphic user interface based software, especially for the purpose of structural equation modeling (SEM) by using the partial least square method (Hair et al., 2017; Cheah et al., 2019; Manley et al.,2020).

The validity, as well as quality tests, were performed before sending-out the final survey. Initially, the quality test were performed by 5 academicians in terms of clarity of language and understanding of questionnaire items. Before performing the validity tests, the updates and improvements suggested in the quality tests had been incorporated. Study data was directed via online and offline structured survey through different platforms (e.g. Whatsapp, Facebook, LinkedIn, direct email and on-site face to face interaction etc.) and it contains 368 respondents specifically from construction companies in Pakistan (Huang, Ma & Meng, 2018).

3.1 Measures

3.1.1. Project sustainability management

For this measure, we used the scale adapted from Carvalho and Rabechini (2017). PSM influenced the social and environmental performance of the project success while contributing to the success of the project. The project sustainability management measure of the organization consisted of 10 elements which consisted factors like the eco-efficiency of the organizational operations, the use of environment-friendly technology, and other project management processes which focused on sustainability. The scale had been validated by Carvalho and Rabechini (2017) and the questions were presented in the form of a 5 point Likert scale with 1 being strongly disagreed and 5 being strongly agreed.

3.1.2. HPWS

For HPWS, we used the scale adapted from Olateju (2018). This scale was more focused towards the extent to which the employees feel they are being helped by the human resource manager and the organization in general. The measurement scale consisted of 15 elements covering the high performance work systems of the organization. The scale consisted of questions related to the training being provided to the employees, recognition being given to the team and project details being discussed with the staff. The scale was validated and adopted by Olateju (2018) and consisted 5 point Likert scale with 1 being strongly disagreed and 5 being strongly agreed.

3.1.3. Construction Project Success

To calculate the success of the construction project, we used the multi-Dimensional Scale adapted from Musawir *et al.* (2017). The measurement scale was divided by three major dimensions or characteristics which are project management success, project ownership success, and project investment success. All of the dimensions or characteristics consisted of questions relevant to their respective characteristics and in total consisted of 11 elements. The scale was validated and adopted by Musawir *et al.* (2017) and consisted 5 points Likert scale with 1 being strongly disagreed and 5 being strongly agreed.

3.2. Data Analysis

The study used the partial least square structural equation modeling method (PLS-SEM) for empirically testing the measurement and the structural model (Hair et al., 2017). The PLS-SEM approach is widely accepted in the field of research and academics and there are many well-known contributions of this approach in well-reputed journals (Shih, Chiang & Hsu, 2013; Zaman et al., 2019ab). Researchers have declared the PLS-SEM technique as a useful tool for solving complex and causal predictive models (Hair et al., 2017; Cheah et al., 2019; Manley et al. 2020). The PLS-SEM analysis helps in providing information on the relative importance of the presented idea in explaining other constructs in the structural model (Hair et al., 2017). Furthermore, prior studies found out that the cost performance of the construction project can be calculated efficiently by using the PLS-SEM method (Cheah et al., 2019; Manley et al., 2020). The PLS-SEM approach supports structural equation modeling which helps in analyzing the

relationships between multiple variables simultaneously (Hair et al., 2017; Cheah et al., 2019; Manley et al., 2020). We used the latest version of PLS-SEM (version 3.2.8) for the present research.

4. Results

4.1. Measurement Model

Table 1 shows the internal consistency, convergent validity, and discriminant validity of the constructs. Cross loading of all the items was significant. Likewise, to test the internal reliability and convergent validity, the composite reliability (CR) and average variance extracted (AVE) were used. The value of CR for each scale was greater than the threshold value 0.7. Thus it confirmed the internal consistency / reliability of the items. Similarly, the value of AVE was greater than 0.5 recommended by (Hair et al, 2010; Hair et al., 2014; Hair et al., 2017; Manley et al.,2020). Moreover, the HTMT approach was employed to test the discriminant validity. Table 2 shows the results of discriminant validity.

Table 1: Reliability and Validity

	Items	Loading	Cronbach's Alpha	Composite Reliability	AVE
Construction project success (CPS)	CPS1	0.802	0.935	0.945	0.658
	CPS4	0.826			
	CPS5	0.725			
	CPS6	0.769			
	CPS7	0.830			
	CPS8	0.866			
	CPS9	0.822			
	CPS10	0.845			
	CPS11	0.805			
Project sustainability management (PSM)	PSM1	0.843	0.916	0.932	0.631
	PSM3	0.771			
	PSM4	0.795			
	PSM5	0.747			
	PSM6	0.817			
	PSM7	0.839			
	PSM8	0.754			
	PSM9	0.781			
High-performance work system (HPWS)	HPWS1	0.875	0.976	0.978	0.776
	HPWS2	0.896			
	HPWS4	0.876			
	HPWS5	0.900			
	HPWS6	0.882			
	HPWS7	0.823			
	HPWS8	0.916			
	HPWS9	0.888			
	HPWS10	0.893			
	HPWS11	0.882			
	HPWS13	0.891			
	HPWS14	0.861			
	HPWS15	0.863			

