IMPACT OF TRAINING NEEDS ANALYSIS ON ORGANIZATIONAL EFFECTIVENESS AMONG CONSTRUCTION COMPANIES IN SAUDI ARABIA

By

AHMAD MOHMAD ALBASSAMI

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

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DEDICATION

With deep sense of appreciation and gratitude, I dedicate this work to my parents and family.

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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October 2021

Chairman : Associate Professor Amer Hamzah Jantan, PhD
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Training is crucial in Saudi Arabia. Saudization plans emphasize training because of its effect on the construction business. With this approach, the government exacerbated the labor shortage, reducing the organization's efficiency. The other Gulf nations face a similar situation where a lack of construction machinery operators forces certain enterprises to rent machines with an operator. The demand for training becomes a burden in the companies.

Furthermore, training is often inadequate due to employees' inexperience or a language barrier. Most training in KSA is ineffective owing to trainers' lack of cultural knowledge. Therefore, the trainer uses insignificant input and reduces training effectiveness. There is limited research on training needs analysis (TNA) and the benefit of training for organizational success in the Arab world, especially in Saudi Arabia. Moreover, limited study links TNA and organizational effectiveness to the construction industry. Thus, the present research intends to investigate TNA in Saudi building construction success.

The study is not restricted to a specific organization's size, although its size controls the link between TNA and perceived training value. Moreover, additional variables for training include consulted trainer and training quantity, and both received minimal investigation. The current study uses consulting trainers to assess perceived training efficacy. Given the above scenario, the study seeks to delineate the relationship between the TNA approach and organizational effectiveness in the construction sectors of Saudi Arabia. The study employs four hundred and sixty-one (461) small, medium and large companies in the construction industry in KSA. The research uses a questionnaire to collect the data for the study, and Partial Least Square Structural Equation Modelling (PLS-SEM) analyzes the collected data.

The findings show a substantial positive relationship between TNA and perceived training utility as stated in objective one. The study suggests that TNA affects the perceived value of training, and the data correlates with objective two but has no significant correlation with training quantity and perceived value. Perceived training utility correlates positively with organizational effectiveness. It implies that training utility as training efficacy influenced the perceived value of the construction firm's effectiveness. Objective four shows a moderate effect of organizational size on the link between TNA and the perceived utility of training.

Given the study's findings, construction companies in Saudi Arabia organize extensive training needs analyses to improve the perceived value of training. The current study shows that training hours should benefit the employee. Training duration is not as crucial as training need analysis for Saudi construction companies. Similarly, larger firms use training more effectively than smaller ones. Small construction enterprises in Saudi Arabia need to grow to improve training and organizational performance. The current study proves that perception of organizational support strengthens the TNA and training usefulness relationship. Thus, top management in KSA construction businesses should promote training to show their commitment to staff development.

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Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

IMPAK ANALISIS KEPERLUAN LATIHAN TERHADAP KEBERKESANAN ORGANISASI DALAM SYARIKAT PEMBINAAN DI KERAJAAN ARAB SAUDI

Oleh

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Latihan sangat penting di Arab Saudi. Dalam rancangan pembangunan, negara ini menekankan latihan kerana kesannya terhadap perniagaan pembinaan. Pendekatan kerajaan ini memburukkan lagi isu kekurangan buruh, dan mengurangkan kecekapan organisasi. Negara-negara Teluk yang lain menghadapi situasi yang sama di mana kekurangan pengendali jentera pembinaan memaksa perusahaan tertentu untuk menyewa mesin dengan pengendali. Permintaan untuk latihan menjadi beban dalam syarikat.

Tambahan pula, latihan sering tidak mencukupi kerana pengalaman pekerja atau halangan bahasa. Kebanyakan latihan di KSA tidak berkesan kerana kekurangan pengetahuan budaya jurulatih. Oleh itu, jurulatih menggunakan input yang tidak penting dan mengurangkan keberkesanan latihan. Terdapat penyelidikan yang terhad mengenai analisis keperluan latihan (TNA) dan manfaat latihan untuk kejayaan organisasi di dunia Arab, terutamanya di Arab Saudi. Selain itu, kajian yang menghubungkan TNA dan keberkesanan organisasi kepada industri pembinaan sangat terhad. Oleh itu, penyelidikan ini bertujuan untuk mengkaji TNA dalam kejayaan pembinaan bangunan Saudi.

Kajian ini tidak terhad kepada saiz organisasi tertentu, walaupun saiz mengawal hubungan antara TNA dan nilai latihan yang dirasakan. Selain itu, pemboleh ubah tambahan untuk latihan termasuk jurulatih yang dirujuk dan kuantiti latihan, dan kedua-duanya menerima penyiasatan yang minimum. Kajian semasa menggunakan jurulatih perundingan untuk menilai keberkesanan latihan yang diperlukan. Memandangkan senario di atas, kajian ini bertujuan untuk menggariskan hubungan antara pendekatan TNA dan keberkesanan organisasi dalam sektor pembinaan Arab Saudi. Kajian ini menggunakan empat ratus enam puluh satu (461) syarikat kecil, sederhana dan besar

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dalam industri pembinaan di KSA. Penyelidikan ini menggunakan soal selidik untuk mengumpul dan Sebahagian Kecil Square Pemodelan Persamaan Struktur (PLS-SEM) menganalisis data yang dikumpulkan.

Penemuan menunjukkan hubungan positif yang ketara antara TNA dan utiliti latihan seperti yang dinyatakan dalam objektif. Kajian ini menunjukkan bahawa TNA mempengaruhi nilai latihan, dan data berkorelasi dengan objektif dua tetapi tidak mempunyai korelasi yang signifikan dengan kuantiti latihan dan nilai yang dirasakan. Utiliti latihan berkorelasi secara positif dengan keberkesanan organisasi. Ia menunjukkan bahawa utiliti latihan sebagai keberkesanan latihan mempengaruhi nilai keberkesanan firma pembinaan. Objektif empat menunjukkan kesan sederhana saiz organisasi ke atas hubungan antara TNA dan utiliti latihan yang dirasakan.

