



Establishing A Relationship Model of Project Finance Factors Influencing Economic Development: Case Study of Abu Dhabi Economic Department

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Abstract: Project finance plays a key role in supporting UAE's infrastructure projects, driving economic growth and job creation. This financing approach isolates project funding from a sponsor's corporate debt, simplifying investment tracking and reducing the risk of underinvestment due to excessive debt. Nevertheless, it faces challenges from government regulations, political factors, environmental concerns, and complex procedures. Thus, this paper presents a study to investigate the relationship between project finance factors and economic development indicators. The relationship is translated to a PLS-SEM model development and assessment. To develop the model, the study adopted quantitative research approach where the data for the model was collected through a questionnaire survey using judgmental sampling for convenience. The sample size for the model is from 269 respondents, who are the employees in the Economic Department workforce in Abu Dhabi. The model's development and evaluation were conducted using SmartPLS software. The evaluation encompassed two stages: measurement and structural components, with the model successfully meeting all evaluation criteria. The results of hypothesis testing revealed that the relationships between Project Scope and Identifying Risk constructs with Economic Development construct are statistically significant with the strength of 0.520 and 0.227 respectively. Unfortunately, the relationships between Market Entry Strategy and Origination Capabilities with Economic Development are not statistically significant. In terms of model's goodness of fit, the model demonstrated a substantial overall explanatory power with GoF values of 0.667. While, the model's predictive relevancy with Q² value is 0.443, indicating how well the model can forecast economic development. In suggesting that the model explains approximately 44.3% of the variability in economic development. The findings of this study hold potential benefits for Economic Department employees dealing with project finance challenges

Keywords: Project finance factors, economic development

1. Introduction

The term "project finance" refers to the private sector's use of limited or no recourse financing to support various projects, which are often primarily funded by the cash flows generated by the project itself. Project finance has been employed worldwide, particularly in infrastructure-related projects, and more recently in diverse industries. Concession contracts are often utilized when the private sector is engaged to deliver services that were traditionally provided by the state (Jadidi, Firouzi, Rastegar, & Zandi, 2020). In the UAE, including Abu Dhabi, project finance has played a significant

role in financing various infrastructure projects, contributing to economic development and job creation. The separation of project financing from the sponsor's corporate debt capacity simplifies shareholder investment tracking due to project financing's non-recourse nature. It also helps prevent leverage-induced underinvestment (Alteneiji, Alkass, & Dabous, 2019). However, in Abu Dhabi, project financing faces challenges stemming from government policies, political issues, environmental concerns, and complex procedures (Arouk et al, 2021). This has hindered project stakeholders' access to financing, affecting economic development. The absence of clear guidelines from authorities has led to misapplications and project delays, making some projects obsolete in the rapidly developing region (Jadidi et al., 2020).

Moreover, international stakeholders in Abu Dhabi often struggle with unfamiliar policies, impeding their access to project financing and hindering economic development. The lack of public education about project financing, unclear factors, and difficulties in risk identification and project scope further deter stakeholders from obtaining financing (Petratos, 2020). The high risk of project finance, interest rates, trading on equity, and corporate taxation also pose challenges in the UAE (Petratos, 2020). The UAE, with its free zones, thriving economy, abundant natural resources, and active role in energy exports and consumption, offers a business-friendly environment (Mosteanu, 2019). However, challenges such as complex credit procedures, climate vulnerability affecting foreign talent, and economic inequality in accessing financing impact the country's economic development (Cherian, 2020; Alhammadi et al., 2020; Rahman et al., 2022). Thus, project financing plays a significant role in Abu Dhabi's economic development, but it faces challenges related to policies, international stakeholders, risk identification, and financing procedures. These issues impact the region's growth potential. Therefore, there is a research gap on project financing in Abu Dhabi, and this research aims to investigate its effects on economic development in the UAE by establishing the relationship between of Project Finance with Economic Development.

2. Literature Review

It is important to note that Faridi and El Sayegh (2006a) investigated the reasons behind time and cost overruns in project financing across the UAE. They discovered that the primary causes of these overruns in UAE projects include "poor initial planning," "delays in preparation and drawings," "ineffective site management and supervision," "delays in decision-making from the clients," and "delays in obtaining permissions from the government." Furthermore, several studies have been carried out in the UAE to examine the variables influencing the performance and development of construction projects (Hosani et al., 2020; Motaleb & Kishk, 2010; Ren et al., 2008). The literature has also emphasized the significance of addressing project financing concerns in the UAE, particularly regarding time and cost issues. However, comprehensive studies identifying the reasons behind delays and cost overruns, especially in UAE residential construction projects, are still lacking. The choice to focus on residential building projects was made because of their current emphasis to meet demand through supply, and because residential projects in the UAE have a history of encountering problems related to cost and schedule overruns (Fanouse, 2017).

Despite various research on project finance, there remains a notable scarcity of literature on how project financing affects economic growth. Researchers Shyng and Shen (2021) examined the relationship between project finance and the feasibility assessment of idle public facilities. In 2020, Agbloyor, Abor, Issahaku, and Adjasi conducted research on finance and economic growth, with a specific focus on the private sector. Steffen (2018) explored the significance of project finance in renewable energy initiatives. Sarmento and Oliveira (2018) analyzed the usage of the capital asset pricing model and its limitations in project financing, with a particular focus on highway projects. Duarte Pardo's 2019 research centered on de-risking project finance for infrastructure development through flexibility in engineering design. Mullin, Smith, and McNamara's 2019 study investigated the consequences of municipal financial decisions on coastal management, specifically regarding the cost of preserving beaches. Researchers Zhang, Mohsin, Rasheed, Chang, and Taghizadeh-Hesary (2021) examined the relationship between public spending and green economic growth in the Belt and Road Initiative (BRI) region and the mediating role played by green finance.

