INFLUENTIAL FACTORS OF PROJECT SUCCESS IN THE FUEL COMPANIES

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Abstract: The purpose of the paper is to investigate the factors impacting project success among personnel based on the example of the Yemeni oil and gas industry. The data was analyzed by hypothesis testing, Smart-PLS tool, SPSS and several statistical methods such as the Structural modelling, regression weights and T statistics and regression technique, utilized to comprehend the variables' dimensionality. The results showed that influential factors i.e. personnel (P), project schedule/plan (PSP), troubleshooting (TS) and technical tasks (TT) as well as the technological advancement (TA) have a statistically significant relationship with project success. It suggests that increasing the success rate of projects may be bilaterally beneficial to the project managers. Limitations and suggestions for future research were also mentioned.

Key words: Influential factors, Personnel, Project Success, Technological Advancement.

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Introduction

In the present era, processes of project management are viewed as very crucial when it comes to organizational strategies' implementation. To ensure the effectiveness "projectization", best practices of project management are coupled with Human Factors towards organizational projects. Project critical success factors CSFs enable increased operational efficiency and increased productivity, resulting in optimal overall efficiency of the organization and successful projects (Walker & Dart, 2011). In addition, project management techniques allow a corporation to excel in performance with honesty and integrity without unnecessary degradation of quality (Ahmad, Anwar & Malik, 2019).

Project critical success factors CSFs are practices and processes that are vital for the project management structure, leading to increased project effectiveness and researchers in this field have been studying Human factors for projects since the last five decades (Tabish & Jha, 2011; Anantatmula & Rad, 2019). Project critical success factors CSFs are considered to be factors that can attain repeated success of the projects with consistent application (Yong & Mustaffa, 2012). Some critical success factors CSFs are specific to particular projects of specific industries, while some Human Factors are relevant to many types of projects. Project management

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researches have been seen to uniformly agree that there are no Human Factors that can be applied to all kinds of project types (Ika, Diallo & Thuillier, 2012). The reason is that there are many different types and kinds of projects related to different industries and different environments and cultures (Sudhakar, 2012). For instance, projects related to the oil & gas industry are very complex, like the extraction of hydrocarbons from reservoirs. For the success of such complex projects, cohesive project management practices are required (Seljom & Rosenberg, 2011).

The research is an attempt to pragmatically analyze and evaluate the relation between Human Factors of project management and the success of projects of oil & gas (Alagba, 2014). This study takes into practice Pinto and Slevin's (1987) framework of four Human Factors to inspect their relevance on oil & gas projects. The outcome of this study is hoped to diminish the gap in the Human Factors literature, and aid oil and gas companies in predicting oil & gas future projects' performances.

Problem statement

Reddy (2015), defined Project management as 'deliberate efforts and careful planning in order to achieve success in a project'. In modern environment, project management is a complex process that necessitates coping with many different varied parts of a project in order to achieve project goals, such as successfully completing the project within the estimate time and budget and pre-set quality standards, while working skillfully and morally in a disciplined manner in changing project situations.

According to (Frynas, 2010), the authority in Yemen stated that the rate of projects failure is very high which will have a negative impact for the organizations. Recent research in the oil & gas industry has established a range of shortcomings in the identification of influential factor, as well as associated research literature evaluations, have indicated a scarcity of significant empirical studies demonstrating the association between some key success factors (CSF) and project performance in oil and gas projects. (Handfield, Primo & Oliveira, 2015).

According to Deloitte and Monitor (2016) the factors that lead to successful oil & gas projects are still not clear and should be expanded and include factors such as (technological advancement) and its effect on oil & gas projects has not been researched on before.

Unlike previous research, this work has taken into consideration project professionals in the Yemeni oil and gas industries in order to study the impact of these variables on the project success.

This study aims to give a solution to the challenge of assessing the empirical relationship between the specified project critical success factor variables and project success. The underlying model used in this study will aid in better understanding the correlations between these factors, with the goal of using the model as a tool to help project managers succeed in projects inside Yemeni oil and gas industries.

In the study, the influential factors represent as the independent variables (IVs) that were selected according to the recommendation of previous studies and the Technological advancement variable was included in the framework, while project

success represents the dependent variable (DV). The study's findings give important insights into how these elements contribute to the development of the assessed project outcome.

The primary goal of this study is to identify the relevant variables of project success and to assess their influence on the project success rate in Yemen's oil and gas industry. This study is done in order to answer the main question that what are the influential factors of project success and whether the Influential factors have an impact on project success.