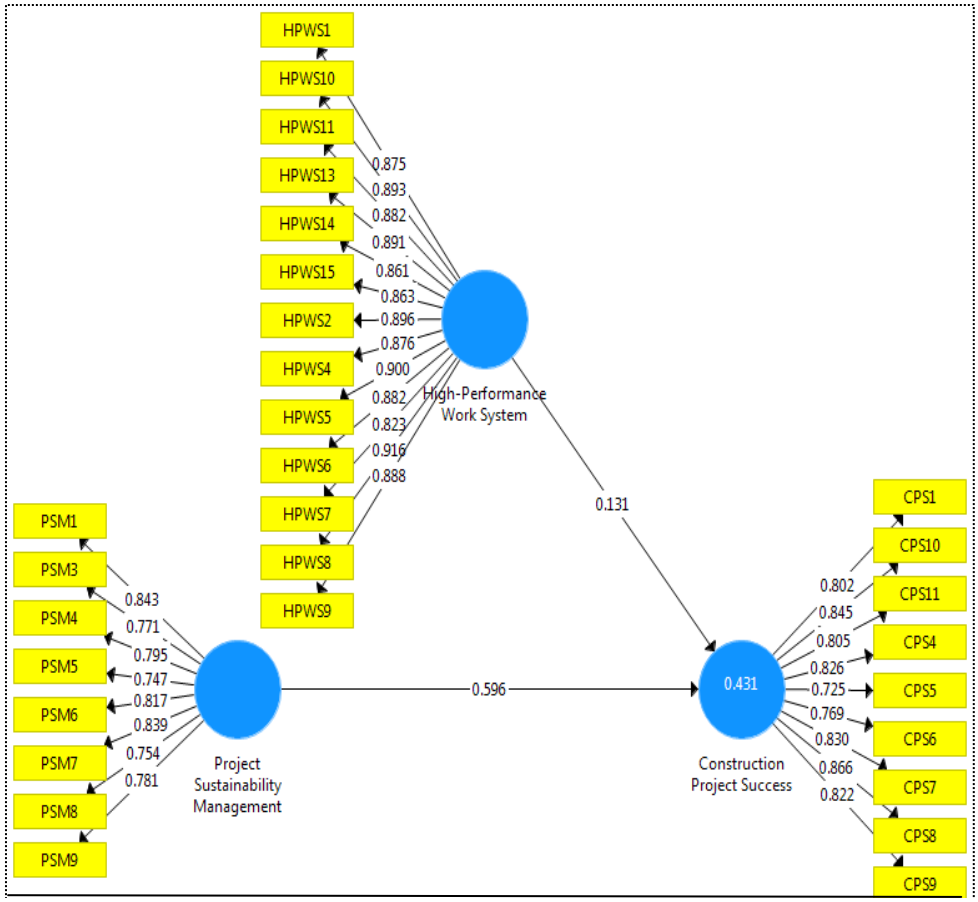

Figure 2: Measurement Model of Construction Project Success

Table 2: Discriminant Validity

	CPS	HPWS	PSM
Construction project success	-		
High-performance work system	0.368	-	
Project sustainability management	0.690	0.396	-

4.2. Structural Model

The bootstrapping technique was used in the PLS-SEM approach which helped in determining the structural model path coefficient and the relationship between the latent constructs (Hair et al., 2014; Hair et al., 2017; Manley et al., 2020). The structural model of the study is represented in Table 3 and Figure 3. The direct effects of PSM and HPWS on CPS are presented in Table 3 by computing t-value, p-value, original samples, R-square and Q^2. The positive original sample values in Table 3 depict the positive relationships of study constructs which support the hypothesis of the study. The t-values

depicted in the Table 3 and Figure 3 are 15.48 and 3.571 for the relationship of PSM-CPS and HPWS-CPS respectively which indicate the model significance as higher t-values show the difference of the results with null hypothesis. P-values less than 0.05 show the strength of respective hypothesis statements as shown in Table 3. Morever, F square also known as Cohen's effect size depict the effect of interaction of study constructs. The results in Table 3 exhibit a strong substantial effect (f^2 = 0.538) of PSM on CPS and rather medium effect (f^2 = 0.026) HPWS on CPS.

Importantly, to assess and confirm the model fitness of CPS involving PSM and HPWS as potential predictors, the SRMS value is calculated as 0.053 which is less than 0.08 (the maximum acceptable value) hence confirming the goodness of fit. Lastly, the Q2 value is found to be 0.261 (laregr than 0) indicating the credibility and predictive validity of the structural model (Cohen, 2013; Hair et al., 2017). Similarly, statistical findings of this study support the previous studies and depict that project sustainability management has a positive impact on project success et al., 2016, Zaman, 2020). It also supports the notion of HPWS positively affecting employee performance which contributes to the project success as mentioned in the previous work (Messersmith et al., 2011; Olugboyega et al., 2020). High performance work systems help in managing other factors of construction projects which are often overlooked in organizational procedures such as sustainability and also ensure to reduce various technological and organizational complexities, resulting in project success (Ma & Fu, 2020).

