

Midocean University

College of Management

Department of Risk Management



**The Impact of Operational Risk Management Practices on Business Continuity: An Applied
Study in Contracting Companies in Yanbu**

Prepared by:

Sultan Adnan Dbae

Supervised by:

Dr. Faisal Abdul Hamid

Dr. Faye Jarad

Year:2025

عنوان البحث

أثر ممارسات إدارة المخاطر التشغيلية على استمرارية الأعمال: دراسة تطبيقية في شركات المقاولات بمدينة ينبع

إعداد الطالب/

سلطان عدنان دبعي

إشراف/

د.الفیصل عبد الحمید

د.فايز جراد

العام الدراسي:

2025

Introduction

The operational risk has become a serious issue in the current world of businesses that is full of uncertainty and volatility in which businesses are expected to operate in such a complex environment without failure. This is especially so among the contracting companies which have their own unique challenges that are caused by the complex project environments, the changes in the market needs, the pressure of the regulators and the logistical disturbances. Effective Operational Risk Management (ORM) is becoming more and more important to the continuity of the business, disruption limitation and remaining competitive. The contracting industry in Yanbu, one of the major industrial cities of Saudi Arabia, is a strategic centre, where the practice risk management should be sound to sustain various economic development projects that the region is pursuing and mega infrastructure projects. It will therefore be timely and necessary to investigate the value and utility of ORM practices to business continuity in these companies.

Operational risks are the risks that arise because of internal process failure, people, systems or external event failures. Failure to correctly identify these risks, assess them and mitigate them can have severe implications of smooth operations of organizations. Several studies have shown the importance of the management of such risks. Altaf et al. (2022) assert the operational risk may influence negatively the performance of industries and effective management of the risk is associated with good structures of governance. Operational risks in contracting companies can be in many forms like the inability to deliver materials in time, safety of personnel involved in work, improper management of projects or financial malpractices. Such levels of risk when unchecked may lead to project delays, cost overruns or even shut down of entire operations. Thus, it is a strategic need to make a robust framework of risk management in place.

Moreover, the consolidation of risk management guidelines and the business continuity plans has been discovered to promote organizational resiliency. In accordance with Assibi (2024), the Enterprise Risk Management (ERM) and Business Continuity Planning (BCP) alignment is one of the key aspects of the improved resilience of the public sector. Applying this to the contracting sector or in a company in the medium risk society such as Yanbu, in essence, contracting corporations are always at a high risk of being involved in a case such as this. means that ORM practices should not only focus on risk avoidance but also on continuity and recovery strategies. This includes proactive risk identification, developing contingency plans, employee training, and real-time monitoring systems.

The worldly point of view also holds a treasure trove of great information. To give an example, Wangyanwen et al. (2023) note that Chinese-based organizations have their ERM practices that largely determine the organizational performance, as preparedness, uncertainty, and term sustainability were positively affected. Likewise, Ambarwati et al. (2024) prove using a multi-methodical research how the strict risk assessment and human risks management contributes to business continuity in Indonesian power industry. These results emphasize the global applicability of the operational risk management in the various industries and geography.

Nevertheless, as far as global awareness is concerned, there is still a research gap in the way ORM practices are put in force with the main focus on the contracting sector in Saudi Arabia and specifically in Yanbu. Large corporations can have established risk systems, but small and medium-sized contracting organizations cannot have a complete strategy or have problems establishing it because of the lack of resources or expertise. This research paper attempts to bridge that gap by exploring the current ORM practice in such firms and how that practice affects facilitating the continuity of business.

The study with the aim of offering feasible proposals about how contracting companies in Yanbu can undertake to deal with risks involved in the operations tends to support the study because of its analysis of mechanisms of dealing with risks contracting companies undertake in Yanbu. It also helps in adding to the wider literature of risk management by providing the practical experience in a region of a fast developing economy and industry.