Literature Review

According to the research, project management is used as a key tool to manage organisational strategy across a wide range of businesses, including the oil and gas industries. According to the literature, project success is a nebulous and often illusory concept that is measured differently (Rad, 2003), varies at different stages of a project's lifecycle (Pinto & Slevin, 1988), and is frequently measured by a combination of objective and subjective measures. Another source of debate among academics is critical success factors (CSFs), with studies stating different sets of CSFs for different businesses and project kinds. The results of similar studies that are available in the literature represent only a limited scope and concern especially:

- the entrepreneurial leadership (Latif et al., 2020), stakeholder engagement and team building (Shaukat, Latif, Sajjad & Eweje 2021),
- projects' effectiveness drivers in software industry (Singh 2018, Saleem 2019, Elokby, Alawi, Abdelgayed & Al-hodiany 2021),
- The factors that contribute to the effective operational management of public-private partnership (PPP) projects (Osei-Kyei & Chan 2017),
- CSF's in investment and construction project management (Cheong Yong & Emma Mustaffa, 2012; Sobieraj & Metelski 2021).

Brazilian research results are particularly noteworthy. The study discovered CSFs in three areas: strategy, people, and operational structures. The most important predictor was strategy, with the primary CSFs being project management technique, organisational structure, intention alignment, and economic-financial viability. The project environment's stability on risk management, the quality management system, performance metrics, audits and verifications of deliverables, and communication with stakeholders proved to be the most important CSFs for operations construction. The major CSFs for personnel are the development of project management skills and human resource training, both with the goal of disseminating information related to good practises, processes, tools, and procedures that facilitate project execution (Oliveira, Cruz & Oliveira 2018).

The research attempted to evaluate the relationship between Slevin and Pinto's (1989) CSFs and other factors and the performance of oil and gas projects. This study aimed at identifying the influential factors of project success. Thus, a comprehensive literature review and theories on the potential factors including technological advancement in the oil and gas industry were selected successfully.

Yemeni oil and gas industries

The main financial resource of Yemen is oil and gas export. Yemen currently is the 32nd biggest oil exporter in the world due to main shipping locations. There is estimation that 3.2 million barrels of oil pass through the narrow strait named 'Bab al Mandab', situated between Yemen and Djibouti every day (Frynas, 2010). Yemen is the 16th largest supplier of Liquefied Natural Gas (LNG) in the world, namely in gas export. The country has proven gas reserves of 490 billion cubic meters, or roughly 0.3 percent of the global total. The Yemeni government is trying to increase the efficiency of current oil and gas export, by using project management methods effectively (Xinjian, Xiaoyi, & Qing, 2005).

According to Kassem, Khoiry, and Hamzah (2019) in developing nations such as Yemen, the oil and gas sector and its projects are intimately tied to the country's economy and serve as a source of revenue for the country's public budget. In addition, they mentioned that, oil and gas projects are affected by a variety of risks that affect explicitly or implicitly the project time and money plan. Such risks may result in cost cost increases or delay the project's completion on time; thus, the importance of the study is to identify the risks that may face a project, allowing project managers to develop appropriate plans to respond to such risks. Growth in poor economies requires political and economic stability, which Yemen lacks, as revealed by this study involving a large number of project managers and engineers working in oil companies in Yemen, which confirms the recommendations contained in previous research that the Yemeni government has to provide an ideal environment as well as political and economic stability for encouragement for infrastructure projects in the oil sector. One of the biggest hazards in oil projects in Yemen is the influence of the conflict in Yemen and the growth of armed organisations, which would generally halt projects and production of oil fields (Alwaly, & Alawi, 2020).

Critical success factors

From the 1980s through the 2000s, the period of recognising critical criteria for project success began. Many academics conducted a variety of research investigations in order to identify various important success elements for the project's success. Pinto and Slevin (1986, 1989) performed a project management research study, the outcomes of which indicated that they identified a list of 10 significant success qualities, both authors' remarkable job quality. Different researchers rely on these two analysts the most (e.g. Thi & Swierczek, 2010; Lind & Culler, 2011; Muller & Jugdev, 2012; Ali & Kidd, 2013; Osei-Kyei & Chan, 2017; Pham, Nguyen, Tu, Pham, & Le, 2019; Chowdhury, Ali, Paul, Mahtab & Kabir, 2020).

The Success Factors Model is a one-of-a-kind approach, tool, and methodology for managers to evaluate certain factors that are critical to achieving corporate goals and objectives. Success elements, according to Alinaitwe and Ayesiga (2013), are the fundamental points utilised in the project and are maintained via the growth of effective and efficient cooperation. The identification of these factors may be utilised

to govern day-to-day operations throughout the project's life cycle. These factors are a combination of management processes and practices which contributes to the success of any project embarked upon. They can be seen as the inputs which drive the success of any project (Tarhini et al, 2015).

Several studies, including Loo (2003) and Yong and Mustaffa (2012), have identified this CSF as a major factor to project success. Many of these studies claimed that iterative monitoring and management of all parts of the project makes it simple to spot deviations from the plan and allows for prompt remedial action (Westerveld, 2002). Related studies have also found that projects that maintained open communication throughout the project lifecycle (Mustafa, Alaghbari, & Alzubi, 2018; Civelek et al, 2021). The ten critical success factors for project success was divided into project factors/human factors and organizational factors according to Mustafa, Alaghbari and Alzubi (2018). Therefore, this study will investigate the relationship between identified critical success factors suggested most often by previous researchers such as: human factors, project schedule, technical tasks, troubleshooting, monitoring and feedback and technological advancement in relation to the project success as shown in the figure 1.

