

## ENHANCING ORGANIZATIONAL EFFICIENCY OF CONTRACTORS COMPANY BANGKOK METROPOLIS AND MUNICIPAL REGION

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### Abstract

The construction business is a very competitive business. Small and medium-sized construction companies have organizational efficiency constraints, resulting in competing with large construction companies. Research objectives: 1) To study the level of Transformational Leadership, Organizational Culture, Knowledge Management, Risk Management and Organizational Efficiency of the construction business 2) To study the influence of causal factors Transformational Leadership, Organizational Culture, Knowledge Management, Risk Management on The Impact of Transformational Efficiency, construction companies and 3) To propose guidelines for increasing organizational efficiency of construction companies in Bangkok and metropolitan areas. It uses mixed research, i.e., quantitative research and qualitative research. Quantitative research: An example is a construction company operator 420 people. Systematically use randomization. Qualitative Research: In-depth interviews with key contributors, including 8 public and private sector executives involved in the construction industry and 8 construction business operators, for a total of 16 people. The results showed that: 1) Transformational Leadership, Organizational Culture, Knowledge Management, The Risk Management and Organizational Efficiency of the construction business are high. 2) Risk Management, Knowledge Management, Transformational Leadership and Organizational Culture have a direct influence on the organizational efficiency of the construction business. Statistically significant at .05 level respectively and 3) guidelines for increasing the organizational efficiency of construction companies in Bangkok and vicinity. It consists of (1) entrepreneurs, creating transformational leadership for themselves; To promote, Support personnel to be able to perform their tasks with the highest efficiency (2) The organization prepares an effective risk management plan to prevent or reduce risks that arise and create safety while conducting business (3) Have a knowledge management process. In a systematic and strong organization to create new knowledge that is their own and can apply existing knowledge to increase organizational efficiency and (4) create an organizational culture in which executives and personnel are constantly developing their potential and are ready to cope with the changes that occur. Therefore, entrepreneurs must systematically develop the potential of executives and personnel in order to adapt to changes and perform their tasks as efficiently as possible.

**Keywords:** Organizational Efficiency / Contractors / Risk Management / Knowledge Management

### INTRODUCTION

Construction plays a role in the development of the country. But construction also has a number of problems due to the nature of the work, such as high dispersal, instability, low productivity and quality control, lack of operating standards, delivery and high environmental impact, Development, Controlling and managing to reduce environmental impact is critical to the efficiency and success of construction projects )Ametepey & Ansah, 2015). The resulting

environmental damage can affect human health, it will destroy the economic development and growth of the country. It is an important factor in the success or failure of the project. Therefore, the responsibility is to ensure that the activities of the industry and its products are in line with the guidelines. Therefore, the environmental standards and policies set by each country are important (Fuentes et al., 2013). Construction is a highly labor-dependent industry. The danger of construction mistakes affects workers and residents living in construction neighborhoods. Responsibility to health stakeholders, Therefore, quality of life and safety are important (Osei-Asibey et al., 2021). The competitive situation of the construction business is intense between medium-sized construction businesses and large construction businesses. Problems and obstacles make business operations more complex and complex; this affects business growth. Therefore, entrepreneurs and personnel of the construction business must be aware and give priority to finding guidance, methods to resolve or reduce the problem, Barriers to optimal operation. Improving the efficiency of the organization to ensure that the construction business operates in accordance with the quality standards, It can also generate more productivity from existing resources, or resources that are invested the same but receive higher results (Adeyinka & Umar, 2013). The construction industry is one of the industries affecting Thailand's economic growth. In the first 9 months of 2020, construction investments amounted to 1.04 trillion Baht. It rose 1.9 percent. This is driven by large-scale government construction investments. It accounts for 56.5% of the total value of construction investment in 2021. The construction business is recovering, the value of construction investment is likely to expand by 4.5-5.0% in 2021 and 5.0-5.5% in 2022-2023 (Office of the National Economic and Social Development Council, 2021). The ongoing large-scale government infrastructure investments, as well as the gradual recovery of the economy, will bolster the construction of residential and commercial buildings. Business opportunities in the construction industry are also increasing from construction projects in neighboring countries where infrastructure investments are constantly underway to support economic growth and urbanization. In Thailand, in 2022, government jobs will be worth approximately 858,000 million Baht. The total annual construction value will be approximately 514, 000 million Baht, making construction business operators more likely to adjust their strategies for government construction jobs (Center for Economic and Business Research, Siam Commercial Bank, 2021).