Table 3: Direct Effects

	Original Sample (O)	**t values**	**p values**	**f^2**	**R^2**	**Q2 value**	**SRMR**
Project sustainability management -> Construction project success	0.596	15.486	0.000	0.538		0.261	0.053
High-performance work system -> Construction project success	0.131	3.571	0.000	0.026	0.431		
PSM x HPWS -> Construction project success	0.213	4.185	0.000	0.063	0.464		

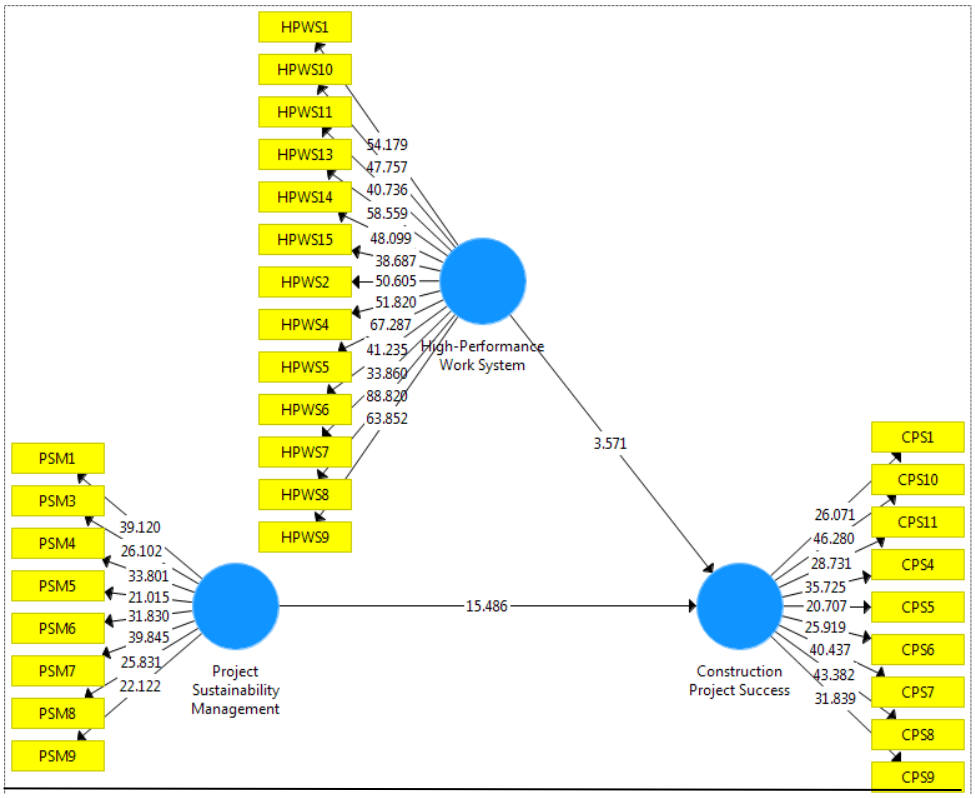

Figure 3: Structural Model of Construction Project Success

The result shown in table 3 confirmed a significant effect of the project sustainability management on the success of the construction project under the moderating effect of the HPWS, thus significantly confirming the first hypothesis.

4.2.1. Moderating Effects

PLS-SEM technique as suggested by Martens and Carvalho, (2016) was used to find the moderating effect of high performance work system (HPWS). As shown in Table 3 and Figure 4 it is concluded that high performance work system (HPWS) significantly moderates the relationship between project sustainability management and the success of the construction project (T-value 4.185, p-value < 0.05) supported by H4. The graphical representation of the model is shown in Figure 4. Similarly, the R square value, depicting the variance in CPS due to predictor variables PSM and HPWS, increases from 0.431 to 0.464 which explains the moderating effect of HPWS in the second hypothesis of the study. F square value (Cohen's effect size) show a slight increase in effect of HPWS and HPWSxPSM on CPS i.e., from 0.026 to 0.063 which proves to improve the relationship. However, PSM-CPS relationship is stronger (i.e., f^2 = 0.538) when compared to the moderate effect of predictor variables (HPWSxPSM) on CPS. Similarly, statistical findings of this study support the previous studies that HPWS can increase project individual's and team's performance, reduce turnover, and help in better allocation of the

human resource in the organization. (Craddock, 2013; Khalilzadeh et al., 2016, Zaman, 2020).