Memandangkan penemuan kajian ini, syarikat pembinaan di Arab Saudi perlu menjalankan analisis keperluan latihan yang luas untuk meningkatkan nilai latihan. Kajian semasa menunjukkan bahawa tempoh masa latihan harus memberi manfaat kepada pekerja. Tempoh latihan tidak begitu penting seperti mana latihan memerlukan analisis untuk syarikat pembinaan Saudi.Di samping itu, firma yang lebih besar menggunakan latihan dengan lebih berkesan daripada yang lebih kecil. Perusahaan pembinaan kecil di Arab Saudi perlu berkembang untuk meningkatkan latihan dan prestasi organisasi. Kajian semasa membuktikan bahawa persepsi sokongan organisasi menguatkan hubungan TNA dan latihan kegunaan. Oleh itu, pengurusan tertinggi dalam perniagaan pembinaan KSA harus menggalakkan latihan untuk menunjukkan komitmen mereka terhadap pembangunan kakitangan.

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This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

The construction industry has a different organizational structure compared to other sectors (McKinsey Global Institute 2017). The organization's resources classify the tangible and non-tangible resources, whether human, financial, information, physical assets, or intellectual capital. The combination of these resources efficiently leads to an effective organization. Hence, it is fundamental that all organizations utilize both tangible and non-tangible resources effectively (Kamasak, 2017). Continuous potential training provides an organization with resilience and flexibility to react and adjust to a changeable economy. There is a need to address the ongoing pressure of organizations to attain sustainability (Bulińska-Stangrecka, & Bagieńska, 2020). Furthermore, intangible resources such as employees' training need relationships that contribute to the organization's effectiveness (Jawed, & Siddiqui, 2019; Sahoo & Mishra, 2019).

Organizational effectiveness is not a new concept in research around the globe. However, Amah and Ahiauzu (2013) argue that the measurement of the concept is not universal or not in a static set of constructs. Hence, it involves some different views in the organization. Organizational effectiveness in an organization uses the resources they possess to be competitive in their quest to achieve their goal. Nonetheless, acquiring resources such as heavy equipment, machinery, organizational support, and training need is a tremendous challenge. Therefore, construction firms require practical human resource (HR) strategies from internal and external environments to reduce the risks of project delays and ineffectiveness (Arbabi, Salehi-Taleshi, & Ghods, 2020; Alghamdi, 2020) and workers' injuries. Ayhan and Tokdemir (2020) support the views and argue there is an accident analysis that affects construction employees.

In the current study, training needs analysis (TNA) indicates the capabilities of the constructions firms to understand and fulfill effectiveness and latent needs (Ismail, Kadir, & Jaes, 2018; Johari & Jha, 2019). Perhaps, with the hazardous nature of the construction industry, the sector requires increasing attention to training needs and the available means to eliminate or reduce the risks of constructions delays. Generally, the construction sector is more volatile and complex than the others sectors due to the limited access and resources. Constructions companies find a more significant challenge in developing TNA – those unique bundles of routines needed to succeed in their construction operations (Adami et al., 2021; AlMunifi, & Almutairi, 2021). Workers in the construction industry of Saudi Arabia face similar daily risks as faced by workers in other countries. The training climate significantly influences organizational effectiveness, making research in needs analysis a vital step toward achieving effectiveness levels at construction sites.

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TNAs take the form of more or less complex organizational routines depending on the context (Ludwikowska, 2018) and managerial decision-making processes (Makki, & Mosly, 2020) that effectively engage the company resources and their complexity to address dynamically changing constructions challenges. As argued by Armstrong and Stephen (2017), human resources are critical to the success of any organization as they are not limited to staffing, learning, development, rewards, and performance management. Nevertheless, symbolically, all the human resource functions are essential to the training need of the organization to function effectively (Alghamdi, 2020). Training is an essential element in human resources because an employee who lacks the necessary skills is inefficient. A gap between the required competency to perform the job and the current level of competency in employees indicates the need for training (Al-Sinan, & Bubshait, 2021; Matondang, Siregar, Perangin-angin, & Sitompul, 2019).

Construction sector reports show companies need to adopt training needs assessments relative to organizational effectiveness (PwC, 2020). A similar survey indicates that six out of ten construction firms surveyed experienced project delays due to workforce shortages (Deloitte, 2021 Survey Report). Emerging from the pandemic, for instance, the biggest question on most construction firms' minds was how to safely restart work at job sites (Onyango, 2022). Surprisingly, while the industry quickly implemented the required safety standards, the challenge is still trying to attract workers. The impact of not filling job openings can negatively affect construction firms in more ways than one, including project delays and cancellations (Peiró, Nielsen, Latorre, Shepherd, & Vignoli, 2020), projects being scaled back (Satapathy, 2021), inability to respond to construction market needs and losing project bids (Sarhan, Xia, Fawzia, Karim, & Olanipekun, 2018), and failing to innovate (Xu, Zhang, & Hou, 2019). Another factor compounding labor shortages is a lack of qualified candidates. The industry advances into integrating TNA and organizational support with key workstreams to enhance productivity, efficiency further, and worker safety create the skills gap in the industry (Peiró et al., 2020).

As we move into 2022, the Saudi Arabian (KSA) construction companies adapt existing talent strategies and form new training and workforce experience strategies to navigate workforce challenges. Farr & Sullivan (1996) argues that a critical part of a competitive industry is training because of the frequent changes in technology and legal training. Furthermore, exacerbating the situation are disruptions in the project effectiveness due to increased demand for different training needs analysis for constructions project. Quapp and Holschemacher (2020) suggest that training is crucial in building-related professions. However, the converse argument is that training becomes obsolete within three years (Tuffaha, Assaf, Zaben, & Hadidi, 2020). Thus, training is significant in the construction industry. There are deep-rooted cognitive and motivational limitations in cross-functional teams interfering in consulted trainers and the perceived utility of training (Nakai, Hill, Snell, & Ferrell, 2018; Meyer & Bartels, 2017). The construction project activities are knowledge-intensive activities that place construction actions in the position to find ways to manage their knowledge efficiently and effectively (Alosaimi, 2019). Once an organization identifies training gaps, it accelerates the designing of appropriate training programs (Mohanty, Dash, Dash, & Das, 2019).