Research problem

In current fast-paced and uncertain business environment, companies continue to experience increasing number of operational risks that may derail operational processes, destroy assets as well as jeopardizing the existence of a business. Specifically, construction firms face the risk of running operations, given that their ventures tend to incorporate a large number of players; tight schedules, dangerous working conditions, and logistics. To understand the situation in the context of Yanbu, Saudi Arabia, an industrialised and infrastructure developed city, the contracting firms that play a significant role in supporting the economic growth of such city, usually they do not have well-established operational risk management (ORM) frameworks and it suits their particular problems.

Integration of the risk management with business continuity strategies in building organizational resilience has been highlighted by scholars all over the world. In one example, Assibi (2024) states that enterprise risk management and business continuity plan should have good relationship with an aim of enhancing resilience within the financial institutions of the public sector. This thinking is as well applicable in the business world especially where projects are involved such as in construction and contracting. Nonetheless, most of the companies involved in contracting still manage risk and continuity planning as two distinct activities, a fact that restrains their ability to manage crisis responses.

In addition, literature sources, including the study by Wangyanwen et al. (2023) and Ambarwati et al. (2024), offer global data indicating that, when utilized in a systematic manner, effective risk management programs can make a major distinction in the performance results of organizations and their sustenance within risk-prone sectors, such as manufacturing and energy generation, too. However, based on such results, this cannot be generalized in the Saudi contracting industry without analyzing it in context. The effectiveness of ORM practices has to be assessed through cultural, regulatory, and operational differences to adequately establish the appropriateness of the said practices in maintaining the continuity in business.

In the given case of contracting firms in Yanbu, one can observe the lack of research and studies on the matter of operating risk management and the effect management processes in such a field have on the viability of their operations. While Altaf et al. (2022) explore the impact of operational risk on the banking sector, there is limited empirical evidence on how such risks affect non-financial industries such as contracting and construction. This creates a pressing need for applied research that investigates whether existing ORM practices in Yanbu's contracting firms are adequate, effective, and aligned with business continuity goals.

Research Question

To address this gap, the present study seeks to answer the following research question:

"How do operational risk management practices affect business continuity in contracting companies in Yanbu?"

Significance of the Study

1. Scientific Significance

- Contributes to the academic literature on operational risk management and business continuity, especially in the context of contracting companies.
- Fills a research gap by focusing on the relationship between ORM practices and business continuity in a non-financial and project-driven sector.
- Provides empirical data from a developing economy (Saudi Arabia), which adds geographical diversity to existing risk management research.
- Supports the development of theoretical models linking risk management strategies with organizational resilience and continuity outcomes.

2. Practical Significance

- Helps contracting companies in Yanbu identify strengths and weaknesses in their current operational risk management practices.
- Offers practical recommendations to improve risk preparedness and minimize disruption to ongoing projects.
- Assists decision-makers in developing or refining business continuity plans tailored to operational realities.
- Encourages the adoption of integrated risk management frameworks to enhance performance and sustainability.
- Supports government and industry regulators in setting standards and policies that promote risk-aware cultures in contracting firms.

Objectives of the Study

- To come up with the most prevalent type of operational risks to contracting companies in Yanbu.
- To determine the current operation risk management practises in these companies.
- To assess the contribution of ORM practice to the sustenance of business continuity. • To discuss the association between organizational resilience and operational risk management.
- To make recommendation on measures that can be undertaken to enhance better risk management and continuity planning in the contracting sector.

Research Questions

Main Research Question:

- How do operational risk management practices affect business continuity in contracting companies in Yanbu?

Sub-Questions:

- What are the most common operational risks encountered by contracting companies in Yanbu?
- What operational risk management practices are currently implemented by these companies?
- How effectively are these practices contributing to the continuity of operations during disruptions?
- What challenges do contracting companies face in applying ORM practices?
- Is there a significant relationship between the level of ORM implementation and the perceived resilience of the company?