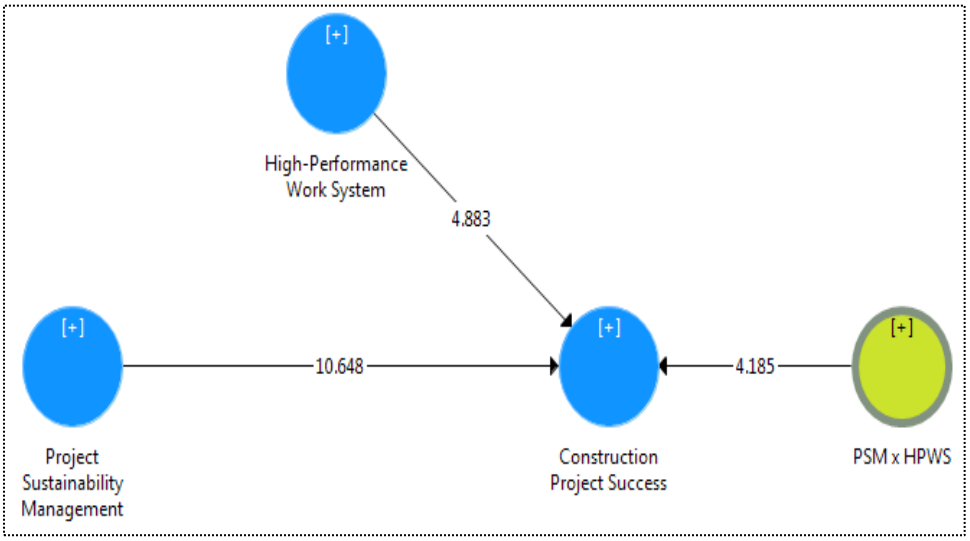

Figure 4: High-Performance Work System as a Moderator

5. Discussion

This research studied the impact of project sustainability management on construction project success with moderating role of HPWS in a developing country Pakistan. The findings confirm past research and highlight the positive effect of project sustainability management on project success .(Craddock, 2013; Khalilzadeh et al., 2016, Zaman, 2020). It also supports the notion of HPWS positively affecting employee performance which contributes to the project success as mentioned in the previous work (Messersmith et al., 2011; Olugboyega et al., 2020). High performance work systems help in managing other factors of construction projects which are often overlooked in organizational procedures such as sustainability and also ensure to reduce various technological and organizational complexities, resulting in project success (Ma & Fu, 2020). HPWS practices' impact are also in concurrence with previous studies that show that green construction practices commonly lead to better economic performance (Onubi et al., 2020). Individual effect of the values presented in the direct relation table showed a significant impact but their collective effect on the direct variable showed an even more influencing impact.

The first observation is human resource practices with sustainability affecting the construction project's success. The results show a positive impact of using sustainable project management techniques on project success which validates the first hypothesis of the study. This is relevant to the claim of Olugboyega et al., (2020), who assert that construction projects take account of satisfaction of all stakeholders; focusing the people dimension. The second scenario is linked to the use of HPWS as a moderator. The study

provides empirical evidence and contribution of HPWS with PSM on project success which is improved visibly. Both variables which are project sustainability management and the HPWS had a significant impact on the success of the construction project even in their individual terms. But when their impact was combined and the HPWS acted as a moderator, the impact increased significantly. This supports our second hypothesis of the study. The results directly show that there is around 45% variation in the success of the construction project due to the presence of a moderating variable i.e., high performance work system. Although there is already a strong positive effect of PMS on the construction project's success, which validates findings of previous studies (Khalilzadeh et al., 2016), the presence of HPWS can multiply the effect of PMS on PS in the industries by empowering the workforce and influencing the behaviors of employees confirming the views of some recent works.

5.1. Theoretical Implications

This study covers several facets by acknowledging the potential interests pertaining to the project sustainability management, high performance work systems and construction project success. The findings contribute to the body of knowledge by demonstrating that project sustainability management has positive and significant impact on construction project success, with substantial moderating effect of high performance work systems. This increased understanding that high performance work systems might help in managing other factors of construction projects which are often overlooked in organizational procedures such as sustainability. Further, the results also acknowledge that reducing various technological and organizational complexities, result in project success not only in construction projects of Pakistan but also in other public and private sector organizations of the country.

Discussing the importance of project sustainability in under-developed countries. Zaman (2020) asserted that situation of project success is worse and needs attention of researchers more in developing countries as compared to western world. Similarly, Ika et al. (2012) after studying the World Bank international projects, asserted that the projects in developing countries fail because of common problems, such as cost overruns, imperfect plans, poor project design, delay in project schedules, failure in coordination, poor institutional environment and scope changes (Khang and Moe, 2008; Ahsan and Gunawan, 2010). Results of this study contribute to resolve the raised problems of complex factors related to project success in past studies and indicate that the powerful project sustainability management, high-performance work systems, will mitigate these problems.

The performance objectives are of greater concern while managing projects and project success is determined considering the degree to which these objectives are achieved (Liu et al., 2020; Olugboyega et al., 2020). In Pakistan, after the earthquake of 2005, the construction industry focused on the speedy construction of buildings. The idea of sustainable construction was adopted for the first time and very rarely discussed in literature, specifically with reference to Pakistan. The country still lags other developed nations in sustainable construction. This study is an addition to the literature on sustainable development in Pakistan and delivers the idea to use HPWS with a

combination of effective practices to enhance the sustainable project management leading to the industry's much-needed project performance. The study implies that PSM and HPWS have positive relationship with construction project success and HPWS moderates this relationship.

PSM and success of project are inter-related (Khalilzadeh et al., 2016, Zaman, 2020). The reasons for the failures of construction projects in Pakistan are delays, financial problems, natural disasters, shortage of resources, lack of proper planning, and poor management (Zaman, 2020). The HR activities including sustainability and HPWS can rightly target these shortcomings and can prove to be beneficial for the project's success as empirically proved by the results of this study. High performance work practices are being used in many industries in Pakistan (Koser et al., 2018), however, this study provides theoretical evidence that HPWS play a significant role in construction projects to achieve maximum productivity of workers and to be used as a tool for increasing the chances of success.

This study fills the knowledge gap by focusing on the application of PSM with HPWS which is conceivably a new passage to success and can be a knowledge facilitator for the construction industries. The results also confirm the theoretical evidence of the study as discussed in section 4. Moreover, the positive and influential role of HPWS conform to the notions of legitimacy theory as discussed in literature which implicates that organizations and projects do tend to adopt the practices leading to their acceptance by the society. For future research, findings of this study indicate that the direct effects along with the indirect effects i.e. the moderation and the mediation effects of HPWS can also be studied.