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Previous research on TNA showed such capabilities as a valuable tool for expanding the challenges of attracting construction workers to develop their skills through training programs (Johari & Jha, 2019). Such a situation occurs primarily in developing country construction firms lacking relevant resources, such as solid organizational support, cutting-edge innovations in construction matters, and promoting specific strategic approaches to mitigate the constraints (e.g., Makki, & Mosly, 2020; Purnell, 2020). The TNAs bring assets, people, processes, and job sites onto effectiveness in an organization, making everyone and everything work brilliantly, reducing downtime, optimizing asset utilization and efficiency, and gaining greater visibility into operations (Alotaibi, Edum-Fotwe, & Price, 2019). However, the current research is general and fragmented. The training areas need more work, such as exploring the building blocks of TNAs, distinguishing between domestic demand, and the need for training in specific forms of organizational effectiveness in the construction companies of KSA. The training needs consulted trainer (e.g., professional, acquisitions), and other strategic capabilities such as perceived organizational support (Eisenberger, Shanock & Wen 2019), training quantity (Peiró, Nielsen, Latorre, Shepherd, & Vignoli, 2020; Misko, & Korbel, 2019), perceived utility of training (Iqbal, Arif, & Zahid, 2018; Altarawneh & Aseery, 2016), and organizational size (Chașovschi, Nastase, Popescu, Scutariu, & Condratov, 2021; Dang, Le-Hoai, & Kim, 2018). Thus, the current research aims to attract perspectives and establish gaps from various disciplines, including TNA and organizational research. The study combines solid theoretical foundations and world-class empirical evidence to develop the knowledge of dynamic TNA to enhance organizational effectiveness in the construction industry.

The significance of training in KSA and its outcome in the construction industry is significant because the government places importance on Saudization policies (Saudi Arabia Vision 2030). The government of Saudi Arabia uses the policy to overcome the shortage of labor rampant, which influenced the effectiveness of the construction organizations (Alhumayn, 2018). However, the construction industry has lower productivity than the other sectors revealing its historical resistance to change in adopting new training needs analysis (Han et al., 2021; Ismail, Kadir, & Jaes, 2018). Many different factors affect the success of TNA adoption in construction companies. Therefore, it is common for organizations to dedicate a consulted trainer who directly interfaces with targeted users to support effective technological adoption in construction projects. Prior studies suggested that an effective consulted trainer is critical to successful organizational effectiveness (Singh, Qureshi, & Ghafoor, 2016). However, it is not currently an understanding in the literature about the specific attributes of the consulted trainer to enable effective TNA adoption. The current study aims to identify the critical attributes of consulted trainers that influenced the success of adopting TNA in construction companies.

The other Gulf countries experienced a similar shortage of operators for the construction machinery. Some companies turn to the more expensive option of renting machines supplied by an operator (Hasan, Baroudi, Elmualim, & Rameezdeen, 2018), increasing the cost and expenses. It negatively impacts the effectiveness of the organizations (Pinto et al., 2011), the demand for training quantity, and the perceived utility of training. The development and implementation of the training program require an appropriate

perceived utility of training (Nykänen et al., 2020). Thus, an organization must understand the skills needed by the employees to cater to the future training demand. The training budgets and efforts require proper planning to avoid wasting time (Mohanty et al., 2019). Therefore, it is necessary to identify training needs effectively and timely; otherwise, it causes an additional economic burden on the organization.

The Training Need Analysis (TNA) package recognizes the required competencies and skills to maintain the training and identify the capability gaps (Rajitha, Krishna, & Scholar, 2019). TNA indicates who needs training and the kind of training they need, thus ensuring the training process provides new capabilities, skills, and knowledge. Previous studies (e.g., Guo, Yiu, & González, 2018; Malik et al., 2021) revealed that effective training programs need to analyze organizational size that requirements of the training program. It requires a detailed and systematic analysis, before the implementation of training (Matosas-López, Aguado-Franco, & Gómez-Galán, 2019).

Numerous factors cause poor labor productivity in the industry. One critical factor is the comparatively slow pace in adopting TNA compared to other sectors at the appropriate time (Peiró et al., 2020). Adopting TNA becomes difficult because each construction project is unique regarding budget, schedule, specification, and project team. Hence, there is a need for perceived organizational support in carrying out project tasks. However, in recent years, more construction companies started to introduce and adopt TNA due to technological changes in their projects. Advances in technology have many benefits, and one of the most often cited advances is the ability to enhance overall productivity (Radzi, Bokhari, Rahman, & Ayer, 2019). Although adopting new technologies proves beneficial to the industry, there are also barriers when adopting them (Rahman 2013). Therefore, identifying approaches such as perceived organizational support to improve the chances of successful technology adoption is crucial. It is, therefore, necessary to see to what extent the construction firms assess the proper support from the project management stakeholder before training takes place. At the same time, it affects organizational effectiveness.

Needs analysis is a process of evaluating the organization's needs in training and finding a solution to ensure the achievement of the central vision and mission of the organization. The training addresses and influences the achievement of talents' training goals to a great extent (Yusof, Baharudin, Yusoff, & Sjahrony, 2019; Arthur, Bennett, Edens & Bell, 2003). TNA's main idea is to match the need for the training and make sure it includes the training content, particularly on construction companies (Rajitha, Krishna, & Scholar, 2019; Ismail, Abdul Kadir, & Jaes, 2018; Zhang, 2018). The match indicates the favorable judgment of the utility of the training (Arthur et al., 2003).

The perception of the training utility refers to the training needs that fulfill the trainees' interests and their practicality in the workplace (van Earde et al., 2008). Furthermore, based on the organization's size, it is crucial to invest in training. Similarly, before the training, consult the trainer. It is significant in the perception of the utility of the training (van Earde et al., 2008). Grossman and Salas (2011) argue that trainees who perceive

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training as valid and valuable are likely to apply new competencies in the workplace. The organization potentially increases trainees' perception of training utility by communicating the relevance of training programs to those who need them (Sindhwani & Saxena, 2021). The implementation of training need analysis leads the organization to identify the input and trainer needed for the training (Ismail, Abdul Kadir, & Jaes, 2018; Sanni-Anibire, Mahmoud, Hassanain, & Salami, 2020).