2.1 Project Finance

2.1.1 Project Scope

Project Scope refers to the defined boundaries and deliverables of a project, outlining its goals, objectives, tasks, and necessary resources for successful completion (Abdilahi et al., 2020). It provides clarity and direction to the project team and stakeholders, establishing what is encompassed in the project and what is not (Gobov et al., 2021). The project scope serves as a foundational element in project management, offering a clear roadmap for the entire project lifecycle. As defined by Abdilahi et al. (2020), project scope encompasses the defined boundaries and deliverables, providing a comprehensive view of objectives, tasks, and required resources. A well-defined project scope plays a pivotal role in preventing scope creep—a phenomenon where a project gradually expands beyond its original boundaries, leading to delays, budget overruns, and diminished quality. Gobov et al. (2021) emphasize that by explicitly outlining what is included in the project and, just as importantly, what is excluded, the scope acts as a protective barrier against scope creep. This clarity helps manage stakeholder expectations and enables the project team to focus on delivering the agreed-upon objectives within predefined constraints.

In addition to curbing scope creep, the project scope offers several other advantages. First and foremost, it acts as a guiding light for the project team, ensuring that every member understands the project's purpose, objectives, and boundaries. This shared understanding enhances collaboration, minimizes confusion, and fosters a sense of ownership among team members. Furthermore, the project scope aids in effective resource allocation. When the tasks, goals, and required resources are explicitly outlined, the project manager can allocate resources more efficiently, minimizing resource wastage and ensuring that the project stays on track. This aspect is particularly critical in today's dynamic business environment, where resource optimization is essential for maintaining a competitive edge. Moreover, the scope document serves as a point of reference throughout the project. Team members and stakeholders can refer to it to ensure that their actions and decisions align with the project's overarching goals. This continuous alignment helps maintain a consistent direction and minimizes the chances of veering off course. The project scope is an indispensable tool in the project manager's arsenal, providing a structured framework for successful project execution. By defining the project's boundaries, objectives, tasks, and required resources, the scope document prevents scope creep, enhances collaboration, facilitates resource allocation, and maintains project alignment. As the research by Abdilahi et al. (2020) and Gobov et al. (2021) underscores, a well-crafted project scope is a key driver of project success.

2.1.2 Origination Capabilities

Origination capabilities play a fundamental role for financial institutions, private equity firms, venture capitalists, and other investors in their quest to spot and leverage promising investment opportunities. The capacity to efficiently locate, evaluate, and initiate new investment projects is a determining factor for an organization's competitive edge within the investment landscape (Van, 2020).

As outlined by Bernard et al. (2022), origination capabilities encompass several key elements, all contributing to an organization's ability to effectively identify and pursue investment opportunities. These elements are integral to the origination process, collectively forming a comprehensive framework for successful investment origination. The strength of origination capabilities relies significantly on an organization's ability to establish and cultivate relationships within the investment ecosystem. Building a robust network of industry contacts, potential partners, and intermediaries enhances access to a broader pool of investment opportunities. Strong relationships facilitate the flow of information, enabling organizations to discover potential deals that might not be publicly available. Remaining informed about market trends, emerging sectors, and shifts in demand is crucial for effective origination. Organizations with superior origination capabilities invest in comprehensive market research and intelligence-gathering mechanisms. This knowledge equips them to proactively identify investment opportunities aligned with evolving market dynamics.

Thorough due diligence and risk assessment are essential components of origination capabilities. The ability to rigorously assess investment opportunities, evaluate their potential returns, and quantify associated risks is paramount. Organizations must possess the expertise to analyse financials, market potential, legal considerations, and operational viability. Origination capabilities extend beyond traditional deal sourcing to encompass creative deal structuring. Investors often need to tailor their approaches to suit the unique attributes of each opportunity. Creative structuring can enhance an organization's ability to secure deals that align with their investment criteria.

Successful origination necessitates alignment with an organization's broader investment strategy and portfolio. This involves evaluating how potential opportunities fit within existing portfolios, considering diversification goals, risk exposure, and synergies with current investments. Origination capabilities hold a pivotal role in investment management, enabling organizations to identify, evaluate, and initiate investment opportunities in line with their strategic objectives. The facets outlined by Bernard et al. (2022) provide a comprehensive framework for organizations to cultivate strong origination capabilities. By prioritizing relationship-building, market intelligence, due diligence, creative structuring, and portfolio fit, organizations can enhance their competitive advantage and strengthen their ability to source and secure appealing investment opportunities in a dynamic market environment. Origination capabilities refer to an organization's capacity and expertise in identifying, evaluating, and initiating investment opportunities or deals. It involves the ability to source, assess, and initiate new investment projects, partnerships, or transactions. Strong origination capabilities are critical for financial institutions, private equity firms, venture capitalists, and other investors in their pursuit of attractive investment opportunities (Van, 2020).

Origination capabilities encompass a range of skills, processes, and resources that empower organizations to source, evaluate, and initiate investment opportunities (Saunila, 2020). Robust origination capabilities elevate an organization's competitiveness, bolster the chances of securing appealing investments, and drive value creation. Nevertheless, not all aspects of origination research are created equal. Distinct operational and risk analytics are applicable to different lending scenarios, whether it is lending to homeowners, big corporations, small and medium-sized enterprises, or international infrastructure projects. It is imperative to consider the effectiveness of origination firms in addressing a spectrum of factors, both in terms of breadth and location. The objectives of the Origination Phase encompass the management and prioritization of initiatives entering an organization. This phase ensures that projects within the company's portfolio align with its strategic objectives. Primary tasks include refining project proposals from initial concepts, obtaining necessary approvals, setting priorities, and laying out project plans.

Origination capabilities, as a facet of project management, hold a pivotal role in an organization's ability to generate and cultivate new project ideas and concepts. These capabilities are essential for organizations to proactively identify

opportunities, foster innovation, and maintain competitiveness in dynamic business environments (Patanakul, Shenhar, & Milosevic, 2016). The process of project idea generation is a key component of origination capabilities. Organizations employ various methods to stimulate idea generation, such as brainstorming sessions, idea contests, market research, customer feedback, and internal suggestion systems (Thomke & Reinertsen, 2012). These techniques facilitate the generation of a diverse range of project ideas, providing organizations with a pool of potential projects to consider. However, it's essential for organizations to effectively screen and select the most promising project ideas for pursuit. Cooper, Edgett, and Kleinschmidt (2001) emphasize the importance of a rigorous screening and selection process to identify projects that align with organizational goals, resources, and capabilities. Through this process, organizations evaluate the feasibility, strategic fit, potential benefits, and risks associated with each project idea.