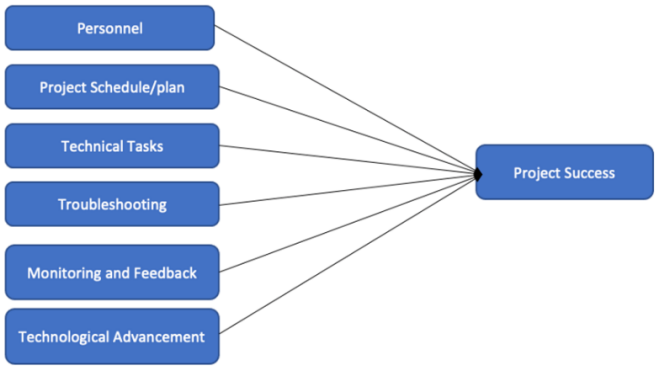

Figure 1: Conceptual Framework
Source: Slevin and Pinto 1987; Mustafa, Alaghbari & Alzubi 2018

According to Slevin and Pinto's crucial success elements, workers must be taught, employed, and used by an experienced project manager and team members to achieve project success. Various studies have shown that initiatives that use qualified employees and the appropriate tools and technology deliver superior results than those handled using low-level staff and resources (Alan, 2012; Al-Mamary et al., 2015; Abdulaziz et al., 2013; Amponsah & Darmoe, 2014; Gudiene, et al., 2013; Ika, et al., 2012).

Several important studies found that the majority of project delays and failures were due to the recruitment of unqualified project workers (e.g., Loo, 2002; Fayek et al., 2006). While Zimmerer and Yasin (1998) found that the use of better leadership

qualities of project managers correlates well with successful projects, Loo (2002) found that project managers who are very well educated and had appropriate project management certifications, were more likely to be effective and successful in carrying out and leading projects. Even as promising project management usually involves a team effort from project manager, project team and project stakeholdefayers (PMI, 2008), it is extremely important to have personnel (project manager and team) with the right combination of personal and technical skills (Spychała & Stachurski, 2021). As a result, human resources are synonymous with the notion of human capital, which is described as a resource of knowledge and skills that serves as the driving force behind the expansion of the company's value (Padlowska 2019, Wlodarkiewicz-Klimek 2019).

Pinto and Slevin referred to the critical success factor (project plan/schedule) as the provision of a structured framework of specific actions and steps that will be put in place to ensure the successful implementation and delivery of the project, including cost estimation, allocation of resources, scheduling of activities, among others (Slevin & Pinto, 1986, 1987).

According to Wahdain et al. (2014) it has been found that, in general, ICT projects and project management as a whole in Yemen face a lack of proper preparation, planning, and execution and that the deficiency/failure factors involve vague objectives. A number of studies (Alan R, 2012; Abdulaziz et al., 2013) have identified the project schedule / plan as a significant contributor to the success of the project. Many of these studies have argued that the development and updating of a baseline plan and schedule for project management is a necessary step in the successful implementation of the project (Abdulaziz et al., 2013).

One frequently stated Critical success factor CSF in the literature is the usage of technical tasks or integrated project management (Chan et al., 2004). It entails the deployment of tools, technologies, and procedures, as well as processes for project operations and activities, to assure the effective completion of the project (Slevin & Pinto, 1986, 1987; Westerveld, 2002; Misztal, Belu, 2016).

In Senegal, a research was carried out to determine the amount of usage of project management tools and methods in SMEs. The following are the most regularly used: Work Breakdown Structure (WBS), requirement description/tender specification, communication plan, quality assurance plan, negotiation techniques, projected profitability analysis, organisational breakdown structure, cost-estimation techniques, value analysis, tendering documentation/inquiry, planning Gantt, Scoreboard, configuration management, and logical framework Simultaneously, the following tools and procedures are not employed: Milestone planning, completion S-curve and variation, P.E.R.T. and design to life cycle cost (Sane, 2020). Some of these are available in open source format such as GanttProject, OpenProject, and ProjectLibre and are found to be useful in project management (Carreira & Jorge Bernardino 2019). According to the literature, projects that use sophisticated project management systems (PMS) with the appropriate tools and technology surpass those that do not integrate with the project management system (Alan R, 2012; Abdulaziz

et al., 2013; Nasir & Sahibuddin, 2011).

Furthermore, for a team to function well remotely and to effectively engage in an ambitious project, it is necessary to implement and develop collaborative tools which let teams organize their projects into boards. These solutions can appear to help to managed the project and to have potential to promote remote collaborative work (de Castro, Szegedi, Toth & Cardoso, 2017).