Research Hypotheses

Main Hypothesis (H1):

- **There is a statistically significant positive relationship between operational risk management practices and business continuity in contracting companies in Yanbu.**

Sub-hypotheses:

- **H1a:** Contracting companies that implement proactive risk identification strategies exhibit higher levels of business continuity.
- **H1b:** The existence of formal risk response and mitigation plans positively influences business continuity outcomes.
- **H1c:** Employee involvement in operational risk management enhances the effectiveness of continuity planning.
- **H1d:** Regular monitoring and review of risk management practices are significantly associated with improved resilience to operational disruptions.
- **H1e:** The lack of risk management training and awareness is negatively correlated with the continuity of operations.

Literature review

In the fast changing nature of present day businesses, particularly those that are highly vulnerable to uncertainty like construction, energy and finance, usage of operational risk management (ORM) has become an operational pillar of organizational resilience. Proper ORM is a mechanism by which firms can be able to detect, evaluate, and address possible risks that would otherwise jeopardize business continuity and future success. Both academics and practitioners have been stressing that ORM can be combined with a wider strategic planning, which helps organizations deal with anticipated as well as unanticipated shocks.

The study presented by Assibi (2024) has a substantial analysis of Enterprise Risk Management (ERM) as the means of enhancing business continuity plans of the Ghanaian financial sector in the realm of the government. According to his findings, those institutions that strategically link ERM to the continuity planning are better placed to counter the shock operational shocks. According to the study, resilience cannot be seen as a resource or infrastructure based concept but rather as a culture of risk awareness and the ability to predict and absorb any interference. A combination of ERM with other business processes enables businesses to obtain an overall perception of risks and increases proactive decision-making. Although this study was carried out in the public sector, the idea which is depicted in it is much wider and is relevant in terms of the contracting companies and businesses focused on the realisation of projects: resilience can be built with the help of a preparedness, and ORM can be viewed as its driving force.

Considering the effects of ERM frameworks on the outcomes of firms further, the perceived effects of ERM on the Chinese-based firm performance are examined by Wangyanwen, Senathirajah, and Haque (2023). Their empirical project validates that the ERM has a positive relationship with operational efficiency, stakeholder faith and long-term value addition. The institutionalized nature of ERM, through identification, assessment, plan of response and monitoring, offers a clear picture at a given time of crisis to the decision-makers. Their results show that companies, which institutionalize risk procedures, tend to be more flexible and sustain continuity when the market changes, when there is a break in a supply chain, or when the regulations change. This is especially relevant to contracting companies in industrial regions such as Yanbu, where operational environments are often influenced by volatile supply chains and complex stakeholder demands.

Ambarwati, Dijaya, and Anshory (2024) introduce a distinctive perspective of ORM in the high-risk sector based on multi-methodically analyzing the risk control mechanism in the Indonesian power

industry. Along the same line, their study shows that the combination of both qualitative and quantitative risk assessment coupled with good human risk management activities will result in better business continuity. The research concludes that in situations where training of the employees, their communication, and participatory safety cultures have been implemented there are very minimal cases of operational failure. The human element capable of influencing the success of ORM extensively is brought in the discussion being a relatively un-preferable subject of discussion. In the case of contracting firms, the security of the workforce in the field is a priority, where most of the jobs performed are location based. The researchers assert that empowering outfits to act under risk situations and integrating the risk awareness in the day-to-day activities help in minimizing the vulnerabilities and quickening the restoration process.

In the financial sector, Altaf et al. (2022) concentrate on the topic of operational risk and corporate governance and their influences on the organizational stability, especially in the banking sector of Pakistan. They have found that sound ORM frameworks, backed by the accountable governance arrangements, improve transparency and reduce the vulnerability to failure in operations. They insist that ORM is not a technical exercise but institutional and cultural in nature, where buy-in should be achieved at the top management and orientation to organizational values. The implications of the lack of leadership commitment and the absence of defined systems of accountability apply to contracting firms, though this article is by no means an extension of the sectoral context, given that it belongs to another specialized sector. Risk committees, standardized reporting, and internal controls are the governance mechanisms required to continue business operations.