Construction Training Fund (2016) reports indicate that the construction industry needs a skilled construction workforce empowered with specific skills in the future. The availability of skilled labor is essential to ensure the quality of the product, which leads to gaining customer confidence in the industry. The tool to achieve the core goal is training which increases workers' skills, knowledge, and attitude. It is essential to keep the skill of the workforce up to date. However, it is essential to note that perceived organizational support to employees by supervisors goes a long way, as the employee could put in more effort. The support is in recognizing the need for training and its usefulness which aid in improving their performance (Eisenberger, Shanock & Wen, 2019).

Meanwhile, according to the rate of accident occurrences in construction investigated by Zhong, Pan, Love, Ding, and Fang (2020), the cause is ineffective supervision. Most contractors chose untrained farmers as professional construction workers, and there are no trained personnel to guide them. Consequently, it causes many accidents due to a lack of safety. The current study opens that, as the construction firms in KSA are escalating to Saudization projects, there is a need to determine the required training for the project teams and workers to attain project effectiveness. In addition, Umar (2021) states that accidents in Qatar, Oman, and Saudi Arabia construction industry are prevalent, as the costs of an accident in these countries are higher than in the USA, UK, and AUS. The construction industry in Saudi Arabia has a high level of accidents and fatalities exacerbated by poor training and the absence of proper training. It is amongst the most hazardous worldwide (Mosly, 2020).

However, the country diversifies its revenue stream in other sectors to align with its 2030 vision. Saudi Arabia's Crown Prince Mohammed bin Salman, as the Chairman of the Board of Directors of NEOM, announced the launch of "THE LINE" in the city of NEOM, a new model for the future of urban societies aimed at ensuring balance with nature. THE LINE is a new 170-kilometer (km) belt of hyper-connected communities, designed without cars or roads to protect nature. The design of artificial intelligence technology encourages communities to learn and improve the lives of residents and businesses (Al-Arabiya, 2021). It is paramount to the KSA construction industry to identify the training needs analysis to ensure excellent performance of the industry.

The public sector acts as the primary source to provide an attractive workplace and employment opportunities for the Saudis. KSA is among the fastest-growing nations globally with a current population of 30 million, a four-fold population growth rate compared to the foreigners, which account for 9.7 million. Currently, its youth

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unemployment rate is 5.3%. Hence, to evaluate the country's labor market, an analysis of the demographic composition and trends of the population is necessary (CDSI, 2013). It clearly shows the demand for the future labor market if the private sector fails to be a good place for Saudi to hire.

Plan	Economic resources Development	Human resources development	Social and health Development	Infrastructure development
1970-74	9.5 (27.75)	7.0 (20.6%)	3.5 (10.3%)	14.1 (34.1%)
1975-80	97.3 (28.0%)	51.0 (14.7%)	27.6 (8.05)	171.3 (347.2%)
1980-84	192.2 (30.7%)	115.0 (18.4%)	61.2 (9.8%)	256.8 (635.2%)
1985-89	71.2 (20.4%)	115.1 (33.0%)	61.9 (17.7%)	100.7 (348.9%)
1990-94	34.1 (10.0%)	164.6 (48.0%)	68.0 (20.0%)	74.2 (340.9%)
1995-99	48.2 (11.5%)	216.6 (51.5%)	87.5 (20.8%)	68.1 (420.4%)
2000-04	54.4 (11.2%)	276.9 (57.1%)	92.6 (19.1%)	61.4 (12.6%)
2005-09	105.8 (12.2%)	479.9 (55.6%)	155.7 (18.0%)	122.3 (14.2%)
2010-14	227.6 (15.7%)	731.5 (50.7%)	273.9 (18.9%)	1.6 (14.7%)

Figure 1.1 : The Country's Diversification Plan
(Source: Ministry of Planning 2015)

The study focuses on the construction industry since construction companies are demanding higher skills from new employees. The employment market is looking for more excellent skills from laborers already in the workplace (Ikediash, Ogunlana, Awodele & Okwuashi, 2012). This need is especially crucial in the construction industry, which has been affected by technological change in many ways (Dada & Jagboro, 2015; Adi & Ni'am, 2012). Furthermore, continuous training is essential in maintaining an effective and efficient organization. The organization needs to achieve its objectives only through employees. Thus, their education is significant to keep abreast with the new development and improve their workplace performance (Mselle, 2000). The construction sector in the non-oil division is one of the largest sectors. It is essential to make it more efficient. Moreover, the critical fact about the country's diversification plan is shown in figure 1.1 and figure 1.2.

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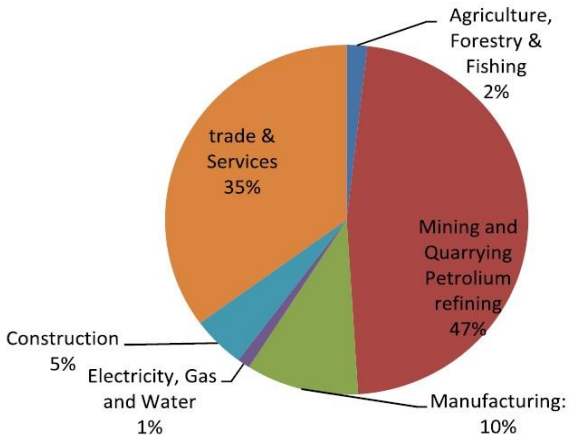

Figure 1.2 : GDP Breakdown by Economic activity for year 2013
(Source: SAMA Saudi Arabian Monetary Agency) [25]

It is important to note that companies that adopt training strategies have a degree of internal consistency in their objectives. These strategies enhance training effectiveness and organizational effectiveness (Valle et al., 2000).