On the other hand, private construction investment has contracted due to economic stagnation. The impact of the COVID-19 crisis and pandemic control measures across the country. Residential construction in Bangkok and its vicinity, including the main provinces in the region, contracted severely. From delaying the opening of new projects for real estate developers, this is in line with declining consumer purchasing power and tightening in financial institutions' lending, as well as the challenges construction faces from rising labor and steel costs. (Center for Economic and Business Research, Siam Commercial Bank, 2021) It is estimated that during 2018-2040, Thai contractors are likely to face a labor shortage of around 50,000-200,000 workers per year due to the increasing demand for workers from government construction projects and the expected decline in migrant workers, due to the impact of the Alien Work Management Decree B.E. 2561 (2018). In addition, entrepreneurs are faced with labor quality problems. It found that 62 percent of workers had secondary and lower education, meanwhile, the proportion of workers who are 50 years old has risen. It accounted for 31.7 percent. This group will have difficulty adapting the skills to drive

the economy with high-tech technology in the future, therefore, it reflects problems in both quantity and quality in labor (KResearch, 2020).

More than 99 percent of small or medium-sized construction businesses are facing competition and barriers to construction businesses. One accepted approach is to increase organizational efficiency. Because organizational efficiency, enhances the competitiveness of the organization, The organizational efficiency of the construction business is indicated in many dimensions. A study by Lee et al. (2014) indicated that the performance of a construction business organization that is important is the quality of work or the work delivered to the owner, Construction requires a high level of safety, along with the productivity of personnel to help keep the construction running for a specified period of time. Pekuri et al. (2011) studies have found that productivity and performance management in the construction industry is critical to supporting standardized performance. Organizational performance dimensions are diverse. Thai construction business operators who want to succeed and increase their competitiveness under such dynamic circumstances as they are today. Therefore, the business should be developed to be more efficient. By considering the effectiveness of the organization in a dimension that corresponds to the organizational context.

### **Research Objectives**

1. To study the level of Transformational Leadership, Organizational Culture, Knowledge Management, Risk Management and Organizational Efficiency of the construction business.
2. To study the influence of causal factors Transformational Leadership, Organizational Culture, Knowledge Management, Risk Management on The Impact of Transformational Efficiency, construction companies.
3. To propose guidelines for increasing organizational efficiency of construction companies in Bangkok and metropolitan areas.

### **Research Hypothesis**

H1: Transformational Leadership directly affects the construction company's Organizational Efficiency.

H2: Organizational Culture directly affects Organizational Efficiency, construction companies

H3: Knowledge Management directly affects the construction company's organizational efficiency.

H4: Risk Management directly affects the construction company's organizational efficiency.

## **LITERATURE REVIEW**

### **Organizational Efficiency**

Organizational Efficiency is a representation of the performance of an organization, demonstrates the ability to use human resources and materials to achieve organizational goals. The ability to use resources efficiently as well as the duration of work is also considered an organizational resource, spending less time serving customers is considered effective (Pashsiri Pinkham, 2009). And a

study by Simon et al. (2021) found that the organizational efficiency of the construction business consists of profitability, client satisfaction, profitability, client satisfaction, profitability, growth, technical capability, business efficiency, employee satisfaction, and financial stability, quality of products, managerial capability and safety performance. In line with Boyle (2020), efficiency refers to an organization's ability to use minimal inputs to achieve maximum results, it can be determined by using the ratio of useful output to all inputs, Reduces resource wastage.