Based on technological perspective, Kalogiannidis et al. (2024) explore the opportunity to employ the artificial intelligence (AI) in predictive risk assessment to assist business continuity in Greece. The case study conducted by them demonstrates that AI can be used to improve risk identification and response planning to a significant degree by operating with real-time data and predictive analytics. The intervention of AI-driven systems enables organizations to identify irregularities, predict the possibility of failures and mitigate them through practiced recovery plans by simulation. In the case of the contracting companies working in such areas as Yanbu, the implementation of such technologies may transform the management of risks in construction sites, the supply chains, and during project execution phases. Use of digital tools in combination with disposable ORM frameworks has the potential to increase accuracy, dynamic range, and general resiliency.

The article by Dvorsky et al. (2021) explores the risks management existing in small and medium-sized businesses (SMEs), stressing the specific weaknesses of these companies in terms of fewer resources and

less streamlined operations. Through their research, they stress on the need to develop a risk-sensitive culture as well as an inclusion of ORM into strategic planning, even among firms without elaborate systems. Most of the SMEs in which ORM is usually informal or reactive such as the contracting firms in Saudi Arabia are not best positioned to deal with protracted disruptions. Dvorsky et al. recommend the possibility of using affordable and scalable solutions to ORM implementation that should be implemented in stages. They have found that simple risk mapping exercises, scenario planning, and continental drills can all bring a significant amount of resilience to an organization.

Additional dimension to the conversation is the innovation risk management as argued by Mishchenko et al. (2021). The paper studying them in the financial institutions focuses on the example of dealing with risks associated with innovations including, but not limited to, adopting new technology or a business model and how the management addressed to achieve long-term success. Although innovation is a factor of growth, this factor can also spew operational imbalance when it is not regulated appropriately. This is becoming an issue of risk to contracting companies who are either adopting digital construction tools or even participating in new forms of infrastructure projects. Advantageous testing procedures, phased releases, and constant assessment of new processes are advised by the researchers as an ORM framework. These understandings support the assumption that business continuity requires not only response to threats, but also control of uncertainties in response to innovation and change.

Another study that can help understand the adoption of ERM in SMEs is by Tan and Lee (2022) in Malaysian companies. Their research states that the SMEs are increasingly finding out about the benefits of ERM, but still do not adopt it enough because of its perceived being complex and expensive. Nevertheless, those companies which adopt ERM are said to experience greater risk awareness, control conditions and more adequate decision making. This can be looked at as part of a more general issue in other industries such as contracting where short term deadlines and budgetary limitations are allowed to dominate considerations of risk planning in the long term. Tan and Lee portray simplified models of ERM suitable to SMEs with the consideration that training, government support, and industry cooperation are required to increase adoption. According to their work, the creation of the culture of risk awareness, with the help of practical tools available, is essential to continuity and performance.

Regarding the interconnection of supply chain risk management and business performance, Sturm et al. (2022) look into the connections between the demand and supply sides of the risk management procedure and the performance of firms. They discover that some proactive supply chain risk management measures- including the diversity of the suppliers, buffer stocks, and development of cooperative supply chain partnerships directly lead to stability and profitability in the operations. The

supply chain is one of the most serious operational risks of contracting companies that need to promptly receive materials and services as a part of their operations. The authors believe that by including the supply chain risk management into the wider ORM, the firm is better positioned to be able to predict and respond appropriately to external shocks and thus, facilitates continuity.

Lastly, Singh and Hong (2020) provide an empirical study on connection between management of strategic risks and operational risks with performance of firms. Their research renames the fact that both the aggregation and the prevention dimensions of risk management are necessary to attain competitive financial result. Strategic risk management addresses long-term threats, long-term opportunity and operational risk management addresses day- to day uncertainties of conducting the business. The combination of the two approaches forms a strong organization which can withstand any crisis and take advantage of the opportunities presented to it by the situation. As highlighted by Singh and Hong the companies which cannot acknowledge this interconnectedness are even more prone to disruption. Their study helps to advocate the understanding that survival is not some wither, continuity entails maintaining the performance by means of the systematic control of risk.