Companies show training practices' effectiveness by linking them to their business strategies. The training strategies emphasize enhancing the individual's skills, which improves organizational effectiveness (Pavlidis et al., 2020; Rahmana & Sukaya, 2020; Raghuram 1994; Valle et al., 2000). Furthermore, Valle et al. (2000) restate that training deemed as strategic should be contingent on business strategy and aim to enhance individual and organizational outcomes. Similarly, Raghuram (1994) states that training effectiveness measures the business plan concerning training strategies. Training needs analysis becomes a process to identify the workers who need training based on their work and the needs similar to what the workers want to achieve in their career (Ismail, Abdul Kadir, & Jaes, 2018). The needs are the gap between practice in work and the organization's target. Thus, this study would consider TNA, training quantity, consulted trainer as business strategies to enhance individual and organizational outcomes.

1.2 Statement of Problem

After the oil and gas sector, the construction sector remains an essential pillar of KSA's economy. The sector is the most vulnerable to downsizing tens of thousands of employees, including foreigners. Moreover, this sector accounts for a massive percentage of employees in KSA, with about 4 million employees, thus, a significant contributor to the KSA economy. About 85% of foreign labor is in the construction industry (Gosi, 2016). However, despite the importance of the construction industry in KSA, there is no doubt that the substantial rate of accidents is still the highest in the region and overtakes the USA and UK (Umar, 2021; Abukhashabah, Summan, &

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Balkhyour, 2020). Most of these accidents and injuries occur due to a lack of knowledge, a lack of safety training, human errors, unskilled workers, lack of proper supervision, carelessness, apathy, and downright recklessness, as well as poor and ineffective management at the sites (Adami et al., 2021; Mosly, 2020).

Needs for training in construction projects goes beyond accident and injuries. Other prevailing reasons are enormous and overwhelming to embedded into a complex context where competitiveness issues are often at odds. The empirical evidence shows that lack of training affects organizational growth (Al-Sinan, & Bubshait, 2021). From a theoretical lens, several organizational theories discuss how and why organizations change. The contingency theory focuses primarily on the effect and change of formal structure and significantly affects the efficiency and effectiveness of the organization (El-Shafei et al., 2018). In this regard, construction organizations have to adapt their structure to the external and internal environment to be efficient or decrease their performance and competitiveness. The organization achieves its efficiency and performance by using the TNA, perceived training utilities, organizational size, and support.

For instance, the rank of the construction industry is the highest (51.35%) in the number of accidents, and the safety records are equally poor than any other industry in Saudi Arabia. Sixty-nine thousand and two hundred and forty-one (69,241) accidents occurred in all the industries (Peiró et al., 2020; Subedi & Pradhananga, 2021; Gosi, 2015). Almost the same situation prevails in many countries worldwide regarding the construction companies (See, Hasan, Baroudi, Elmualim, & Rameezdeen, 2018; Ismail, Kadir, & Jaes, 2018). The construction industry is considered one of the most hazardous industries in Malaysia (Ayob, Shaari, Zaki, & Munaaim, 2018; Chong & Low, 2014). Even in the United States, the construction industry is considered one of the most dangerous industries in the country (Passmore et al., 2019). The current study intends to change the scenario of the construction industry in Saudi Arabia using the TNA for effectiveness (Purnell, 2020), perceived training utilities, trainer consult, and organizational support (Koech & Nzulwa, 2017; Kurtessis, Eisenberger, Ford, Buffardi, Stewart, & Adis, 2017). However, training is an essential tool used in the construction sector to change for effectiveness regardless of the size of the construction firm (Guo, Yiu, & González, 2018). The firm's reputation is affected by accident and jeopardizes its effectiveness, while the contingency theory perspective has a significant impact on the efficiency and effectiveness of organizations (Buniya et al., 2021; Ho & Dzeng, 2010).

From a practical perspective, the study tries to understand the level of training effectiveness and organizational effectiveness in the construction industry of KSA. Many studies identify that one of the main issues is low-skilled employees (e.g., Al-Ghamdi, 2020; AlMunifi, & Almutairi, 2021). Thus, the low-skilled employees require training. A survey conducted by City and Guilds Group (2017) argues that companies in KSA, although are expecting growth, are reducing the numbers of skilled non-Saudi workers. Since there are few skilled Saudi workers, it would provide a miss-match between demand and supply. City and Guilds Group (2017) agree that there is a mismatch between the output of the educational system and the requirements to fill the

jobs in KSA. Al Emad and Rahman (2018) support that the construction industry lacks quality employees.

Moreover, participants opined that training is becoming a burden due to the amount of training needed to fit the requirement. Furthermore, they restated that most of the time, training is still inadequate because of either low education of the employee or language barrier (Akinosho et al., 2020; Hodorog, Petri, Rezgui, & Hippolyte, 2020). Kattuah (2013) argues that most of the training in KSA is ineffective due to the trainers' lack of cultural understanding. Hence, the trainer used inconsequential on the effectiveness of the training. It indicates that construction organizations are unable to capture the tacit knowledge of their employees. The management needs to involve and engage employees fully in the organization's activities, especially in designing the TNA.

However, the participants raise the issue of using in-house trainers and the lack of planning in training design. It would not equip the employees to meet the demand and changes in the environment. Similarly, Shiryan et al. (2012) state that future research in KSA should be conducted on training effectiveness to meet environmental changes. Furthermore, Rana (2016) opines that the training program should improve the employees' performance and improve the organization's productivity. Hence, the present study argues that perceived training utilities and organizational support are paramount, thereby reducing the effect of resource constraints, budget overrun, rush-up projects, project delay, and inefficiency as some of the common characteristics of Saudi construction organizations.

Altarawneh and Aseery (2016) point out one of the significant issues in Arab organizations, including KSA, is the lack of taking training function as an essential function. Furthermore, in their case study of a company in the education sector, they discover that the lack of TNA is detrimental to its success (Altarawneh & Aseery, 2016). The argument embeds the issue on the perception of the training utility, which refers to the decision made on training that would lead to the trainee applying what he has learned and, therefore, making the training effective. Similarly, Ehrhardt, Miller, Freeman, and Hom (2011) argue that perception of training utility is when an employee has an impression of the extensiveness of training and development opportunities offered to him by the firm, and he could apply what he has learned. Recent studies (e.g., Mosly, 2020; Umar, 2021) show that poor training and the absence of a proper trainer cause an increase in the level of accidents and fatalities.