Many studies have recognized troubleshooting as a significant facilitator of project success (see for references: Bond 2015; Gudiene et al. 2013; Jones 2007; Amponsah & Darmoe 2014). According to Abdulaziz et al. (2013) and Gudiene et al. (2013), the ability of a project team to recognize crisis occurrences early and respond to such crises in an organized manner has been demonstrated.to be a key contributor to project success. Other studies that have identified troubleshooting as a CSF include, Moretti (2009), Finch (2003), Hyvari (2006), as well as Kuen et al. (2009). To improve the quality of the project activities and deliverables, it is recommended that each team member have the ability to actively participate in project monitoring and troubleshooting during project execution (Altarawneh, Samadi, & Gharleghi, 2020). Increasing project team members' competencies, according to Williams (2020), include making successful judgments and persuading project participants to work with one another through proper troubleshooting of project-related difficulties.

Monitoring and feedback is defined as timely communication of a project's status and progress (budget, schedule, scope, and so on) to all stakeholders engaged in project execution (Pinto & Prescott, 1988; PMI, 2008). It comprises having regular meetings to convey project information to all stakeholders, sharing project review results with stakeholders, assessing actual progress vs baseline, and monitoring all aspects of the project to create an overall picture of project progress (Pinto & Slevin, 1989). Both Slevin and Pinto (1987) and Pinto and Covin (1989) highlighted this factor as one of the most crucial CSFs throughout the project execution stage, noting that because projects are dynamic, constant monitoring ensures that the project stays on track with pre-conceived objectives.

Several more research, including (Alan, 2012; Amponsah & Darmoe, 2014; Bond, 2015), have identified this CSF as a major factor to project success (2012). Many of these studies claimed that iterative monitoring and control of all parts of the project makes it easier to spot deviations from the plan and allows for timely remedial action to be implemented (Westerveld, 2002).

Such deployment of fair and open communication throughout the project, has been shown in many studies to increase the chances of project success (For reference, see, Fayek, et al., 2006; Fortune & White, 2006; Westerveld, 2002). Related studies have also found that projects that maintained open communication throughout the project lifecycle, were more successful than others that had poorly coordinated communication processes (Abdulaziz I. et al., 2013; Amponsah & Darmoe 2014; Geogieva & Allan, 2008; Munns & Bjerimi, 1996: Yong & Mustaffa, 2012).

In many facets of existence, technological advancement has engulfed the modern world. The term "technological advancement" refers to technical change (Camagni,

2017). According to Coccia (2016), this sort of transformation is marked by creativity and breakthroughs and plays an important role in increasing organisational performance. Enterprises that embrace new technology are more likely to achieve greater business results than those that are hesitant to invest in new technology.

Robotics and artificial intelligence are two examples of technological advancements that have increased operational efficiency in many businesses and sectors. As technology takes over numerous activities, it is accelerating the transition to Industry 4.0, in which people will primarily serve as problem solvers and strategic decision makers (Hermann, Pentek, & Otto, 2016; Weiss, 2017).

However, there is a study gap in both theory and practise regarding attitudes toward new technology and how organisations normally respond to technological improvements (Kerschner & Ehlers, 2016). Firms and workers have differing perspectives on new technologies. The key problem for workers is determining whether they see new technology as a threat to their positions within their organisations (Venkatesh & Bala, 2008; Wierzbicki & Nowodziski, 2019).

Many jobs traditionally done by individuals in the workplace have been taken over by artificial intelligence and robotics technologies. Companies that implement new technologies must deal with workers' resistance to change. Employee attitudes regarding new technology, as a result, have an impact on how successfully a firm incorporates and integrates new technology into its operations. Furthermore, organisations' attitudes toward new technology are influenced by its cost-cutting possibilities. It is also impacted by an organization's readiness to respond to market developments (Kerr & Newell, 2003). An important field of research is the attitudes of corporate organisations regarding technological improvements and how this effects the adoption of new technologies and, ultimately, the firm's success.

People's success is based mostly on their ability to be creative and innovative, which has spread to many aspects of modern life. Project management has not been left out of the global dynamics that have been spreading throughout the world (Bennett, 2018). The progress of technology has had a tremendous influence on project management and project success. Because of technology innovation, project management methods have taken another turn in terms of the requirement to accomplish things. Project success has been linked to modern methods of project management, as opposed to the era of the industrial revolution when it first appeared (Bennett, 2018). However, this would not have been feasible without the participation of human resources in the process.

Technological advancements might have a big impact on the oil and gas sectors, which have traditionally relied primarily on labor-intensive processes (Khanam, 2018). Most nations that are naturally endowed with oil and gas have expressed worry about their ability to grow technologically in services that would support the sector (Gruppelaar, 2017). It has been shown that previous technological breakthroughs had an influence on energy supply, demand, and manufacturing costs (Khanam, 2018). However, with expanded research and development, this has shifted in favour of the oil and gas industry during the last few decades. The oil and

gas sector is now fueling a secure future through technological innovation. This has been made feasible by advances in petroleum research, which have progressed from primitive geology to the use of supercomputers, which allow for calculation and, more crucially, 3D subsurface views. New equipment, new knowledge, new materials, and new management practises have all benefited from technological advancements (Khanam, 2018).
Clearly the arrows pointing from personnel, project schedule, technical tasks and troubleshooting are all pointing to technological advancement which acts as a mediator to achieve the project success. Human factors will always remain crucial to several tasks which mean that the marriage between technology and humans will always be critical to project success (Hsu & Fang, 2009).