### **Transformational Leadership**

Bass's Transformational Leadership Theory & Avolio (1994) is the process by which a leader influences an associate or follower to act through four specific behavioral elements, also known as "4I", i.e. 1) Idealized influence: II 2) inspiration motivation: IM 3) intellectual stimulation: IS and 4) individualized consideration: IC. ¶ Transformational Leadership studies in a variety of contexts, such as Janghadi et al. (2009), found that the four components of Transformational Leadership, when compared to each other, Successful companies have a higher average than unsuccessful companies of all constituencies. Especially in terms of motivational elements and ideological influence, it also found that successful companies had statistically significantly higher transformational leadership than unsuccessful companies at the .0001 level. In line with the Samad (2012) study, transformational leadership influences organizational efficiency. Shipping companies in Malaysia are statistically significant Madanchian et al. (2016) studies have found that Transformational Leadership affects Organizational Efficiency. In particular, performance, as well as leadership also influences the aesthetics and quality of buildings, this makes it suitable for use for the purpose. And Al Kazaz & Shibani (2016) studies have found that leadership skills are an important factor that distinguishes between effective leaders and managers, Effective Leadership, Cultural awareness of the members is an important factor in facilitating the successful construction of the project.

### **Organizational Culture**

Organizational culture is important to the construction business, as culture determines the sustainable competitive advantage, as well as the company's long-term performance and success. Nukic & Matotek (2014) Identifying Cultural Culture The construction business consists of 4 forms: 1) clan culture, 2) hierarchical culture, 3) market culture, and 4) adhocracy culture. Zhang & Liu (2006) Study of the Culture of Construction Business, China. Organizational culture is found to consist of 4 forms: 1) family culture, 2) hierarchical culture. 3) Marketing culture and 4) Adaptive culture. Harinarain et al. (2013) studied that marketing culture is the dominant culture in South Africa's construction industry. Ardit, Nayak & Damci (2017), studying the impact of organizational culture on construction delays, found that construction delays had a very low percentage in companies with family-based organizational culture. Shows that family culture reduces construction delays, As opposed to companies with a marketing culture that experience a very high percentage of delays.

### **Knowledge Management**

A methodologically structured model that promotes an integrated approach to identification, Collect, evaluate, extract data and sharing the inside knowledge of the entire organization.

Including assets, information. These assets may include databases, documents, Policy, it's a process and expertise and experience that have never been captured before in each operator. In the manner of deep-seated knowledge, tangible knowledge of employees and explicit knowledge for other employees to put to good use (Meihami & Meihami, 2013). The process of absorbing knowledge gathered from documented knowledge and databases as well as deeply embedded knowledge gained from personnel (tacit knowledge) and apply the accumulated knowledge to experts before applying it (Awad & Ghaziri, 2004). The process of Knowledge Management, by assimilating knowledge, Systematize and classify knowledge to be a powerhouse of knowledge in the organization's practices (Debowski, 2006). Knowledge Management refers to the efforts of personnel in an organization in Knowledge Management. Directionally. It focuses on participating in the use of information and communication technology as a channel for social processes in Knowledge Management. Organizational engagement structure and culture and personnel management in putting knowledge into practice (Hislop, 2009). And Knowledge Management is the mechanism of strategies and practices used in an organization that is critical to the growth of an organization. It brings about the innovation needed to improve business performance (Yusof et al., 2015).