Pinto et al. (2011) and Tam et al. (2004) noted that accidents occur due to inadequate training or lack of training and workers' fatigue. Similarly, only a few construction workers and contractors attend systematic safety training. Therefore, Dada and Jagboro (2015) recommend that construction workers provide necessary training, especially in KSA, where the accidents ratio is higher than in any sector and other countries. Despite this, the crane accidents with high fatalities during the pilgrimage in 2015 remained sensational news globally. Training deficiency attributes to the accident. Hence, Mosly (2015) stresses that it becomes necessary for KSA to impose the presence of qualified

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safety personnel with a qualification or introductory training on safety in every construction project. He also recommends that safety training courses by recognized institutions to develop professional personnel skills in the construction industry in KSA.

The primary issue of the construction industry is that it has become dynamic due to the changing demand of end-user and ever-emerging new technologies that determine the changes in the outcome of the construction sector (World Bank, 2020; Akinosho et al., 2020; Hodorog, Petri, Rezgui, & Hippolyte, 2020; Odusami et al., 2007). This changing nature of the construction industry demands up-to-date training, and hence, the need for TNA becomes more dominant and increases compared to the past. The training needs analysis based on competency is one of the processes involving the manager and the staff in identifying the competencies, including skills, knowledge, and ability (Sindhwani & Saxena, 2021) needed in performing their work. The advantage of this analysis is providing opportunities to the employees to develop their skills in training. Additionally, it could help the employees identify what type of training they need to bridge the gap.

Studies have found that the actual effectiveness of the training programs or perceived utility of training could be beneficial to organizational effectiveness (Koech & Nzulwa, 2017; van Eerde et al., 2008). The need for training should be continuous, as argued by Hartayo and Utama (2017). They further state that it is imperative to have TNA and the proper training for the right job to improve training effectiveness, thus improving organizational effectiveness. The researcher argues that despite the government of KSA's implementation of many training programs in the construction sector for job retention, the effectiveness of the training is not beneficial for the industry because the construction industry neglects proper TNA as an essential part of the training. Wrong identification resulted in inadequate training. In reality, most industries, particularly in Saudi, do not conduct TNA.

There are limited studies in the Arab world on TNA, perceived utility of training, and nexus to organizational effectiveness, particularly in KSA (Altarawneh & Aseery, 2016; Ghufli, 2012). Moreover, none of the studies have considered the construction sector regarding constructs related to TNA and organizational effectiveness. Thus, studying TNA in the construction sector in KSA is considered. Furthermore, norms, nature, and values are different in the construction industry compared to the other sectors.

Some studies about the construction industry fail to include smaller firms, which are also huge contributors to the industry (Hartoyo & Efendy, 2017; Mirza & Riaz, 2012). Studies also found that size matters for TNA (Roomi & Harrison, 2008; Arshad et al., 2015). Thus, this study would not be limited to a particular size of an organization. Hence organizational size will be incorporated to moderate the relationship between TNA training quantity on the perceived utility of training. Moreover, additional factors such as consulted trainers and quantity of training are the main variables for training, and these have limited research. This study adopts consulted trainers to ascertain the perceived utility of the training.

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There have been studies on the positive effect of training on organization-level outcomes. The reasons behind training effectiveness are not evident. Therefore, there is a need to test them empirically (Mohanty et al., 2019; Tharenou, Saks, and Moore, 2007). Otley (1980) backs up this claim by stating that there is little correlation between contingent elements and an organization's efficiency. Thus, this study suggests using the perceived utility of training as a mediator and organizational size and consulted trainer as a moderator in others to fully understand the relationship. Future research should instead concentrate on the effectiveness of training rather than the usage of training, according to Blume, Ford, Baldwin & Huang (2010).

For this reason, the authors of Ubeda's study (2013) point out that future research should examine the synergistic impacts between training and other HRM policies better to understand the role of training in the HRM process. Similarly, Eisenberger, Shanock, and Wen (2019) argue that training effectiveness depends on how well employees perceive their employers' support for their efforts. It is necessary to study if perceived organizational support could enhance the relationship between training utility and training utility.

Studies should integrate various perspectives in the design and implementation of training, according to Ubeda-Garc'a et al. (2013). HRM managers and senior project managers, and lower-level construction employees should be the target of the training needs. Ferreira and Abbaad (2013) suggest that TNA should be proactive rather than reactive. Other needs must be identified, such as learning, educational, and development needs. Furthermore, they claim that studies should not focus on interviewing senior executives because this would yield an erroneous picture of the situation. However, just because the study focuses on TNA, it does not automatically imply that its goal is to look at TNA levels. In contrast, TNA focuses on the current state of the organization's employees' demands and the intended objectives previously included in the organization's training decisions (Adami et al., 2021).

Tharenou et al. (2007) also argue that there has been much support in using the contingency approach in training. However, limited studies include a solid theoretical rationale choice of a contingent variable. They further reiterate that future studies should choose a condition of business that interacts with training and improve organizational effectiveness. There is also evidence that HR strategy has a positive impact on company effectiveness, according to Alghamdi (2020). This study fills this gap by using a contingent variable including organizational size and training strategies to seek whether it enhances training effectiveness and further organizational effectiveness. There are sufficient studies explaining the relationship between training and individual outcomes or organizational outcomes. However, there are limited researches that link individual outcomes to organizational outcomes. This study includes the perceived utility of training (individual outcomes) and seeks to determine its relationship with organizational effectiveness (Organizational outcomes).

From the theoretical point of view, most RBV studies are empirical and focus on significant organizations in Europe and North America, but this ignores the reality that companies with solid asset portfolios are more likely to take advantage of investment opportunities when they arise (Nyamage et al., 2014). A researcher like Gustafsson & Bengtsson (2020) confirm that intangible resources such as organizational size and reputable assets such as training quantity, perceived utility of training, consulted trainer, and perceived organizational support contribute more significantly to firm success than tangible assets. The ability of an organization's total assets to achieve organizational effectiveness increases in direct proportion to its investment in intangible assets (Nwanzu & Babalola, 2019). (Kamasak 2017) show that intangible resources contribute significantly more than material resources to a company's success. That the construction industry is still closely linked to all intangible resources, particularly organizational outcomes, and that it makes a unique contribution to the effectiveness of organizations is evident from this distinction.