5.2. Managerial Implications

After gaining empirical evidence for the influential role of PSM in affecting CPS, the present study findings provide support for previous construction project management literature (Carvalho & Rabechini, 2017; Khalilzadeh et al., 2016; Zaman, 2020;). The foremost practical implication includes an informed decision-making by construction project managers which leads to increasing opportunities for CPS. According to the present study findings, HPWS can productively be considered for the CPS, as the lack of high-performance work practices might lead to a significant increase in project risks driving unavoidable project failures. Integration of HPWS with PSM can greatly enhance performance of project professionals (Akhtar et al., 2016), as the project participants feel more satisfied, trusted and confident to achieve CPS (Al-Ajlouni, 2020, Zaman, 2020). Sustainable development is a central agenda for many project stakeholders (Liu et al., 2020), hence, PSM should be a norm in the construction industry, for the betterment and safety of the larger society, as well as realistically achieving multi-stakeholders' expectations (Carvalho & Rabechini, 2017).

5.3. Limitations and Future Work

While conducting this research, some limitations have been observed. The study collected data from surveys conducted on individuals associated with CPEC projects. CPEC is one of the multi-culture projects with very large scale investments. This study could not incorporate the cultural variables both at organizational level and national level

for observing their impact on large scale construction projects. Future researchers should consider the cultural dimensions in establishing the relationship of project sustainability with success. Convenience sampling was used to collect this data, where participants were not randomly chosen. The delimitation of this method is that it might limit the generalizability of the study results. The results indicate that future research can be carried out by using random sampling method to understand the relationship of study constructs more clearly. Future work should also examine the responses of individuals experiencing the project ends. Only quantitative methods have been applied in this study. In the future, the mixed method approach, as well as qualitative methods, can be used for better and deep understanding the phenomenon of CPS. Since only short-term measures of success have been focused on this research, future researches may focus on certain long-term measures of CPS while developing their research models.

6. Conclusion

The advancement of sustainability agenda in mega-construction projects (such as the CPEC) has emerged as a global concern (CPEC-INFO, 2018). In developing economies like Pakistan, the construction industry is considered as a major contributor to the economy (Turner et al., 2013) and the implementation of sustainable construction project management remains increasingly challenging. PSM is relatively a new concept in the construction industry in Pakistan, and technological pursuit of sustainable construction is still underway (Ma & Fu, 2020). This study adds to the literature on project management, by showing empirical support for PSM and HPWS in securing CPS. The efficacy of HPWS in enhancing the impact of PSM on CPS has also been established conforming to the findings of past researches. Project practitioners can utilize sustainability management practices and HPWS to safely lead their construction projects towards success, keeping this study as an empirical evidence to support their decisions and to overcome major environmental concerns and challenges associated with construction projects.

Grant Support Details / Funding

This research work received no research grant.

REFERENCES

Ahadzie, D. K., Proverbs, D. G., & Olomolaiye, P. O. (2008). Critical success criteria for mass house building projects in developing countries. *International Journal of Project Management, 26*(6), 675–687.

Ahsan, K. & Gunawan, I. (2010). Analysis of Cost and Schedule Performance of International Development Projects. *International Journal of Project Management, 28*(1), 68–78.

Akhtar, A., Nawaz, M. K., Mahmood, Z., & Shahid, M. S. (2016). Impact of high performance work practices on employees' performance in Pakistan: Mediating role of employee engagement. *Pakistan Journal of Commerce and Social Sciences (PJCSS), 10*(3), 708-724.

Alatailat, M., Elrehail, H., & Emeagwali, O. L. (2019). High performance work practices, organizational performance and strategic thinking: A moderation perspective. *International Journal of Organizational Analysis*, *27*(3), 370–395.

Ali, I., Musawir, A. U., & Ali, M. (2018). Impact of knowledge sharing and absorptive capacity on project performance: the moderating role of social processes. *Journal of Knowledge Management*, *22*(2), 453–477.

Al-Ajlouni, M. I. (2020). Can high-performance work systems (HPWS) promote organisational innovation? Employee perspective-taking, engagement and creativity in a moderated mediation model. *Employee Relations: The International Journal. [ahead-of-print]*

Alzahrani, J. I. & Emsley, M. W. (2013). The impact of contractors' attributes on construction project success: A post construction evaluation. *International Journal of Project Management*, *31*(2), 313–322.

Azad, S., & Akbar, Z. (2015). The impediments in construction of sustainable buildings in Pakistan. *European Scientific Journal*, *11*(29), 369-379.

Banihashemi, S., Hosseini, M. R., Golizadeh, H., & Sankaran, S. (2017). Critical success factors (CSFs) for integration of sustainability into construction project management practices in developing countries. *International Journal of Project Management*, *35*(6), 1103-1119.

Becker, B. E., Huselid, M. A., Becker, B. E., & Huselid, M. A. (1998). High performance work systems and firm performance: A synthesis of research and managerial implications. *Research in Personnel and Human Resource Management*, *16*, 53-101.

Bhatti, S.H., Zakariya, R., Vrontis, D., Santoro, G. and Christofi, M. (2020). High-performance work systems, innovation and knowledge sharing: An empirical analysis in the context of project-based organizations. *Employee Relations, [ahead-of-print]*.