Research Methodology

Sampling is the practice of picking a small group of people (sample) from a larger group (population) in order to draw generalized conclusions about the population from the chosen sample (Creswell, 2009).
This research study uses Stratified sampling method (Cooper & Schindler, 2011) to select a random sample consisting of 288 members from the sample frame. Heads of departments and units and general managers as well as the project engineers are targeted because of their knowledge, experience and involvement in projects on a daily basis. Heads of units and heads of departments are considered team members and have been included based on the recommendation from previous studies.
The goal of a sampling procedure, according to (Gay & Airasian, 2000), is to collect information about the population by employing the sample. The more diverse the sample and its ability to represent the population, the more legitimate and applicable the research results will be to the general community. Therefore, eight oil and gas companies in Yemen comprising of six national and two international companies have been selected for this research (Table 1).

Table 1. Proportion of companies' employees Sample with Corresponding Percentage

Five Oil and Gas	Population of Project managers at Yemeni oil and gas	% of sampling
Yemen LNG	171	15
YPC	273	24
OMV	112	10
YICOM	115	10
PETROMASILA	135	12
Jannah Hunt Oil Company	97	8
Safer oil and gas company	127	11
Aden Refinery	109	10
Total	1139	100

The chosen Oil and gas companies cover various regions especially in the south part

of Yemen, Safer gas company is located in Marib province in the north, while the other seven oil and gas companies are distributed between Shabwah and Hadhramaut provinces in the south. The questionnaire was produced using Google Forms and hardcopies in both English and Arabic. Some of the project practitioners of Yemen oil and gas companies have managed to respond through the online form while other have filled out the hardcopy with the help of friends working personals in the companies in terms of collections and distribution. Then, 437 questionnaires were distributed to the companies according to their allocated sample although the overall sample size of the study was determined to be 288 using Krejcie and Morgan (1970) table. However, in this study the respondents exceeded the sample size we could manage to get 297 respondents back. Prior to that, each company's probability sampling of personnel must be determined. The unit of analysis in this study are the project manager, head of departments and head of units in the selected oil and gas companies in Yemen. In summary, the questionnaire was created using the online Google forms and distributed through the HR departments of the companies, however, some of the questionnaires were printed out and filled out using hard copies. It took almost two months to get the desired sample.
The following formula was used to compute the probability sampling:

$$\text{Probability sampling of an employee} = NP * NS / T$$

(NP= the number of workers in each firm, NS= the number of samples to be distributed, T= the total number of employees in Yemen's eight Oil and Gas enterprises)

For analytical objectives, this study employed SPSS Version 24 and PLS Version 2.0. SmartPLS (M3) was used to assess the data obtained to evaluate the study model. The PLS Algorithm was used, followed by bootstrapping. The fundamental goal of PLS is to maximise the explained variance within the endogenous variables, hence R^2 is assessed.

Research Results

A descriptive analysis was carried out in order to describe the performance of the eight selected oil and gas businesses in Yemen. Table 2 provides the mean, standard deviation, maximum and lowest value of the constructs in relation to this. In addition, based on Table 2 the smallest value of nearly every construct was 1.00 while the largest value was 5.00. These values reflect the minimum and maximum levels of the Likert scale that this study employs. Also, as construable by the data, Personnel (P) carried the maximum mean value of 3.8229 and a standard deviation of .60132. On the other hand, Technological Advancement (TA) had the minimum mean value of 3.5631 with the standard deviation of .84131. Therefore, one category of mean values stated were above 2.33 but less than 3.67 (moderate), and above (high). It can thus be said that respondents tended to exhibit high level of perceptions regarding Personnel (P), Project Schedule/ Plan (PSP), Technical Tasks (TT), Troubleshooting

(TS), as well as Project Success (PS), because all the mean values for these variables exceeded 3.67. However, they exhibit a moderate level of Technological Advancement (TA). The result is contained in Table 2 and Figure 2.

Table 2. Descriptive Statistics of the Constructs

Constructs	Minimum	Maximum	Mean	Std. Deviation
Project Success (PS)	1.00	5.00	3.6899	0.67316
Personnel (P)	2.00	5.00	3.8229	0.60132
Project Schedule/ Plan (PSP)	1.40	5.00	3.7651	0.57028
Technical Tasks (TT)	1.00	5.00	3.7995	0.68205
Troubleshooting (TS)	1.00	5.00	3.6290	0.82845
Technological Advancement (TA)	1.00	5.00	3.5631	0.84131