Despite this contribution, organizational effectiveness proxy by organizational outcomes is limited in research, especially in the construction sector. Intangible and non-social complex training resources needed in small construction firms do not explain organizational effectiveness variation. Barney (1991) and (2018) prove that a firm's rare, unique, and non-substitutability resources significantly affect its performance. The well-developed or developed countries conduct RBV research. In comparison, few concentrated on selected emerging economies. Minimal contribution is found for developed economies, especially for Saudi Arabia, as no work has been done on the topic so far. Moreover, the majority of RBV related researches neglect the significance of capabilities on the firm's success and instead focuses only on the resources, i.e., tangible resources on constructions matters. Furthermore, they also neglect the intangible nature of training needs analysis on the constructions industry structure factors on the firm's effectiveness.

The current study ascertains the significance of intangible training resources on the construction business effectiveness in Saudi Arabia to overcome the shortcomings. It also examines the influence of training's perceived utility to mediate the relationship and organizational size, consulted a trainer, and perceived organizational support relatively to moderate the relationship in the construction sector in Saudi Arabia and how they would gain a competitive advantage in construction industries. It removes the gap by covering all construction industries' resource databases in Saudi Arabia.

1.3 Research Questions

Based on the above issues, the study would address the following questions:

1. What is the relationship between training need analysis and the perceived utility of training?
2. What is the relationship between training quantity and the perceived utility of training?

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3. What is the relationship between the perceived utility of training and organizational effectiveness?
4. To what extent does organizational size, consulted trainer, and perceived organizational support moderate the relationship between training need analysis and training quantity on the perceived utility of training?
5. To what extent does the perceived utility of training mediate the relationship between training need analysis and training quantity on organizational effectiveness?

1.4 Research Objectives

The study's general objective is to delineate the relationship between the TNA approach and organization effectiveness in the construction sectors of Saudi Arabia. The researcher develops the specific objectives to achieve the general objectives as indicated below:

1. To determine the relationship between training need analysis on the perceived utility of training.
2. To examine the relationship between training quantity on the perceived utility of training.
3. To determine the relationship between the perceived utility of training on organizational effectiveness.
4. To examine the moderation effect of organizational size, consulted a trainer and perceived organizational support on the relationship between training need analysis training quantity on the perceived utility of training.
5. To examine the mediation effect of perceived utility of training on the relationship between training need analysis and training quantity on organizational effectiveness.

1.5 The significance of the Study

1.5.1 Theoretical Significance

The study would significantly add to the body of literature in today's competitive environment and the fast-paced external factors that are changing rapidly in conjunction with the increasing importance of construction methodologies. It uses an HR strategic direction to keep up, namely TNA (Hamidi, 2020; Alghamdi, 2020). The overarching concept of training needs analysis is a methodical investigation and analysis into an organization's current and desired performance levels, focusing heavily on its staff's ability and support networks. The Saudi construction firms naturally operate in environments shared characteristics such as short 'resource constraints,' 'budget overrun,' 'rush up projects,' 'project delay,' and 'inefficiency.' Therefore, the construction

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organizations need to unbundle different intangible resources to achieve organizational effectiveness (Barney, 2018). Specifically, in construction firms, the core is built around project technologies, but these are quickly evolving, and their value vanishes rapidly (Alhumayn, 2018; McKinsey Global Institute 2017; Radzi, Bokhari, Rahman, & Ayer, 2019). Such conditions make the resources-based view appropriate as it allows firms to reconfigure internal and external competencies to address those rapid changes (Barney, 1991). Hence, the researcher chooses three elements as moderators to reflect perceived training utility, training quantity, and organizational support and their consequent impact on TNA around the size of the organization and training consultancy.

The study determines that the organization's size has a different impact on the relationship of TNA and the perceived utility of training. Furthermore, the consulted trainer is also very significant in determining the perceived utility of training. The study supports the contingent factors as suggested by the contingency theory, and studies of this nature about training are limited. Thus, this would aid in extending the contingent theory in training. The study would also contribute to the theory of resources view by indicating the perverseness of intangible resources of training needs analysis on construction firms in emerging economies like the Kingdom of Saudi Arabia. Furthermore, as argued earlier, limited studies link individual outcomes with organizational outcomes. Therefore, the study aims to fill that gap.

The current study contributes to the organizational effectiveness literature by advancing our understanding of the complex relationships among outcomes from construction decision-making leading to competitive advantage. Although different scholars suggest gaining efficiency and effectiveness, the organizations need to sustain competitive advantage (e.g., Chakraborty, & Biswas, 2020; Cao, Wang, Berkeley, & Tjahjono, 2021). The TNA does not model or test the interrelationship on organizational effectiveness in the literature. The present study may be the first to have hypothesized and empirically confirmed that perceived training utility uniquely mediates the relationship between TNA and organizational effectiveness. Similarly, the role of organizational size consulted a trainer, and perceived organizational support was the first to moderate the relationship between TNA and perceived training utility. It casts fresh light on refining our understanding of extant Training research.

1.5.2 Practical Significance

Furthermore, the research model developed in this study has significant managerial implications. Firstly, construction firms wishing to improve their project effectiveness and attain sustained competitive advantage can orient their training needs strategies toward proactively responding to construction pressures while simultaneously developing favorable internal conditions for practical training. Secondly, the research model allows a construction firm to appreciate the significance of the use of TNA to improve its project processes and resources utilization, thereby gaining organizational effectiveness. Thirdly, the research model allows a firm to be aware that using TNA to improve its competitiveness is a complex process that involves developing and maintaining a set of favorable conditions. Fourthly, the significant and positive effects

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of using perceived organizational support and training consultant on perceived training utility, improved organizational effectiveness, and incentives for construction firms to invest in training needs analysis. Finally, the salience of TNA use in construction firms suggests that it is essential for a firm's top management team to support developing and maintaining organizational effectiveness and guard against the vices that threaten such methodology applications. TNA is the first and the most crucial step of the training cycle. If The organization fails to identify the TNA correctly, it could destroy the whole training cycle and purposes. Due to improper TNA, it could put massive costs on organizations because delaying inaction would increase costs and reduce benefits.