Bolis, I., Morioka, S. N., & Sznelwar, L. I. (2014). When sustainable development risks losing its meaning. Delimiting the concept with a comprehensive literature review and a conceptual model. *Journal of Cleaner Production*, *83*, 7-20.

Boxall, P. (2012). High-performance work systems: What, why, how and for whom?. *Asia Pacific Journal of Human Resources*, *50*(2), 169–186.

Brief, A. P. (1995). The New American Workplace: Transforming Work Systems in the United States. *Academy of Management Review*, *20*(2), 462–465.

Carvalho, M. M. & Rabechini, R. (2017). Can project sustainability management impact project success? An empirical study applying a contingent approach. *International Journal of Project Management*, *35*(6), 1120–1132.

CPEC-INFO (2018). China-Pakistan Economic Corridor. Retrieved from China-Pakistan Economic Corridor [ONLINE] Available at: http://www.cpecinfo.com/news/chinese-investment-in-cpec-will-cross-$-100-billion/NDg1Mw== (October 29th, 2019).

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*. Routledge, Abingdon, United Kingdom.

Chang, R. D., Soebarto, V., Zhao, Z. Y., & Zillante, G. (2016). Facilitating the transition to sustainable construction: China's policies. *Journal of Cleaner Production*, *131*, 534-544.

Cheah, J. H., Ting, H., Ramayah, T., Memon, M. A., Cham, T. H., & Ciavolino, E. (2019). A comparison of five reflective–formative estimation approaches: reconsideration and recommendations for tourism research. *Quality & Quantity*, *53*(3), 1421-1458.

Cojoianu, T. F., Clark, G. L., Hoepner, A. G., Veneri, P., & Wójcik, D. (2020). Entrepreneurs for a low carbon world: How environmental knowledge and policy shape the creation and financing of green start-ups. *Research Policy*, *49*(6), 1-19.

Cooke, F. L., Cooper, B., Bartram, T., Wang, J., & Mei, H. (2019). Mapping the relationships between high-performance work systems, employee resilience and engagement: A study of the banking industry in China. *The International Journal of Human Resource Management*, *30*(8), 1239-1260.

Craddock, W. T. (2013). How business excellence models contribute to project sustainability and project success. *Sustainability Integration for Effective Project Management*, 1–19, Hershey, PA: IGI Global Publishing.

Den Hartog, D. N., & Verburg, R. M. (2004). High performance work systems, organisational culture and firm effectiveness. *Human Resource Management Journal*, *14*(1), 55–78.

Delery, J. E., & Roumpi, D. (2017). Strategic human resource management, human capital and competitive advantage: is the field going in circles? *Human Resource Management Journal*, *27*(1), 1–21.

Elkington, J. (1998). Partnerships from cannibals with forks: the triple bottom line of 21st-century business. *Environmental Quality Management*, *8*(1), 37-51.

Fan, D., Cui, L., Zhang, M. M., Zhu, C. J., Härtel, C. E., & Nyland, C. (2014). Influence of high performance work systems on employee subjective well-being and job burnout: empirical evidence from the Chinese healthcare sector. *The International Journal of Human Resource Management*, *25*(7), 931-950.

Galang, M. C. (1999). Stakeholders in high-performance work systems. *International Journal of Human Resource Management*, *10*(2), 287–305.

Giannikis, S., Grougiou, V., & Kapoutsis, I. (2019). The effects of entrepreneurial orientation on job stressors and the moderating role of high-performance work systems: employee perspectives from two industries. *The International Journal of Human Resource Management*, [Published online: 17 Jul 2019].

Gittell, J. H., Seidner, R. and Wimbush, J. (2010). A relational model of how high-performance work systems work. *Organization Science*, *21*(2), 490–506.

Glass, J. (2012). The state of sustainability reporting in the construction sector. *Smart and Sustainable Built Environment*, *1*(1), 87–104.

Goddard, J. U., Glass, J., Dainty, A., & Nicholson, I. (2016). Implementing sustainability in small and medium-sized construction firms the role of absorptive capacity. *Engineering, Construction and Architectural Management*, *23*(4), 407–427.

Goel, A., Ganesh, L.S., & Kaur, A. (2020). Project management for social good: A

conceptual framework and research agenda for socially sustainable construction project management. *International Journal of Managing Projects in Business*, *13*(4), 695-726.

Gomez-Mejia, L. R., Berrone, P., & Franco-Santos, M. (2014). *Compensation and organizational performance: Theory, research, and practice*. Routledge. New York NY.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate Data Analysis: A Global Perspective. Upper Saddle River, NJ: Pearson.

Hair, J. F., Sarstedt, M., Hopkins L., Kuppelwieser V. G. (2014) Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, *26*(2), 106-121.

Hair, J.F., Hult, G.T.M., Ringle, C.M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 2nd ed., Sage Publications, Inc., Thousand Oaks, CA.

Heffernan, M., & Dundon, T. (2016). Cross-level effects of high-performance work systems (HPWS) and employee well-being: the mediating effect of organisational justice. *Human Resource Management Journal*, *26*(2), 211-231.