Note: N=297 this is the sample size

SmartPLS (M3) was used to assess the data obtained to evaluate the study model. The PLS Algorithm was used, followed by bootstrapping. The fundamental goal of PLS is to maximise the explained variance within the endogenous variables, hence R^2 is assessed. The effect values in this case range from 0 to 1, with 1 signifying total prediction accuracy. Furthermore, because R2 is used by so many fields, researchers are recommended to use a rough guide in terms of acceptable R2 values, which are 0.25, 0.50, and 0.75. According to Hair et al. (2010), the aforementioned number implies predictive accuracy levels that are poor, moderate, and substantial. However, R^2 values must be sufficiently high to allow the proposed model to achieve the lowest potential degree of explanatory power (Aliyu & Yusof, 2017). As a result, the quality of the structural model may be assessed using the value of R^2. The value shows how the exogenous factors explain the variance in the endogenous variable. Referring to the results shown in Figure 2 below, the R^2 of Project Success was.823. This shows that the Project Schedule Plan, Technical Tasks, Troubleshooting, Personnel, Mongering and Feedback, and Technological Advancement account for 82.3 percent of the variation in Project Success, demonstrating that the R^2 value is significant. Figure 3 shows the PLS bootstrapping (t-values) evaluation for the model of study.

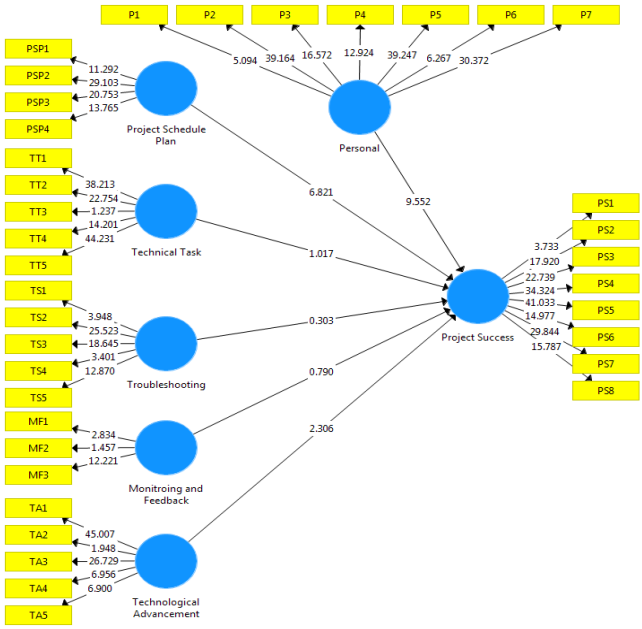

Figure 2. Results of the R² and path analysis

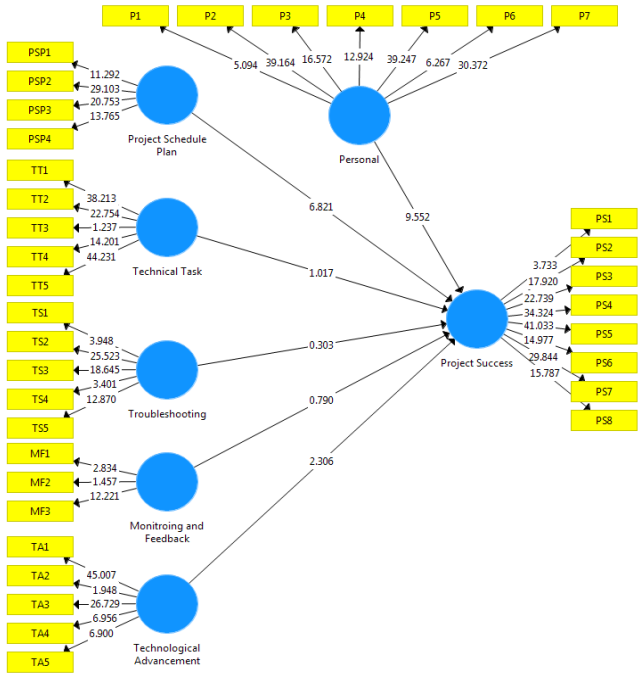

Figure 3. PLS bootstrapping (t-values) evaluation for the Study Model

	T Statistics (|O/STDEV|)	P Values	
Monitoring and Feedback -> Project Success	0.790	0.430	Rejected
Personal -> Project Success	9.552	0.000	Accepted
Project Schedule Plan -> Project Success	6.821	0.000	Accepted
Technical Task -> Project Success	1.017	0.310	Rejected
Technological Advancement -> Project Success	2.306	0.022	Accepted
Troubleshooting -> Project Success	0.303	0.762	Rejected

Following that, the results of the hypothesis testing revealed that the elements (Personal, Project Schedule Plan, and Technological Advancement) are major determinants in determining project success in Yemen's oil and gas sectors. On the other hand, three variables from the factors employed in this study that has no significant impacts on project success among oil and gas industries in Yemen, namely Monitoring and Feedback, Technical Task and Troubleshooting. Hence, Personal, Project Schedule Plan, and Technological Advancement should be presented as main factors that determine the project success among oil and gas industries in Yemen.