Once project ideas are screened and selected, organizations proceed with project concept development. During this stage, detailed project concepts are refined, encompassing project objectives, scope, deliverables, and initial resource requirements (Harrison & Lock, 2017). Feasibility studies, market research, and stakeholder engagement are conducted to ensure that the project concept is well-defined and aligned with organizational strategies. Project initiation stands as another critical facet of origination capabilities. It involves securing necessary resources, forming project teams, and establishing project governance structures (Kerzner, 2017). Effective origination capabilities ensure that projects are adequately resourced, staffed with qualified individuals, and provided with the necessary support to initiate project activities. Furthermore, origination capabilities encompass continuous improvement and learning throughout the project life cycle. Patanakul et al. (2016) emphasize the importance of capturing lessons learned and applying them to future projects. This iterative process helps organizations refine their origination capabilities, enhance project success rates, and foster a culture of innovation and learning. In the context of this study, "Effect of Project Finance on the Economic Development of the UAE: A Study of Abu Dhabi Economic," it is important to acknowledge the varying definitions of "capabilities" within the existing literature.

2.1.3 Market Entry Strategy

Market entry strategy serves as a compass guiding organizations as they venture into new territories or seek to expand within existing markets. This strategic blueprint encompasses a comprehensive approach that involves analyzing market prospects, understanding target customers, assessing competition, and determining the most effective pathway for establishing a strong market presence (Jean et al., 2019). The significance of a well-crafted market entry strategy lies in its ability to mitigate risks, optimize resource allocation, and enhance the likelihood of success. At its core, a market entry strategy represents a pivotal catalyst for business expansion. It outlines a structured approach that aligns with an organization's objectives and resources when entering uncharted markets. By evaluating the dynamics of the new market environment, identifying potential customers, understanding the competitive landscape, and selecting appropriate entry modes, organizations set the stage for effective market penetration. Several key elements underpin the formulation of a successful market entry strategy. Firstly, a comprehensive assessment of market opportunities is fundamental. Understanding market size, growth potential, and customer demands provides insights into the viability of entering the market. Secondly, an in-depth analysis of the target customer base is crucial. A strategy tailored to resonate with customer preferences and behaviours increases the chances of successful market adoption. Additionally, evaluating the competitive landscape is paramount. Recognizing existing players, potential barriers, and market trends informs organizations about their positioning and informs strategies that offer a competitive edge. Equally important is selecting the appropriate mode of entry. This choice can involve joint ventures, alliances, acquisitions, or wholly-owned subsidiaries, each with its own set of benefits and risks.

Common market entry strategies encompass a spectrum of approaches that organizations can consider based on their specific circumstances. These strategies range from exporting, licensing, and franchising to more involved methods like joint ventures, strategic alliances, acquisitions, and greenfield investments (Wu et al., 2022). The selection of the most suitable strategy hinges on factors such as the organization's goals, resources, and the nature of the target market. Market entry strategy encapsulates a critical aspect of business expansion. It necessitates a meticulous analysis of market dynamics, customer preferences, competition, and entry modes. This holistic approach enables organizations to tread cautiously in unfamiliar terrains while optimizing resource allocation and minimizing risks. By crafting an effective market entry strategy, organizations can position themselves for success, navigate uncertainties, and establish a robust foothold in new markets or expanded horizons. A market entry strategy is a plan of action that outlines how a company will enter a new market or expand its presence in an existing market. It involves assessing market opportunities, understanding target customers, evaluating competition, and determining the most effective approach to enter and establish a foothold in the market (Jean et al., 2019). A well-defined market entry strategy helps minimize risks, optimize resources, and maximize the chances of success.

When devising a market entry strategy, companies must take into account a multitude of factors, including market size, growth potential, competitive dynamics, cultural and regulatory variations, customer preferences, cost structures, and their own capabilities and resources. Comprehensive market research is imperative to gauge these factors accurately, assess potential risks, and formulate a compelling value proposition. Furthermore, it's essential to maintain adaptability in the strategy, responding to market conditions and feedback (Visvizi, 2022). Continuous monitoring and flexibility are the linchpins for making necessary adjustments and capitalizing on opportunities in the target market. Nonetheless,

recognizing the numerous perils associated with both domestic and international project financing is paramount to successfully navigating this phase. It involves understanding the potential risks rooted in country-specific dynamics, currency stability, project necessity and value, industry-specific considerations, the availability of capital, operational challenges, the political environment, product liability or design concerns, and established track records, among others.

In a market entry strategy, various vital elements come into play. This strategy delineates corporate objectives, offers insights into the target market, specifies the products earmarked for the market, estimates sales figures, and outlines methods for achieving these goals. The implementation of a conventional market entry strategy typically unfolds over a span of six to 18 months. Market entry strategy is an integral facet of project management that empowers organizations to effectively strategize and execute initiatives for entering new markets or expanding their presence in existing ones. It encompasses a range of pivotal elements that collectively contribute to a triumphant market entry. One such element is market analysis and opportunity identification, a process that necessitates a comprehensive examination of the target market. This analysis encompasses factors such as market trends, customer requirements, competitive landscapes, and regulatory nuances. By conducting such an analysis, organizations can unearth market opportunities and gauge the feasibility of success in the target market.