Huang, Y., Ma, Z., & Meng, Y. (2018). High-performance work systems and employee engagement: empirical evidence from China. *Asia Pacific Journal of Human Resources*, *56*(3), 341-359.

Huemann, M., & Silvius, G. (2017). Projects to create the future: Managing projects meets sustainable development. *International Journal of Project Management*, *35*, 1066–1070.

Hwang, B. G., & Ng, W. J. (2013). Project management knowledge and skills for green construction: Overcoming challenges. *International Journal of Project Management*, *31*(2), 272–284.

Hwang, B. G., & Tan, J. S. (2012). Green building project management: Obstacles and solutions for sustainable development. *Sustainable Development*, *20*(5), 335–349.

Ika, L. A. Diallo, A., & Thuillier, D. (2012). Critical Success Factors for World Bank Projects: An Empirical Investigation. *International Journal of Project Management*, *30*, 105-116.

Jyoti, J., & Rani, A. (2017). High performance work system and organisational performance: role of knowledge management. *Personnel Review*, *46*(8), 1770–1795.

Kaufman, B. E. (2010). SHRM theory in the post-huselid era: Why it is fundamentally misspecified. *Industrial Relations*, *49*(2), 286–313.

Khalifeh, A., Farrell, P., & Al-edenat, M. (2019). The impact of project sustainability management (PSM) on project success: A systematic literature review. *Journal of Management Development. [ahead-of-print]*.

Khalilzadeh, M., Akbari, H., & Foroughi, A. (2016). Investigating the Relationship of Sustainability Factors with Project Management Success. *Industrial Engineering and Management Systems*, *15*(4), 345–353.

Khang, D.B., & Moe, T.L. (2008). Success Criteria and Factors for International Development Projects: a Life-Cycle-Based Framework. *Project Management Journal, 39*(1), 72–84.

Kibert, C. (1994). Establishing principles and a model for sustainable construction. In Proceedings of the First International Conference on Sustainable Construction. Tampa, FL.

Koser, M., Rasool, S. F., & Samma, M. (2018). High Performance Work System is the Accelerator of the Best Fit and Integrated HR-Practices to Achieve the Goal of Productivity: A Case of Textile Sector in Pakistan. *Global Management Journal for Academic & Corporate Studies*, *8*(1), 10–21.

Krajangsri, T., & Pongpeng, J. (2017). Effect of Sustainable Infrastructure Assessments on Construction Project Success Using Structural Equation Modeling. *Journal of Management in Engineering*: *American Society of Civil Engineers* (ASCE), *33*(3), 1-12.

Lacy, P., & Hayward, R. (2011). A new era of sustainability in emerging markets? Insights from a global CEO study by the United Nations Global Compact and Accenture. *Corporate Governance*, *11*(4), 348–357.

Lai, Y., Saridakis, G., & Johnstone, S. (2017). Human resource practices, employee attitudes and small firm performance. *International Small Business Journal: Researching Entrepreneurship*, *35*(4), 470–494.

Li, Y., Xu, L., Sun, T., & Ding, R. (2019). The impact of project environmental practices on environmental and organizational performance in the construction industry. *International Journal of Managing Projects in Business*, *13*(2), 367-387.

Lim, C. S., & Mohamed, M. Z. (1999). Criteria of project success: An exploratory re-examination. *International Journal of Project Management*, *17*(4), 243–248.

Liu, B., Xue, B., Meng, J., Chen, X., & Sun, T. (2020). How project management practices lead to infrastructure sustainable success: an empirical study based on goal-setting theory. *Engineering, Construction and Architectural Management*, [ahead-of-print].

Loosemore, M. (2016). Social procurement in UK construction projects. *International Journal of Project Management*, *34*(2), 133–144.

Lozano, R., Carpenter, A., & Huisingh, D. (2015). A review of "theories of the firm" and their contributions to corporate sustainability. *Journal of Cleaner Production*, *106*, 430–442.

Ma, L., & Fu, H. (2020). Exploring the influence of project complexity on the mega construction project success: a qualitative comparative analysis (QCA) method. *Engineering, Construction and Architectural Management*, [ahead-of-print].

Manley, S. C., Hair, J. F., Williams, R. I., & McDowell, W. C. (2020). Essential new PLS-SEM analysis methods for your entrepreneurship analytical toolbox. *International Entrepreneurship and Management Journal,* [ahead-of-print].

Marcelino-Sádaba, S., González-Jaen, L. F., & Pérez-Ezcurdia, A. (2015). Using project management as a way to sustainability. From a comprehensive review to a framework definition. *Journal of Cleaner Production*, *99*, 1-16.

Martek, I., Hosseini, M. R., Shrestha, A., Zavadskas, E. K., & Seaton, S. (2018). The sustainability narrative in contemporary architecture: falling short of building a sustainable future. *Sustainability*, *10*(4), 1-18.

Martens, M. L., & Carvalho, M. M. (2016). The challenge of introducing sustainability into

project management function: Multiple-case studies. *Journal of Cleaner Production*, *117*, 29-40.

Memon, A. H., & Rahman, I. A. (2014). SEM-PLS analysis of inhibiting factors of cost performance for large construction projects in Malaysia: perspective of clients and consultants. *The Scientific World Journal*, *Article No. 165158, 1-9.*

Messersmith, J. G., Patel, P. C., Lepak, D. P., & Gould-Williams, J. S. (2011). Unlocking the black box: Exploring the link between high-performance work systems and performance. *Journal of Applied Psychology*, *96*(6), 1105-1118.