Therefore, conducting TNA is an important step to be conducted timely. It increases the organization's effectiveness and develops employees' abilities and capabilities. TNA for training plays a vital role in every industry. However, the importance of TNA becomes more in the case of the construction industry because of its dynamic nature and development of new construction technologies and competition in the construction industry. The need for TNA is essential in the case of the Arab world, particularly KSA, because of tribal ties among organizations and the comfortable nature of Saudi employees. Although the Kingdom of Saudi emphasizes training in different organizations, particularly construction, the Saudi worker drop-out ratio is still very high due to improper TNA.

The current study intends to determine the importance of TNA in the construction industry in KSA. It identifies training needs in the construction sector and the contributing factors that encourage the organization to conduct TNA. The study would also check the impact of TNA on organization effectiveness. The current study provides the guidelines to define the TNA and its fundamental factors because previous studies adopt from other management fields. Moreover, the study would be helpful for training managers and students who want to conduct research on TNA in any other field.

1.6 Scope of the Study

This study covers all the construction sectors of Saudi Arabia because the Kingdom of Saudi emphasizes exploring the building blocks of TNAs. It distinguishes domestic demand and the need for training in constructions firms in KSA to specific forms of organizational effectiveness. The study chose the KSA construction industry because the country changed its economic focus from oil to non-oil industries. For instance, in concert with nature, the country is divesture to THE LINE, a new 170 kilometers belt of hyper-connected communities. According to the Saudi Crown Prince Mohammed bin Salman, Chairman of the Board of Directors of NEOM, "THE LINE" is a new blueprint for the future of urban communities that ensures balance with nature. AI would power the towns to learn and improve the lives of people and companies (Al-Arabiya, 2021). The KSA building industry requires a training requirements study. The unit of analysis is the construction workers in the construction companies. The independent variable is the training needs analysis and training quantity, while the mediating variable is the perceived utility of training. The moderators are organizational size, consulted trainer,

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and perceived organizational. They support the organizational effectiveness proxy by organizing outcomes as the study's dependent variable.

1.7 Terms and Definitions

Training

Training is the systematic approach to affecting individuals' knowledge, skills, and attitudes to improve individual, team, and organizational effectiveness. It has four components; training needs, planning, implementing, and evaluating (Armstrong, 2017).

Training Needs Analysis

Training need analysis is a methodical investigation and analysis into an organization's current and desired performance levels, focusing heavily on the ability of its staff and their support networks" (Shibani, 2016).

Organizational Effectiveness

Organizational effectiveness is not a new concept in research around the globe. When the organization uses the resources they possess to be competitive in achieving their goal, it displays its effectiveness.

Organizational Size

The number of employees working full-time with the employer determines the firm's size. This measurement follows the KSA classification of micro, small, medium, and large organizations. The number of employees indicates the classification. In the micro organization, the number is from 1-10; small enterprises have 10-49 employees, while the medium organization hires 50-499 employees, and finally, large organizations engage 500-and above employees (Saudi Holland Capital, 2012).

Training Quantity

Training quantity is the total number of hours a new employee must spend in training and the average hours of training the employee have to spend in a year (van Earde et al., 2008). Hence, according to Farjad (2012), training quantity is the number of hours the organization has set for training its employees monthly, quarterly, or annually.

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Perceived Utility of Training

The perceived utility of training refers to the perception that training needs have considered the trainee's feelings, whether he likes the training, and whether he could apply what he has learned at the workplace (van Earde et al., 2008).

Consulted Trainer

Consulted trainers provide the training. The HRM manager, training manager, or relevant person in the same field could also provide the training. It could also be provided from inside the organization (managers) or outside of the organization (experts) (Behrend and Thompson 2011).

1.8 Organization of the Study

The following section shows the organization of the study.

1.8.1 Chapter One

The first chapter sheds light on the background of the study. The study identified the training cycle and showed that TNA is the first step within this cycle. The TNA is helpful for training and influences the organization's effectiveness. The chapter discusses the role of the TNA in the construction industry. TNA has a vital role in the Arab world, particularly in KSA, and this could also be seen in this chapter as the Saudi government has introduced policies regarding training. It presents the role of the Saudi government in policy-making concerning conducting training and the training program. Finally, the chapter presents the statement of the problem, research gaps, objectives of the study, and significance.

1.8.2 Chapter Two

Chapter two presents the literature review in three parts: theoretical, empirical, and methodological, including the contemporary TNA theories and the different approaches to TNA. The approaches and the three levels of TNA develop its concepts of TNA. Hence, the study identifies a theoretical gap from the TNA in the Saudi construction industry.

The empirical literature identifies the factors for conducting TNA. The chapter also discusses the crucial role of TNA in organizational effectiveness. In the end, comparisons are made based on the most popular methodologies in TNA and its impact. It also shows that structural equation modeling is the best method to resolve the issues in hands regarding TNA. Finally, the chapter resolves the study gap.

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1.8.2 Chapter Three

The chapter presents the sampling technique and data collection procedure. The study design is also part of this chapter. It displays the development of the conceptual framework based on the hypotheses formulated in chapter two. Different components of the conceptual framework are defined and given in this chapter. Moreover, the chapter indicates the methods and techniques used in the study. Finally, the chapter presents the measurements of every variable of the models.

1.8.3 Chapter Four

The chapter presents the data and the analysis based on the research procedure from chapter three. The chapter discusses the hypotheses and the result of the study. The independent variables of the study predict the dependent variable organizational effectiveness. The discussion of findings from the research shows that the moderating variables strengthen the relationship. In contrast, the mediator shows how the perceived utility of training acts as a mechanism that affects training on the organizational effectiveness of the construction sector in the Kingdom of Saudi Arabia.

1.8.4 Chapter Five

Chapter five discusses the summary, conclusion, and recommendations of the study. The final chapter discusses managerial implications and concludes the current study. The researcher advocates suggestions for future research at the end of the chapter

1.9 Summary

The chapter discusses the background of the study, the statement of the problem, the research questions, and the study objectives. The chapter further discusses the significance of the study scope and later shows the terms and definitions and the organization of the study.

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