Once market opportunities are discerned, the choice of entry mode comes to the forefront. The selection between options like exporting, licensing, joint ventures, strategic alliances, or direct investment depends on factors such as market characteristics, organizational resources, and the desired level of control (Cavusgil, Knight, & Riesenberger, 2017). Effective market entry strategies also entail market segmentation and targeting. This involves segmenting the target market and pinpointing specific customer segments for precise targeting. This segmentation enables organizations to tailor their marketing efforts and offerings to address specific customer needs, ultimately enhancing their competitiveness (Kotler et al., 2016). Developing a compelling value proposition is yet another crucial element. Organizations must seek differentiation from their competitors in the target market. This necessitates an in-depth understanding of customer needs, the development of unique selling propositions, and the creation of a value proposition that deeply resonates with the target market. An all-encompassing market entry strategy also encompasses the formulation of marketing and distribution strategies. Organizations need to decide on the most effective marketing channels, pricing strategies, promotional activities, and distribution networks to reach and serve the target market. These strategies are instrumental in ensuring successful market penetration and customer acquisition (Cavusgil et al., 2017). Risk assessment and mitigation constitute critical considerations within the realm of market entry strategy. Organizations must diligently evaluate and proactively address potential risks and challenges linked to entering a new market. These risks may span regulatory hurdles, cultural disparities, competitive pressures, or political instability. Developing contingency plans and mitigation strategies is pivotal in adeptly navigating these challenges.

2.1.4 Identify Risks

Undoubtedly, continuous risk analysis is of paramount importance to three key stakeholders: investors (lenders), country decision-makers (borrowers), and analysts (market entry strategists (Baker and Murphy, 2011)). This proactive assessment of risk factors is essential for informed decision-making and strategic planning, spanning various domains, including investment and market entry. Risk fundamentally combines the probability of an event occurring with its potential impact on project objectives, encompassing expected levels of product or result quality (Hillson, 2014). Risk is characterized by both the likelihood of an event and the potential impact it may have, influencing project success and outcomes (Hillson, 2014). Essentially, risk represents unforeseen events with the potential for favorable or unfavorable outcomes.

In the domain of project management, the ability to foresee specific outcomes is crucial for project success (Kerzner, 2013). Risks, being the least predictable aspects of a project, require adept management and heightened predictability, which are crucial imperatives. Within this context, a risk harbouring the potential for unfavourable consequences is referred to as a "pure risk" or a "threat" (Baker and Murphy, 2011). Known risks are identifiable events that can be managed through proactive measures, while unknown risks arise from unforeseen events requiring agile responses (Hillson, 2014). Scrutinizing risks and crafting strategies to mitigate them is pivotal to preemptively address unfavorable outcomes (Baker and Murphy, 2011). This dynamic interplay of risk evaluation and management is critical to successful project execution. Consistent risk analysis is significant in the domains of investment, decision-making, and strategic planning. Baker and Murphy (2011), Hillson (2014), and Kerzner (2013) collectively underscore the importance of proactive risk management to navigate uncertainties and enhance project success. Correlating risk with each process, decision, and decision action throughout the project life cycle is recommended to manage risk effectively and efficiently. Open communication and efficient cost-related risk management involving all staff members participating in the project's implementation are essential.

Identifying risks is a crucial aspect of project management, enabling organizations to proactively anticipate and address potential challenges and uncertainties that may impact project success. The process of identifying risks involves systematically identifying, analysing, and documenting potential risks and their potential impact on project objectives (Project Management Institute [PMI], 2017). Various methods and techniques can be employed to identify risks, including brainstorming sessions, expert interviews, historical data analysis, and checklists (Heldman, 2018). Risk categorization aids in organizing and understanding the nature of risks, which can be classified into different types such

as technical risks, organizational risks, financial risks, operational risks, and external risks (Hillson & Murray-Webster, 2017). Documenting identified risks in a risk register or risk log is essential for managing and monitoring risks throughout the project life cycle (PMI, 2017). Involving project stakeholders in the process of identifying risks is critical, as their knowledge and insights are valuable. Utilizing a risk breakdown structure (RBS) helps in the systematic identification of risks, ensuring a thorough and structured approach (Heldman, 2018). Drawing on lessons learned from previous projects or past experiences within the organization provides valuable insights into potential risks and aids in proactive risk management (PMI, 2017). Hence, identifying risks is a critical step in project management. By employing various methods and techniques, involving stakeholders, utilizing risk breakdown structures, and drawing on lessons learned, organizations can systematically identify and document potential risks. This proactive identification of risks enables organizations to develop appropriate risk response strategies and enhance project success.

2.2 Economic Development in UAE

A nation's economic development trajectory is intricately shaped by a multitude of economic variables, with capital stock and the pace of capital accumulation standing out as critical determinants of a country's growth prospects. This academic discussion delves into the multifaceted impact of economic variables on national economic development, with a primary focus on the role of capital formation. While other factors, such as surplus food grain production, international trade dynamics, and the economic system's structure, contribute to development, their significance often pales in comparison to that of capital formation. Capital stock and the rate of capital accumulation wield a profound influence over a nation's growth trajectory. The accumulation of physical and human capital exerts a defining impact on a country's productive capacity and technological advancements (Solow, 1956). This relationship underscores the fundamental role that capital formation plays in determining whether a nation will progress or stagnate. The alignment of capital accumulation with the pace of technological innovation catalyses growth by fostering enhanced productivity and efficiency (Mankiw et al., 1992). While capital formation plays a preeminent role in economic development, other factors also come into play. For instance, the availability of a surplus of food grain production capable of supporting urban populations assumes significance. Adequate food security is essential to underpin urbanization, as a nourished and thriving populace forms the bedrock of any developed nation (Sen, 1981).

Furthermore, international trade dynamics wield substantial influence. A nation's engagement in global commerce can catalyse economic development by fostering access to wider markets, technology transfer, and specialization (Rodrik, 2018). However, the benefits of international trade must be balanced against the challenges it poses, such as vulnerability to external shocks. Additionally, the structure of the economic system merits consideration. The alignment of economic policies, institutional frameworks, and regulatory mechanisms contributes to the efficacy of capital allocation and resource utilization (North, 1990). An efficient economic structure bolsters capital formation and facilitates productive investment. Economic development hinges on a complex interplay of variables, with capital stock and accumulation taking centre stage. While aspects like food production surplus, international trade, and economic system structure exert influence, capital formation remains a linchpin of growth.