Musawir, A.U., Serra, C. E. M., Zwikael, O., & Ali, I. (2017). Project governance, benefit management, and project success: Towards a framework for supporting organizational strategy implementation. *International Journal of Project Management*, *35*(8), 1658-1672.

Myers, D. (2005). A review of construction companies' attitudes to sustainability. *Construction Management and Economics*, *23*(8), 781-785.

Olateju, A. T., Kuntz, J., & Nilakant, V. (2018). Linking High-Performance Work Practices and Project Success: Employee Engagement Matters. *Academy of Management Annual Meeting Proceedings*, *2018*(1), 14890. Briarcliff Manor, NY 10510:

Olugboyega, O., Edwards, D.J., Windapo, A.O., Omopariola, E.D., & Martek, I. (2020), Development of a conceptual model for evaluating the success of BIM-based construction projects. *Smart and Sustainable Built Environment*. [ahead-of-print].

Onubi, H. O., & Hassan, A. S. (2020). Understanding the Mechanism through which Adoption of Green Construction Site Practices Impacts Economic Performance. *Journal of Cleaner Production*, *254*, 1-10.

Onubi, H.O., Yusof, N., & Hassan, A.S. (2020). Effects of green construction on project's economic performance. *Journal of Financial Management of Property and Construction*, [ahead-of-print].

Pheng, L. S., & Chuan, Q. T. (2006). Environmental factors and work performance of project managers in the construction industry. *International Journal of Project Management*, *24*(1), 24–37.

Project Management Institute -PMI (1996). A Guide to the project management body of knowledge. (PMBOK Guide), Newtown Square, PA.

Project Management Institute -PMI (2016) *Delivering Value: Focus on Benefit During Project Execution*, 5th ed., Project Management Institute, Inc, Newtown Square: PA.

Shih, H. A., Chiang, Y. H., & Hsu, C. C. (2013). High performance work system and HCN performance. *Journal of Business Research*, *66*(4), 540-546.

Shin, D., & Konrad, A. M. (2017). Causality Between High-Performance Work Systems and Organizational Performance. *Journal of Management*, *43*(4), 973–997.

Silvius, G. (2017). Sustainability as a new school of thought in project management. *Journal of Cleaner Production*, *166*, 1479–1493.

Toor, S. ur R., & Ogunlana, S. O. (2010). Beyond the "iron triangle": Stakeholder

perception of key performance indicators (KPIs) for large-scale public sector development projects. *International Journal of Project Management*, *28*(3), 228–236.

Turner, J.R., Anbari, F., & Bredillet, C. (2013). Perspectives on research in project management: the nine schools. *Global Business Perspectives*, *1*(1), 3-28.

United Nations Department of Economic and Scocial Affairs (UN-DESA) (2017). New globalization report: Three mega-trends expected to impact our future. [ONLINE] Available at: https://www.un.org/ (November 27th, 2019).

Van De Voorde, K., & Beijer, S. (2015). The role of employee HR attributions in the relationship between high-performance work systems and employee outcomes. *Human Resource Management Journal*, *25*(1), 62-78.

Wu, G., Zhao, X., & Zuo, J. (2017). Relationship between project's added value and the trust–conflict interaction among project teams. *Journal of Management in Engineering*, *33*(4), 1-13.

Yazici, H. J. (2020). An exploratory analysis of the project management and corporate sustainability capabilities for organizational success. *International Journal of Managing Projects in Business*, *13*(4), 793–817.

Yuan, H. (2017). Achieving Sustainability in Railway Projects: Major Stakeholder Concerns. *Project Management Journal*, *48*(5), 115–132.

Zaman, U. (2020). Examining the effect of xenophobia on "transnational" mega construction project (MCP) success: Moderating role of transformational leadership and high-performance work (HPW) practices. *Engineering, Construction and Architectural Management*, *27*(5), 1119-1143.

Zaman, U., Nadeem, R. D., & Nawaz, S. (2020). Cross-country evidence on project portfolio success in the Asia-Pacific region: Role of CEO transformational leadership, portfolio governance and strategic innovation orientation. *Cogent Business & Management*, *7*(1), 1-26.

Zaman, U., Nawaz, S., Tariq, S., & Humayoun, A.A. (2019a). Linking transformational leadership and "multi-dimensions" of project success: Moderating effects of project flexibility and project visibility using PLS-SEM. *International Journal of Managing Projects in Business*, *13*(1), 103-127.

Zaman, U., Jabbar, Z., Nawaz, S., & Abbas, M. (2019b). Understanding the soft side of software projects: An empirical study on the interactive effects of social skills and political skills on complexity–performance relationship. *International Journal of Project Management*, *37*(3), 444-460.

Zhang, M., Di Fan, D., & Zhu, C. J. (2014). High-performance work systems, corporate social performance and employee outcomes: Exploring the missing links. *Journal of Business Ethics*, *120*(3), 423-435.

Zuo, J., Jin, X. H., & Flynn, L. (2012). Social sustainability in construction - An explorative study, *International Journal of Construction Management*. *Chinese Research Institute of Construction Management*, *12*(2), 51–63.