Commentary on Previous Studies and Research Gap

Combing these studies, it gives a multidimensional perspective of how to manage operational risk and how it helps to maintain business continuity. They all bring out the significance of strategic convergence, leadership dedication, and incorporation of technology, and employee participation in coming up with good ORM systems. These insights are more applicable to contracting firms in Yanbu since there are logistical, safety, and financial risks in the sector. Although most of these companies develop their businesses in high risk markets, not many of them have elaborate frameworks to deal with such risks strategically. According to this literature, contracting firms can use ORM practices and adapt and engage them to a high extent, which can highly increase their resilience, limit disruptions in their operations, and achieve sustainability.

In addition, the studies point out that the management of operational risks cannot be regarded as a separate operation but as a part of the company strategy. Organizations should integrate this risk thinking into all aspects of a company, including at an executive level, through an operational level to create the culture of resiliency that enables the organizations to be prepared to anticipate, respond, and recover to various forms of disruptions. The specified approach is not only the key to survival during the crisis but also success in the competitive and fast-changing market. To the contracting companies, which want to be part of the big picture of building infrastructure and development in Saudi Arabia, it is no

longer a choice whether or not to invest in such integrated ORM systems, but an imperative move to a strategic position.

Altaf et al. (2022) discuss the combination of the areas of operational risk and corporate governance in the banking sector in Pakistan. They show that mechanisms of governance, including oversight committees and internal controls play a significant role in reducing operational threats. Although governance is a major consideration in every industry, the physical, logistic and human threats of the contracting firm or construction project site especially in high growth rate areas like Yanbu, Saudi Arabia have not been directly discussed in the research.

Scientists such as Kalogiannidis et al. (2024) also discuss the technological solutions by addressing such areas of technological advancement as the role of artificial intelligence in predictive risk assessment. They have found that using AI would allow revolutionizing risk identification and continuity simulation. Nevertheless, many contracting companies operating in Saudi Arabia might not be ready to embrace such technologies limited by the available resources, technical knowhow or even organizations.

Dvorsky et al. (2021) and Tan & Lee (2022) illuminate the question of risk management in small and medium-sized enterprises (SMEs). Such studies acknowledge that SMEs tend to have no viable ORM frameworks in place, which increases their susceptibility to breakdowns. Although the works put across the case of simplified and scalable risk management approaches, designed to suit the SMEs, they are generally presumptuous and lack specific recommendations on how contracting firms can attempt to manage risks during infrastructure and construction state projects.

The relationship between supply chain and operational risk management practices, on the one hand, and business performance, on the other hand, have significant empirical support by Sturm et al. (2022) as well as Singh & Hong (2020). They have concluded that those firms that manage to combine risk thinking within a demand-side and supply-side operation are in a better position to get continuity and competitive results. But these studies essentially concentrate on production and major company contexts, rather than the situation of contracting firms in which projects deal more with temporal, location-specific and generally externally-generated risks.

Although a combination of findings of these studies forms an excellent basis to understand operational risk management in different industries, there exists a definite research gap in relation to the applicability and effectiveness of operation risk management in contracting industry especially in relation to Saudi Arabia. Yanbu is a very fast developing industrial city that also accommodates various contracting firms thus helping to sustain national infrastructure and developmental objectives. Although rather significant

in terms of importance, there is no empirical study that observes how fulfilling ORM practices can be within the context of the perceptions of these companies, and, respectively, how these companies practice and profit off ORM.

In addition, most of the available literature covers either large firms that have stable risk management frameworks in place or institutions in the public sector that receive strategic regulation. The particular nature of operations of contracting companies, including temporary location of the project, dynamic employment relationships, reliance on external suppliers and heavy project schedules bring a new risk profile which has not been adequately examined. Such companies are not usually able to afford or have the knowledge or proven system to install effective ORM systems and therefore either have a reactionary or immature continuity planning strategy.