### **Risk Management**

Risk Management Process refers to a procedural practice in Risk Management that is designed and planned to manage risk factors that affect an agency's objectives. There are 5 elements: 1) defining the objectives and the internal-external environment 2) Risk identification, 3) Risk analysis, 4) Risk assessment, and 5) Risk management. Sumonrat Pongkwan (2017) outlined the concept of Risk Management consisting of 1) risk identification, 2) risk analysis, 3) risk management and 4) risk management evaluation. In addition, Alsaad & Norhayatizakuan (2021) found that Risk Management significantly affects the success and efficiency of construction projects. Ali et al. (2018) studies have found that effective management processes positively affect project efficiency and contribute to the success of construction projects, without an effective administrative process, it affects the success of the project. And Zanfelicce & Rabechini Jr (2021) states. The implementation of various projects of the industry must include Risk Management, which consists of 1) Identification of risks 2) risk assessment 3) risk analysis and 4) risk treatment. After that, it must be assessed whether Risk Management has helped the ongoing project to succeed.

### **RESEARCH METHODOLOGY**

**Quantitative Research:** An example is a construction company operator. The number of samples was not less than 20 times that of the observed variables studied. And this study had 21 observed variables, so the sample was 420 people. Systematic randomization of samples. The tool is questionnaires on transformational leadership, organizational Culture, Knowledge Management, Risk Management and Organizational Efficiency of construction business, 105 items. By finding the IOC value, the individual IOC values range from 0.60-1.00. And find out the confidence of the questionnaire. It was found that the confidence value of the entire questionnaire was .965. Analyze data. By using descriptive statistics and inference statistics by analyzing structural equation models.

**Qualitative Research:** The key contributors are: 1) Public and private executives involved in the construction industry 8 people and 2) Construction business operators with business management experience over 5 years or more, totaling 6 people, totaling 14 people. A tool is a structured interview model created by a researcher based on a research, conceptual framework, 5 open-ended questions to conduct in-depth interviews with key contributors and analyze data.

## Findings

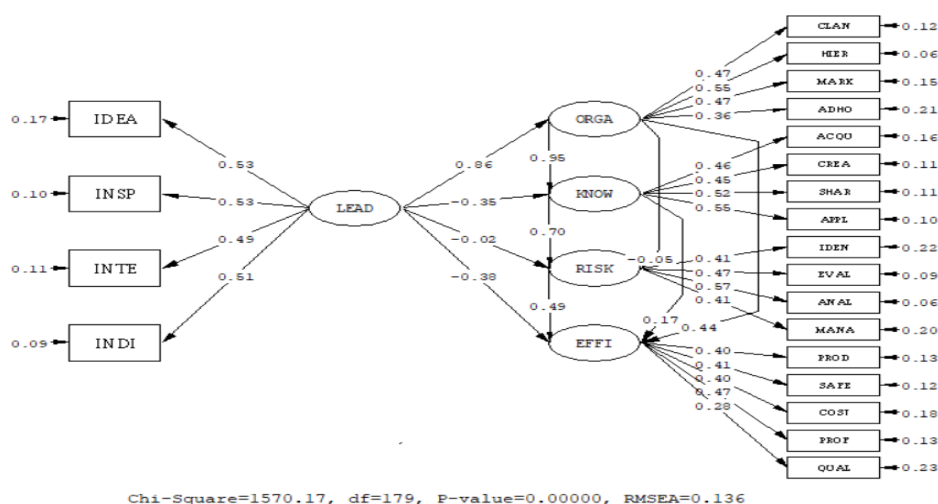
1. Transformational Leadership, Organizational Culture, Knowledge Management, Risk Management and Organizational Efficiency of Construction Business. The sample commented on all five factors. Organizational Efficiency has the highest average ( $\bar{X}=3.84$ , S.D. = .43), followed by Transformational Leadership ( $\bar{X}=3.83$ , S.D. = .55), Organizational Culture ( $\bar{X}=3.79$ , S.D. =.50), Risk Management ( $\bar{X}=3.78$ , S.D. = .49) and Knowledge Management' minimal average ( $\bar{X}=3.74$ , S.D. =.53) shown in Table 1.