3. Data for the Model

This study adopts a quantitative paradigm, a prevailing approach in much of social science research, particularly when employing survey methodologies (Morgan & Smircich, 1980; Morgan, Gliner & Harmon, 1999; Lubinski, 1996). This methodology evolved as a response to the limitations of metaphysical theorizing (Easterby-Smith, Thorpe & Lowe, 1991) and, as Lubinski (1996) suggests, underscores the necessity of building a robust scientific foundation for understanding human behaviour, especially within the domain of individual differences in psychology. Quantitative research thrives on its capacity to harness extensive datasets from respondents, which can be methodically analysed (Blaxter, Hughes & Tight, 2006). Its hallmark is the empirical testing of theoretical hypotheses, thereby verifying their validity (Easterby-Smith, Thorpe & Lowe, 1991). This hypothesis-deductive approach, rooted in an ontological orientation towards objectivism, aligns with a positivist or natural scientific epistemological viewpoint. One of the notable strengths of the quantitative paradigm lies in its ability to generate precise, quantitative, and numerical data, often from large survey samples (Maxwell & Delaney, 2004). These results are generally regarded as trustworthy and amenable to replication and generalization across diverse groups. However, they may not always be directly applicable to specific local contexts or individuals (Zikmund et al, 2003). Given the primary objective of this study, which is to gain insights into how project financing influences the economic development of the UAE, the choice of a quantitative and deductive approach is well-suited. This method is inherently conducive to systematically examining and quantifying the relationships and variables pertinent to the research's objectives.

To enhance the efficiency and speed of questionnaire processing in this study, a Judgmental sampling is a form of convenience sampling in which the population elements are selected based on the judgment of the researcher techniques was employed. This approach, as recommended by Cavana, Delahave, and Sekaran (2001), effectively hones in on specific target groups to gather the necessary data while ensuring that key demographic groups are sufficiently represented in the research, a concept elucidated by Davis (1993). The research population consists of the entire workforce of the Economic Department in Abu Dhabi, totalling 900 employees, as reported by the UAE Ministry of

Labour in 2023. The primary focus of this study centres on the senior leadership within the Economic Department. This group plays a pivotal role in shaping the organization's policy framework, particularly in matters related to project financing. Their profound influence in this regard underscores their significance as the primary target audience for this research.

3.1 Sample Size

The determination of the sample size is a critical aspect of research methodology, and several factors need to be considered. As suggested by Sekaran (2016), the sample size is intricately linked to the desired level of confidence and precision. It is essential to strike a balance between the cost of potential errors, the expenses associated with sampling, and the probability of encountering such errors, as elaborated by Lapin (1990). Consequently, an increase in the sample size, as indicated by Cohen (1988), can lead to enhanced precision and reduced error. Moreover, Ary, Jacob, and Razavich (1990) emphasized the importance of a larger sample size when striving for population representativeness, especially given the variables outlined in the theoretical framework. Therefore, when determining the sample size, all these elements must be considered, in accordance with Sekaran (2016). Fowler (2009) proposed three key considerations when determining the sample size: the margin of error, the confidence level, and the expected response rate. However, Fowler's approach does not incorporate the size of the population. To address this, Krejcie and Morgan (1970) put forth a formula that factors in both the population size and the entries in their table for sample size determination. In this study, Krejcie and Morgan's (1970) method was employed for sample size determination, using their table to calculate the sample size. The outcome of this calculation suggests a sample size of 269, chosen to correspond to a population of approximately 900. This rigorous approach ensures that the sample size aligns with the specific needs of the research, balancing precision, and population representativeness.

4. Model of Project Finance for Economic Development

The model of project finance is based on the literature review in the earlier section where it able to establish a relationship between project finance factors with economic development attributes. The relationship between project finance causative factors and economic development attributes is described in figure 1.

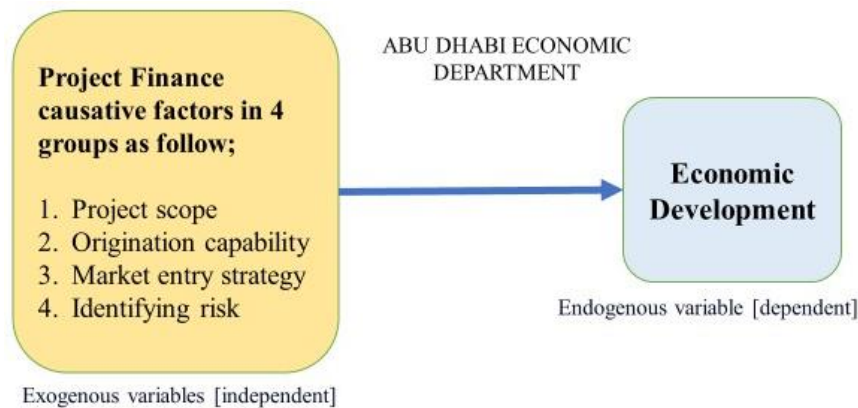


Fig. 1 - Conceptual framework

This study has identified 19 project finance factors were classified into 4 domains namely Origination Capabilities; Identifying Risk; Market Entry Strategy; and Project Scope and 5 attributes of economic development domain as in table 1.

Table 1 - List of factors/attributes in each of the constructs/domains

No	Origination Capabilities Construct
OC1	Origination capabilities are vital for economic development, indicating that they play a fundamental role in fostering economic growth.
OC2	Not all origination capabilities hold the same level of importance; some are more critical than others in driving economic development.
OC3	The presence or absence of origination capabilities significantly influences the economic growth of a region or country, emphasizing their role in shaping economic outcomes.
OC4	Some countries or regions have effectively utilized their origination capabilities to advance economic growth, illustrating the potential for leveraging these capabilities successfully.