Discussion

This section presents the findings of the tested hypothesis in this study for all variables along with compression with previous research findings:

Personal

The parameter estimates for this hypothesis revealed a statistically significant positive relationship, where: H1: Personal→ project success; t-value =9.552, p = 0.000). This conclusion is consistent with earlier research. Several studies have shown that projects that employ skilled staff with the appropriate tools and technology have produced a better result than those handled using low-level staff and resources (Alan R, 2012; Al-Mamary et al., 2015; Abdulaziz et al., 2013; Gudiene, et al., 2013; Ika, et al., 2012). Thus, proving the positive relation between the personal and the project success. Amponsah and Darmoe (2014) reported that competent personnel showed a quite weak positive linear relationship with project success in Ghana public sector. However, current study shows highly significant results and positive relation among these factors making it a compatible source for project success in Yemen oil and gas industries.

Project Schedule Plan

The parameter estimates for this hypothesis revealed a statistically significant positive relationship, where: H2: project schedule/plan → project success; t-value =9.552, p = 0.000). This finding is in consistent with the previous studies which have identified the project schedule / plan as a significant contributor to the success of the project (Alan R, 2012; Abdulaziz et al., 2013). Sebastian-Ion (2016) also concluded

his research as a positive contribution of project scheduling in relation with project success.

Technological Advancement

The parameter estimates result for this hypothesis demonstrated a relationship that is positive with statistical significance, where: H3: technological advancement → project success; t-value =9.552, p = 0.000). This finding is in consistent with the previous studies i.e., Katona and Huffer (2019) conducted a study in relation to success factors contributing to project success. The results showed the positive relation among technology and project success. Similarly, Karaki (2020) also supported the fact that there is positive relation in both these factors. Thus, proving our hypothesis to be effective.

Technical Task

The parameter estimates result for this hypothesis demonstrated a relationship that is positive with statistical significance, where: H4: technical tasks → project success; t-value =9.552, p = 0.000). This finding is in consistent with the previous studies that shows the projects which use advanced project management systems (PMS) with the appropriate tools and technology produce better project results than those that do not ingrate with the project management system (Alan R, 2012; Abdulaziz et al., 2013; Nasir & Sahibuddin, 2011). Many of these studies argued that every successfully managed project utilises a formal PMS, which has elements of proactive project planning, scheduling, budgeting, scope management, work breakdown, risk management, and control (Westerveld, 2003). Therefore, without integrated project management through the project management system PMS, the project can experience slow scale, budget overruns, and schedule slips that can sometimes contribute to its failure of projects.

Troubleshooting

The parameter estimates result for this hypothesis demonstrated a relationship that is positive with statistical significance, where: H5: troubleshooting→ project success; t-value =9.552, p = 0.000). This finding is in consistent with the previous studies. Troubleshooting has been identified in many studies as a key facilitator of the success of the projects (Amponsah & Darmoe 2014; Bond 2015; Gudiene, et al., 2013; Jones, 2007). According to Abdulaziz et al. (2013) and Gudiene et al. (2013), a project team's ability to identify crisis events early, and to respond to such crisis in an organised manner, has been found to be a key contributor to project success. Other studies that have identified troubleshooting as a CSF include, Moretti (2009), Finch (2003), Hyvari (2006), as well as Kuen et al. (2009). Thus, providing evidence for the positive relation between troubleshooting and project success.

Monitoring and Feedback

The parameter estimates result for this hypothesis demonstrated a relationship that is positive with statistical significance, where: H6: monitoring→ project success; t-value =9.552, p = 0.000). This finding is in consistent with the previous studies such as Both Slevin and Pinto (1987) and Pinto and Covin (1989) considered this variable to be one of the most significant crifical success factors during the implementation

phase of the project, noting that, because the projects are complex, continuous monitoring ensures that the project stays in line with the pre-conceived objectives. Many of these studies asserted that iterative monitoring and control of all aspects of the project makes it easy to identify deviations from the plan and enables timely corrective action to be taken (Westerveld, 2002).

There are several studies conducted on the selected parameters which shows positive relation with project success but the novelty of current study is accessing all these parameters together and defining the ways to prosper the business in oil and gas fields. In a nutshell, the current study has resulted in highly significant results and positive relation among project success and personal, project schedule plan, technological advancement, technical tasks, troubleshooting, and monitoring and feedback, thus, making these factors a compatible source for project success in Yemen oil and gas industries.

Contributions

This research has several contributions to the Yemeni oil and gas industries, some of which are theoretical while others are practical which are considered as implication to improve the project success rate in the Yemeni oil and gas companies. With limited theory on project management in the Yemeni oil and gas industry, the research has successfully demonstrated the relationship between different variables that play major roles in project success, potentially the variables that have been highlighted by many researchers (Personnel, project schedule/plan, technical tasks and troubleshooting), and a few others were excluded because this study is aimed at investigating the contribution of influential factors to project success. For Oil and Gas personnel, the use of empirical data in testing the hypothesis is critical since they may look for substantial variations across various areas as well as different oil and gas businesses. The study is especially important for Yemen's oil and gas industries, which have never examined the numerous factors that influence project performance. Understanding human factors personnel (P), project schedule/plan (PSP), technical tasks (TT) and troubleshooting (TS) in the context of petroleum projects would aid them in making decisions and enhancing future project management implementation throughout the sector.