Hence, the study will attempt to fill this gap and look at the nature and the extent of contracting companies operating in Yanbu in terms of their risk management practices within their operations and how this has affected their capability to sustain a business in spite of the current economic conditions. It also aims at knowing the internal and external impediments that can come between the successful application of ORM in this particular context. In such a way, this research does not only add its messages to the scholarly focus on risk management in developing economies and high-risk industries, but it also offers the practices that can assist contracting companies in the Kingdom of Saudi Arabia and other related environments to develop resilience and maintain the stability of their operations.

Theoretical Framework of the Study

The most important theory is the Enterprise Risk Management (ERM) as it gives the main outline of how organizations take on risk in a systematic way at the operational, financial, and strategic levels. ERM focuses on active identification, appraisal, and management of possible threats that can affect organizational goals. Argued and supported by Assibi (2024), an aligned risk culture with ERM and business continuity planning leads to the formation of a holistic culture of risk management that makes an institution resilient. ERM theory assumes that the concept of risk management is incorporated at every step of the decision-making processes, resulting in increased readiness, prompt mitigation, and enhanced recovery when faced with disruption, which is critical to contracting firms waiting to see when shortages of labor force, supply chains solution, or equipment failures occur.

In this respect, ERM practices are not of compliance but reactive nature; on the contrary, they are strategic devices that complement long-lasting continuity. The contracting firms in Yanbu that may be run on large scale infrastructure projects or other industrial developments are subjected to the complex and fluctuating conditions. An organized use of ORM, outlined in the theory of ERM, assists in making sure that these companies can survive either the failure of an internal process, or an external shock.

Among the complementary theories to ERM is the Organization Resilience theory that centers on the organisational capability of receiving, adapting, and recuperating to disruption in the organisation by appointing main functions. Wangyanwen et al. (2023) find that better-performing organizations are those with better risk management systems, which are set up better to handle uncertainty. In this framework, resilience does not refer not only to lack of failure but also to ability to respond and adapt to stress. The way to demonstrate resilience in project driven industries such as contracting is in the capability to change plans, rebalance resources, and stay in levels of safety and performance in the event of risk. The most important facilitator of this adaptability is ORM practice.

The theory of Organizational Resilience helps us to understand the fact that continuity is not a concrete thing but a process, or more precisely, an overall process of preparedness, flexibility, and learning. In their research on resilience in the Indonesian power industry, Ambarwati et al. (2024) show that one of the key elements of the Indonesian power industry resilience is human risk control, i.e., safety training and communication. Their evidence proves the adequacy of human-based practices of ORM especially in contracting companies because on-site, manual functions, and coordination of teams, institutions and plants are most likely to be disturbed. Consequently, the resilience theory expands the perception of

ORM in a way that it involves people, the culture, and the systems of learning as the main focus of the continuity planning.

The contingency theory is another crucial perspective which is based on the argument that there is no universal way of management. Rather, the success of any company practice such as risk management relies on the context it is undertaken. The applicable methodology of this theory to contracting firms is the fact that the activity of these firms differs widely depending on the scale, duration, composition of workers, and state of the environment. The outcomes of the study conducted by Ambarwati et al. show that ORM strategies should be tailored to the peculiarities of certain industries and risks they encounter. The contingency theory therefore explains why there is a need to have flexible, situation-sensitive ORM systems that fit into the operational reality of individual contracting firms in Yanbu.

Other evidence in favor of such a scheme can be found in the work of Altaf et al. (2022), who also advocate the importance of the connection between operational risk and performance of the organization through strong governance. As indicated in their study of the banking industry complex risk-oversight frameworks enhance accountability and vulnerability to failure in operations. Although the situation is dissimilar to construction, governance as a framework to support the ORM can be taken widely. Association with companies that enter into contracts need a clear leadership, role definition, and internal control so that ORM practices can be effective and sustainable.