OC5	Both governments and businesses should prioritize investments in improving their origination capabilities to stimulate economic development.
Identifying Risk Construct	
IR1	Recognizing potential risks is a crucial step in advancing economic development, highlighting the importance of risk assessment.
IR2	The impact of risks on economic development varies based on the type of risk and the specific industry, underscoring the need for a nuanced approach to risk management.
IR3	Taking proactive measures to identify and address potential risks is essential to minimize their adverse effects on economic development.
IR4	Some countries or regions have effectively handled risks to drive economic development, demonstrating that it is possible to manage and capitalize on risk factors.
IR5	Both governments and businesses should prioritize the identification and mitigation of risks as a key strategy for fostering economic development.
Market Entry Strategy Construct	
MES1	A well-defined market entry strategy is vital for driving economic development, emphasizing its fundamental importance.
MES2	Market entry strategies vary according to the industry and the specific market being pursued, highlighting the need for customized approaches.
MES3	The success of a market entry strategy plays a pivotal role in determining the potential for economic growth in a region or country, underlining its significance.
MES4	Several countries or regions have effectively employed well-thought-out market entry strategies to achieve economic development, showcasing the potential benefits of strategic market entry.
MES5	Governments and businesses should prioritize the development of effective market entry strategies as a central strategy to support and drive economic development.
Project Scope Construct	
PC1	The project's objectives were consistent with the broader goals of the organization, emphasizing cohesion between project and organizational aims.
PC2	The core objectives of the project were effectively communicated to the project team, underlining the importance of clarity in defining project goals.
PC3	The project's outcomes had positive effects on the parent organization, indicating its contribution to the organization's success.
PC4	There is an awareness of and the ability to recognize the advantageous consequences for the organization resulting from the project's success, emphasizing the importance of understanding the project's broader implications.
Economic Development Construct	
ED1	The presence of stable and effective government institutions is a pivotal factor in advancing economic development, highlighting the significance of governance and stability.
ED 2	Access to capital and investment is a critical driver of economic development, underscoring the role of financial resources in fostering growth.
ED 3	Technological advancements and innovation are important catalysts for economic development, emphasizing the role of cutting-edge technology in driving progress.
ED 4	The availability of skilled labor and human capital is essential for economic development, highlighting the significance of an educated and capable workforce.
ED 5	Infrastructure development, encompassing transportation, energy, and communication systems, is a vital factor in promoting economic development, showcasing the role of a robust infrastructure in supporting growth.

4.1 Modelling Process

The model is developed and evaluated using SmartPLS software, which employs the Partial Least Square computational modelling technique. Data used to develop the model was gathered from structure questionnaire survey among the employees of Abu Dhabi economic department. Respondents of the survey were requested to gauge the influence of each of project finance factors toward the economic development for UAE using 5-point Likert scale. And also, the importance of the economic development attributes. The collected data was converted in CSV format that is readable by the software and assigned to the developed model. Then, the model was run using PLS Algorithm function and the result is as figure 2.

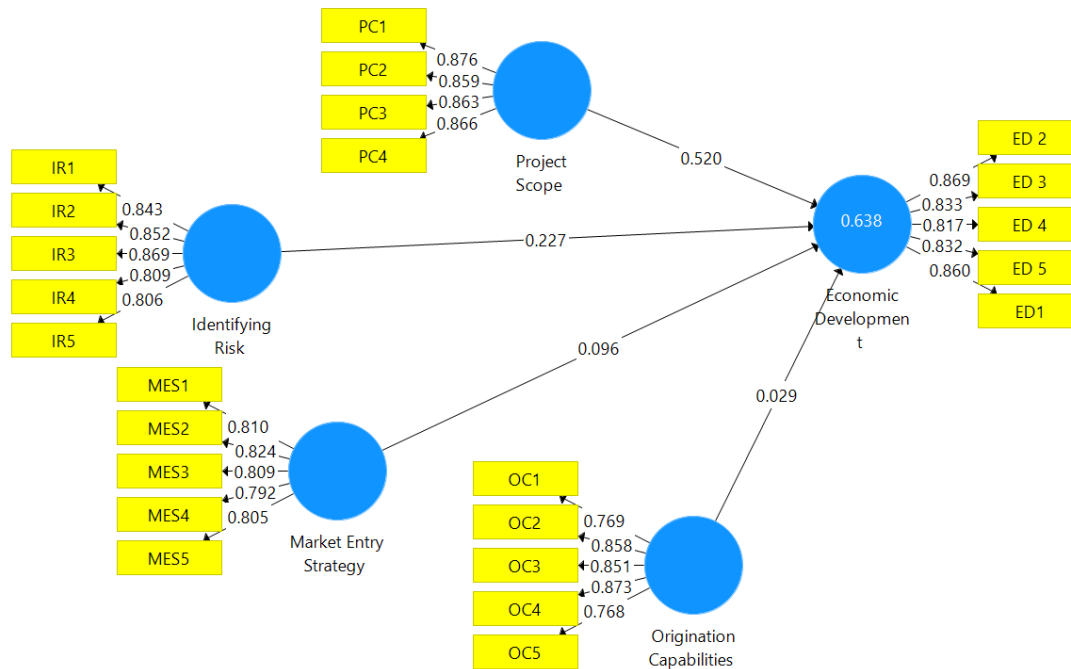


Fig. 2 - Model after execute the PLS Algorithm

Figure 2 shows the graphical relationships of the model containing the independent and dependent constructs in blue colour; measured items in yellow colour; loading factors values which are between the measured items and the construct; path strength/beta values which are between the constructs and the R² value in the dependent construct.

4.1.1 Assessment of Measurement Component

In this assessment it involves the evaluation on the construct reliability and validity and also discriminant validity

4.1.2 Construct Reliability and Validity

Assessing construct reliability and validity in PLS models is important because it ensures the measures used in the model are trustworthy and accurately represent the concepts being studied. This quality check is necessary for the model's accuracy, helps confirm theoretical ideas, and strengthens the model's results. It also allows for comparisons across studies and builds a strong foundation for high-quality research. In a nutshell, it is a crucial step to make sure PLS models are reliable and produce meaningful insights (Joe F Hair, Sarstedt, Ringle, and Mena, 2012). It is recommended to assess the validity of the latent construct by conducting tests for convergent validity and discriminant validity. Consequently, this study initiated a preliminary evaluation of data reliability and validity prior to data analysis. Table 2 provides an assessment of the reliability and validity of different constructs in the model.