It was clear that the eight oil and gas industries were relying on various criteria to ensure project success. The findings might help all divisions in oil and gas companies better understand and use information on creating and executing successful projects. As a consequence of analysing the identified independent variables and reporting on empirical evidences that explain the relationship between human factors and project performance, the study's findings added to the knowledge base of organisation and management. Furthermore, the study's findings contribute significantly to the understanding of effective project success strategies, provide justification for implementing and upgrading compatible technologies in the oil and gas industries for the successful implementation of project management in Yemen, and can serve as a foundation for future research.

Conclusion

All in all, the study's findings demonstrated substantial support for the link between technology innovation, human variables, and project performance. Furthermore, the project manager's adherence to important success characteristics had the greatest impact on project success, providing strong support for the usage and execution of the Project Implementation Profile (PIP) in order to properly and practically assess projects and make modifications to projects where weaknesses have been found based on the evaluation According to the study's findings, it is extremely helpful and effective for project managers to obtain the most up-to-date technology accessible for attaining and implementing oil and gas projects. The research also gives a more in-depth understanding of project management in the oil and gas industries, as well as project success. This report offers useful insights on how project managers, engineers, and organizations can take proactive measures to increase project success rates. Based on the study's findings, influential factors significantly affect project success, and it is recommended that organisations provide the necessary trainings with the upgraded technology to their engineers and project managers, and that they hire managers with the necessary knowledge, background, skills, and management styles to ensure effective implementation, extra effort, satisfaction, and project success, which can lead to organizations acquiring and maintaining consistently high project performance and project success.

Recommendations for further research

The purpose of this study was to look into the relationship between human variables and project success as viewed and reported by project managers and engineers. Based on the study's findings and research findings, it is suggested that additional research be undertaken on the relationship between Influential Factors and project success in order to validate this study further with a bigger sample size. It would be great to include other related human factors and investigate the moderating role of technological advancement in the oil and gas companies as well as in other industries. Furthermore, because this study only included project managers from Yemen, a comparable study with project managers from other countries may be undertaken to see whether there are differences in the countries, ethnicities, or cultures of the project managers. Additional Investigation required to measure the relationship between the critical success factors such as Organizational Factors, Human Factors, Project Factors, Project Management Factors, Economic Resilience Factors and Personality Traits of a Responsible Leader with the turnaround maintenance project success.

It is worth mentioning that, there are few studies on turnaround maintenance TAM projects in the oil and gas industry specifically in Yemen. Furthermore, the available research indicates no universally accepted criteria for assessing the effectiveness of turnaround repair programs. Moreover, most of these researchers have addressed the notion of project management success in turnaround maintenance projects while ignoring the subjective metrics of success in these initiatives. As a result, researchers are encouraged to address the limited issues mentioned above in the Yemeni oil and

gas sector. Additionally, the current study used a quantitative data collection strategy and was unable to collect qualitative data due to the dispute between political parties and the civil war, which prevented this study from performing the necessary interviews with the relevant persons. As a result, future research should investigate using qualitative methods to collect qualitative information about the project.

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CZYNNIKI WPŁYWAJĄCE NA SUKCES PROJEKTU W FIRMACH PALIWOWYCH

Streszczenie: Celem artykułu jest zbadanie czynników wpływających na sukces projektu wśród personelu na przykładzie jemeńskiego przemysłu naftowo-gazowego. Dane zostały przeanalizowane za pomocą testowania hipotez, narzędzia Smart-PLS, SPSS i kilku metod statystycznych, takich jak modelowanie strukturalne, wagi regresji oraz statystyki T i techniki regresji, wykorzystywane do zrozumienia wymiarowości zmiennych. Wyniki pokazały, że czynniki wpływające, tj. personel (P), harmonogram/plan projektu (PSP), rozwiązywanie problemów (TS) i zadania techniczne (TT) oraz zaawansowanie technologiczne (TA) mają statystycznie istotny związek z sukcesem projektu. Sugeruje to, że zwiększenie wskaźnika sukcesu projektów może być obustronnie korzystne dla kierowników projektów. Wspomniano również o ograniczeniach i sugestiach dotyczących przyszłych badań.

Słowa kluczowe: czynniki wpływające, personel, sukces projektu, postęp technologiczny

项目成功的影响因素 在燃料公司

摘要：本文旨在以也门油气行业为例，探讨影响人员项目成功的因素。数据通过假设检验、Smart-PLS **工具、**SPSS **和几种**统计方法（如结构建模、回归权重和 T 统计和回归技术）进行分析，用于理解变量的维度。结果表明，人员（P）、项目进度/计划（PSP）、**故障排除**（TS）**和技**术任务（TT）**以及技**术进步（TA）**等影响因素与**项目成功具有统计学显着的关系。它表明。还提到了未来研究的局限性和建议。

关键词：影响因素，人员，项目成功，技术进步。