Technology is also playing a very crucial role of being a part of the modern theory of risk management. Kalogiannidis et al. (2024) examine the application of artificial intelligence (AI) to predictive risk assessment demonstrating how technology can be used to improve diagnostic accuracy and the speed of diagnosis. The use of AI-based solutions in real-time tracking and safety prediction, as well as logistics planning tools in the contracting business, can drastically improve the effectiveness of ORM and make it a part of business continuity, as delays and accidents are costly in this business. Investing into technology in the flow of the theoretical frame already recognizes the dynamic aspect of risk management running in transition and also in regions such as Saudi Arabia where the digitalization is a national agenda.

View of the small and medium enterprises (SMEs) is also pertinent. Dvorsky et al. (2021) and Tan and Lee (2022) emphasize the fact that SMEs tend to fail in implementing the formal ORM frameworks because of resource constraints but at the same time they are at very high risk. They conclude on the basis of their research, that parallel scaled and simple-scaled risk management models can be highly advantageous. This is even more so to smaller contracting firms in Yanbu which may lack the means to

implement complex systems, but can develop resilience through simple ORM such as risk assessment, contingency planning and training of staff.

Finally, the framework is augmented by the theory of supply chain risk management, particularly, in project-based businesses. Sturm et al. (2022) reveal that the efficient control of demand-side and supply-side risks has a direct influence on performance and continuity. Contracting companies are also prone to external shocks that are usually caused by third-party suppliers. Risk in the supply chain is an inseparable part of ORM as integration into its wider scope means that a firm will not compromise the schedules of projects, as well as client satisfaction even in case of unforeseen incidents.

These notions are supported by Singh and Hong (2020) with the empirical finding that strategic and operational risk management is strongly associated with financial as well as operational performance. Their model underscores the idea that ORM is not merely defensive but is a critical component of competitive advantage. For contracting companies, this means that investing in ORM is not only about avoiding loss but also about enhancing project delivery, reputation, and profitability.

Study Variables

Variable Type	Variable Name	Description	Measurement Method
Independent Variable	Operational Risk Management Practices	Strategies and procedures implemented to identify, assess, mitigate, and monitor operational risks	Likert-scale survey items (e.g., risk identification, mitigation planning, monitoring, response actions)
Dependent Variable	Business Continuity	The ability of the organization to maintain critical operations during and after disruptions	Likert-scale survey items (e.g., recovery speed, minimal disruption, continuity plans in place)
Moderating Variable	Company Size	The size of the contracting company, which may influence the strength of ORM's impact on continuity	Number of employees or annual revenue
Control Variable	Project Complexity	The complexity of the projects undertaken, which may affect both risk exposure and continuity capacity	Number of subcontractors, project phases, or duration
Demographic Variables	- Company Age - Job Role - Experience	Background information on participants or firms to describe sample characteristics	Multiple-choice or scale questions

Methodology

In this research study, descriptive-analytical research design has been used, as the research intends to investigate the effects of operational risk management (ORM) practices on the business continuity of the contracting firms in Yanbu, Saudi Arabia. The reason behind the inclusion of the descriptive component is to gain insight into the current practice, whereas the analytical part is aimed at determining the connection between the risk management and organizational resilience.

Study Population and Sampling

In this research, the target population will be the workers in the contracting firms located in Yanbu. The research targets every position in these firms, such as project managers, safety officers, administrative teams, engineers, and others, to get wide knowledge relating to operations risk management activities. The purposive sampling method is non-probabilistic, and it will focus on the people with a related knowledge and experience of project execution and risk management. It is projected that about 100 participants will be selected to receive the questionnaire, to guarantee the validity of the analysis, and to be manageable in the terms of the study.