Table 2 - Construct reliability and validity values

Constructs	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Economic Development	0.898	0.899	0.924	0.709
Identifying Risk	0.892	0.896	0.921	0.699
Market Entry Strategy	0.867	0.871	0.904	0.653
Origination Capabilities	0.882	0.886	0.914	0.681
Project Scope	0.889	0.889	0.923	0.75

Table 2 reveals that the constructs for "Economic Development," "Identifying Risk," "Market Entry Strategy," "Origination Capabilities," and "Project Scope" are all reliable, as indicated by their high Cronbach's Alpha and Composite Reliability scores, surpassing the recommended threshold of 0.70 by Hair Jr. and Lukas in 2014. Furthermore, the Average Variance Extracted (AVE) values for these constructs signify good convergent validity, signifying that these measurements effectively capture the intended concepts. The AVE values surpass the 0.5 threshold, consistent with the criteria defined by Hair Jr. and Lukas in 2014. It shows that the data collected for these constructs is dependable and

accurately represents the concepts which are designed to measure. This reliability and validity are essential for using these measures in further research or practical applications.

4.2 Discriminant Validity

Another criterion for assessing the measurement model is through discriminant validity was invented by Campbell & Fiske (1959). This criterion of validation technique was based on the established theory that assessments can be invalidated if too high correlations with unrelated assessments (Campbell, 1960). Theoretically, discriminant validity is regarding about the degree to which latent variable differs from one to another (Ab Hamid, Sami & Sidek, 2017). The discriminant validity indicates differentiation of measuring items of a construct measure to what it is expected to measure (Urbach & Ahlemann, 2010). Based on Zait & Berteau (2011) paper, discriminant validity assumes that items in the same construct should correlate higher among themselves rather than correlation with other items from other constructs which are not supposed to correlate. The discriminant validity can be demonstrated through the cross-loading technique. Another approach for discriminant validity is through Fornell-Larcker criterion. The criterion makes comparisons between the AVE square root values with the latent variable correlation value. This approach stipulates that the construct shares more variance with its indicators than with any other construct (Hair et al., 2014). The criterion for Fornell-Larcker analysis is considered valid if the square root of AVE in each latent construct is bigger than its highest correlations among the latent construct (Gye-Soo, 2016; Hair et al., 2016). When weak indicators are deleted in each stages of iteration, it will then improve the errors of Average Variance Extracted (AVE) of latent constructs to an acceptable level (Gamil, Rahman, Nagapan, & Nasaruddin, 2020). Thus, this study adopted Fornell-Larcker criterion only in examining the discriminant validity of the measurement model and as in table 3.

Table 3 - Fornell-Larcker criterion

Construct	Economic Development	Identifying Risk	Market Entry Strategy	Origination Capabilities	Project Scope
Economic Development	0.842				
Identifying Risk	0.690	0.836			
Market Entry Strategy	0.652	0.715	0.808		
Origination Capabilities	0.602	0.731	0.655	0.825	
Project Scope	0.772	0.717	0.720	0.662	0.866

The bolded values in the Table 3 represent the square root of AVE and non-bolded values represent the inter-correlations value between constructs. It is indicated that all off-diagonal elements are lower than square roots of AVE. Hence, confirming that the model had achieved criterion of discriminant validity.

4.3 Assessment of Structural Component

In this assessment it involves the evaluation on assessment of variance; Model fit; Hypothesis testing; Predictive relevancy; and Goodness-of-fit.

4.3.1 Assessment of Variance, R²

The most crucial component of PLS-SEM structural modelling is the assessment of variance (R²) (F. Hair Jr, Sarstedt, Hopkins, & G. Kuppelwieser, 2014). According to Henseler, Hubona, and Ray (2016), R² denotes the value percentage in the dependent variables that is examined by one or more predictors. According to F. Hair Jr et. al. (2014), the acceptable values for PLS-SEM are 0.19, 0.33, and 0.67, which are regarded as weak, moderate, and considerable, whereas the minimal threshold value for R² is 0.10. Table 4 predicts values.

Table 4 - The R² square values

Endogenous Construct	R Square
Economic Development	0.638

Table 4 reveals the R² value for the "Economic Development" construct, which is measured at 0.638. This signifies that approximately 63.8% of the variance in the independent constructs is explained in Economic Development construct as dependent variable. As a result, in accordance with the criteria established by Cohen (1988), the R-squared value in this study can be regarded as substantial or considerable.

4.3.2 Hypothesis Testing

In SmartPLS, bootstrapping is a technique used to determine the statistical significance of estimated path analysis and PROCESS coefficients. These coefficients encompass various aspects, such as direct effects, indirect effects, moderation effects, and conditional effects. Bootstrapping involves the generation of subsamples through random selection of observations from the original dataset, allowing for replacement. These subsamples are then utilized to estimate the path analysis and PROCESS model. Following the execution of the bootstrapping procedure on this study’s model, the resulting model outcomes are represented as illustrated in Figure 3.

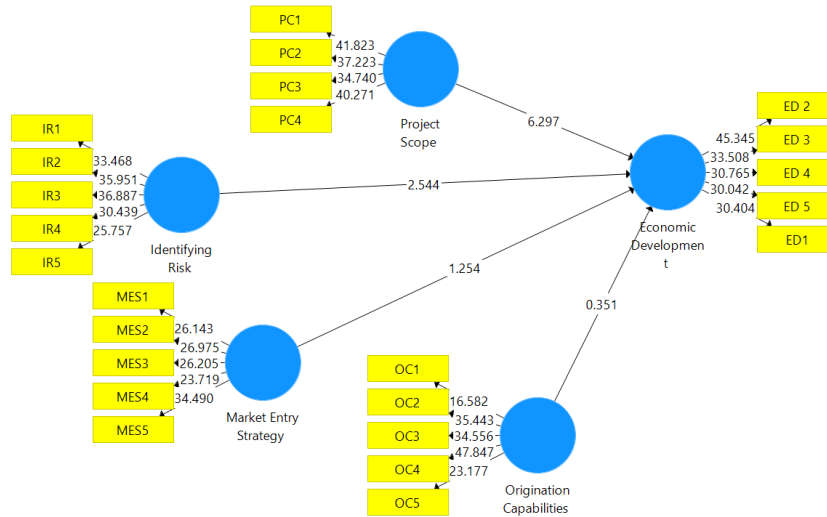


Fig. 3 - Model after executing bootstrapping process

After the bootstrapping process on the model, the results of hypothesis testing on the model are as in table 5