Data Collection Tool

To collect primary data, a **structured questionnaire** is designed using **Google Forms**, enabling easy digital distribution and response collection. The questionnaire consists of **20 questions** divided as follows:

- **3 demographic questions** (e.g., job role, years of experience, company size)
- **2 open-ended questions** to allow participants to share insights, suggestions, or describe challenges in their own words
- **15 Likert-scale questions** aligned with the study's main themes and variables, measuring perceptions of:
 - Operational risk identification
 - Risk assessment and mitigation strategies
 - Monitoring and review practices
 - Impact on business continuity (e.g., continuity planning, recovery, and adaptation)

The Likert-scale items range from **1 (Strongly Disagree)** to **5 (Strongly Agree)**, providing a quantifiable basis for analysis.

Study Limitations

1. **Spatial Delimitation:**

This study is geographically limited to **contracting companies operating in the city of Yanbu**, Saudi Arabia. As such, the findings may not be generalizable to contracting firms in other cities or regions with different operational, regulatory, or risk environments.

2. **Temporal Delimitation:**

The research data was collected within a **specific time frame during 2025**, reflecting the operational risk management practices and business continuity status during that period only. Any future changes or improvements in ORM practices are not captured in this study.

3. **Human Delimitation:**

The study focuses on a sample of approximately **100 employees** working in contracting companies. Participants include individuals from various roles such as engineers, project managers, safety officers, and administrative staff. However, it does not include perspectives from external stakeholders (e.g., suppliers, clients, regulators).

4. **Thematic Delimitation:**

The scope of this research is restricted to exploring the **impact of operational risk management practices on business continuity**. It does not address other types of risks such as financial, strategic, or reputational risks, nor does it evaluate broader organizational performance indicators beyond continuity.

Reference

- Assibi, A. T. (2024). *The Role of Enterprise Risk Management and Business Continuity in Strengthening Resilience in the Public Sector Financial Management in Ghana* (Doctoral dissertation, Westcliff University).
- Wangyanwen, L., bin S Senathirajah, A. R., & Haque, R. (2023). Influence of enterprise risk management (ERM) on perceived organizational performance: evidence from Chinese-based organizations. *International Journal of Operations and Quantitative Management*, 29(1), 68-82.
- Ambarwati, R., Dijaya, R., & Anshory, I. (2024). A multi-method study of risk assessment and human risk control for power plant business continuity in Indonesia. *Results in Engineering*, 21, 101863.
- Altaf, K., Ayub, H., Shabbir, M. S., & Usman, M. (2022). Do operational risk and corporate governance affect the banking industry of Pakistan?. *Review of Economics and Political Science*, 7(2), 108-123.
- Kalogiannidis, S., Kalfas, D., Papaevangelou, O., Giannarakis, G., & Chatzitheodoridis, F. (2024). The role of artificial intelligence technology in predictive risk assessment for business continuity: A case study of Greece. *Risks*, 12(2), 19.
- Dvorsky, J., Belas, J., Gavurova, B., & Brabenec, T. (2021). Business risk management in the context of small and medium-sized enterprises. *Economic Research-Ekonomska Istraživanja*, 34(1), 1690-1708.
- Mishchenko, S., Naumenkova, S., Mishchenko, V., & Dorofiev, D. (2021). Innovation risk management in financial institutions. *Investment Management and Financial Innovations*, 18(1), 191-203.
- Tan, C., & Lee, S. Z. (2022). Adoption of enterprise risk management (ERM) in small and medium-sized enterprises: evidence from Malaysia. *Journal of Accounting & Organizational Change*, 18(1), 100-131.
- Sturm, S., Hohenstein, N. O., Birkel, H., Kaiser, G., & Hartmann, E. (2022). Empirical research on the relationships between demand-and supply-side risk management practices and their impact on business performance. *Supply Chain Management: An International Journal*, 27(6), 742-761.
- Singh, N. P., & Hong, P. C. (2020). Impact of strategic and operational risk management practices on firm performance: An empirical investigation. *European Management Journal*, 38(5), 723–735.
<https://doi.org/10.1016/j.emj.2020.03.003>