Table 5 - Results of hypothesis testing

Relationships	Path strength	T Statistics	P Values	Path significance
Identifying Risk -> Economic Development	0.227	2.544	0.011	Significant
Market Entry Strategy -> Economic Development	0.096	1.254	0.210	Not Significant
Origination Capabilities -> Economic Development	0.029	0.351	0.726	Not Significant
Project Scope -> Economic Development	0.520	6.297	0.000	Significant

Table 5 presents findings regarding the impact of various factors on economic development. It analyses four specific relationships: Identifying Risk, Market Entry Strategy, Origination Capabilities, and Project Scope. The T-Statistics having value > 1.96 and the P-Value < 0.05 suggests a significant relationship of the path. Hence, the relationships between Project Scope and Identifying Risk constructs with Economic Development construct are statistically significant with the strength of 0.520 and 0.227 respectively. Unfortunately, the relationships between Market Entry Strategy and Origination Capabilities with Economic Development are not statistically significant.

4.3.3 Predictive Relevance of the Model

Predictive relevancy to the structural model refers to the model's capacity to effectively forecast or explain variations in the data it is built upon. In the context of statistical or predictive modelling, it signifies the model's ability to make accurate predictions about outcomes or dependent variables based on the relationships, variables, and parameters within the structural model. A high level of predictive relevancy implies that the model is robust and proficient at capturing the underlying patterns in the data, enabling reliable predictions, while low predictive relevancy suggests the model may struggle to provide meaningful insights or accurate forecasts. Assessing predictive relevancy is vital for gauging the real-world utility and reliability of a structural model in various applications, from economics to machine learning (Henseler et al., 2016).

For the predictive accuracy of the model, the value for Stone-Geisser’s Q² is adopted (Joseph F Hair, Ringle, & Sarstedt, 2013). Stone-Geisser’s test is to assess the value of predictive relevance by adopting blindfolding process in the SmartPLS software (Henseler et al., 2016). Table 6 indicates the generated cross-validated value for Economic Development construct.

Table 6 - Constructs cross-validated redundancy values

Constructs	SSO	SSE	Q ² (=1-SSE/SSO)
Economic Development	1990	1108.997	0.443

Table 6 provides information related to predictive relevancy for the "Economic Development" construct within the model. It uses metrics such as SSO (Sum of Squares for the observed data) and SSE (Sum of Squares for the estimated data) to evaluate the model's ability to predict and explain variations in economic development. The Q² value, calculated as 1 - (SSE/SSO), serves as a measure of predictive relevancy, indicating how well the model can forecast economic development. In this case, the Q² value is 0.443, suggesting that the model explains approximately 44.3% of the variability in economic development. A higher Q² value indicates a stronger predictive relevancy, signifying that the model captures a significant portion of the variation in economic development (Henseler et. al., 2016).

4.3.4 Goodness-of-Fit

Goodness-of-fit (GoF) is to describe how well the model fit into a set of observations/data set. GoF is reflected through an index proposed by Tenenhaus *et al.* (2004). The index is the geometric mean of the average communality (AVE) and the average coefficients of determination (R²) value of the model(Hair, Ringle &Sarstedt, 2011).For the baseline values of validating the PLS model globally, the GoF value of the model should be in the range between 0 and 1. If the GoF value is equal or more than 0.1 but less than 0.25, the model can be categorised as having small validating power; if the GoF value is equal or more than 0.25 but less than 0.36 then it can be categorised as having medium validating power and for GoF value equal or more than 0.36, the model is considered having high validating power (Wetzels *et al.*, 2009 ; Akter *et al.*, 2011).

Table 7 - GoF criteria

GoF value	Interpretation
≥0.36	Large
≥0.25	Medium
≥0.1	Small

Hence, GoF index of a model can be calculated manually using the following formula (Wetzset *et al.*, 2009):

$$\text{Goodness-of-Fit, } GoF = \sqrt{AVE \times \bar{R}^2}$$

where;

- $\frac{AVE}{\bar{R}^2}$ = average communality
- \bar{R}^2 = average coefficients of determination

In PLS path modelling, a cut-off value of AVE (>0.5) as suggested by Fornell & Larcker (1981) and R² (small: 0.02; medium: 0.13; large: 0.26) proposed by Cohen (1988) are adopted to calculate the GoF. Hence, for this model the average of AVE for the entire construct variable and the R² for all dependent constructs variables as in Table 8.

Table 8 - Calculation of GoF

Constructs	Average Variance Extracted (AVE)	R ² values
Economic Development	0.709	0.638
Identifying Risk	0.699	-NA-
Market Entry Strategy	0.653	-NA-
Origination Capabilities	0.681	-NA-
Project Scope	0.750	-NA-
Average values	0.698	0.638

For this model, the average of AVE for endogenous variable is 0.698 and the average R² for the model is 0.638. Thus, the calculated, $GoF = \sqrt{0.698 \times 0.638} = 0.667$ This indicates that the model is having global large validating power.

5. Conclusion

This paper presented a study to investigate the relationship between project finance factors and economic development indicators. The relationship is translated to a PLS-SEM model development and assessment. To develop the model, the study adopted quantitative research approach where the data for the model was collected through a questionnaire survey using judgmental sampling for convenience. The sample size for the model is from 269 respondents,

who are the employees in the Economic Department workforce in Abu Dhabi. The model's development and evaluation were conducted using SmartPLS software. The evaluation encompassed two stages: measurement and structural components, with the model successfully meeting all evaluation criteria. The results of hypothesis testing revealed that the relationships between Project Scope and Identifying Risk constructs with Economic Development construct are statistically significant with the strength of 0.520 and 0.227 respectively. Unfortunately, the relationships between Market Entry Strategy and Origination Capabilities with Economic Development are not statistically significant. In terms of model's goodness of fit, the model demonstrated a substantial overall explanatory power with GoF values of 0.667. While, the model's predictive relevancy with Q^2 value is 0.443, indicating how well the model can forecast economic development. In suggesting that the model explains approximately 44.3% of the variability in economic development. The findings of this study hold potential benefits for Economic Department employees dealing with project finance challenges.

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