**Table 1: Average level, Standard deviations and sequences of the factors studied**

Factor	$\bar{X}$	S.D.	Interpret the results	Order
Transformational Leadership	3.83	0.55	High	2
Organizational Culture	3.79	0.50	High	3
Knowledge Management	3.74	0.53	High	5
Risk Management	3.78	0.49	High	4
Organizational Efficiency	3.84	0.43	High	1

## 2. Results of analysis of structural equations

2.1 The results of the analysis of the relationship structure model are modeled on assumptions, proposed Figure 1.

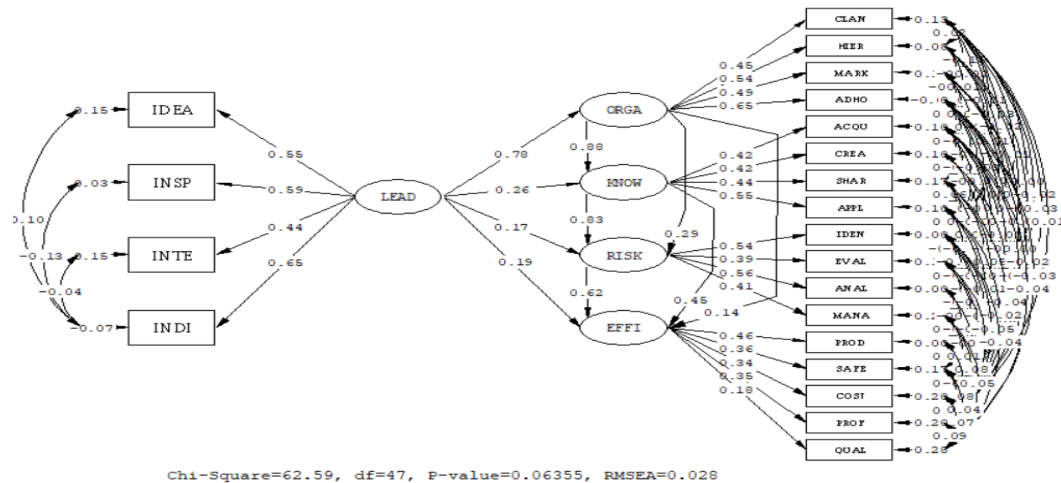


**Figure 1: Modeling the structure of relationships based on assumptions (Estimates)**

Based on Figure 1, the results of the analysis of models based on research hypotheses showed that index values measure the consistency of models that have not yet been standardized, as a

result, hypothetical models are inconsistent with empirical data. For this reason, researchers need to align their models with empirical data.

## 2.2 Analysis of alternative structural models Present alternative relationship structure models (Estimates) Proposed Figure 2.



**Figure 2: Alternative relationship structure model (Estimates)**

From Figure 2 The results of the analysis of alternative models showed that external latent variables, namely Transformational Leadership (LEAD), directly affect Organizational Culture (ORGA), Knowledge Management (KNOW), Risk Management (RISK), and Organizational Efficiency (EFFI). It is equal to 0.78, 0.26, 0.17, and 0.19, respectively. Organizational Culture (ORGA) directly affects Knowledge Management (KNOW), Risk Management (RISK) and Organizational Efficiency (EFFI) of 0.88, 0.29 and 0.14, respectively. Knowledge Management (KNOW) directly affects Risk Management (RISK) and Organizational Efficiency (EFFI) of 0.83 and 0.45, respectively, and Risk Management (RISK) directly affects Organizational Efficiency (EFFI) of 0.62.

## 2.3 Comparison of hypothetical and alternative models

**Table 2: The results compare models based on research assumptions with alternative models**

List	Statistical Values	Model Based on Assumptions	Alternative Models
1. Chi-square ) $\chi^2$ (	*Low Near 0	1570.17	62.59
	*Equals df	179	47
Relative Chi-square	) $\chi^2$ /df(< 2.00	8.77	1.33
2. GFI	> 0.90	0.74	0.99
3. AGFI	> 0.90	0.66	0.93
4. RMR	Approaching 0.00	0.034	0.011
5. RMSEA	< 0.05	0.136	0.028
6. CFI	*0.00-1.00	0.90	1.00
7. CN	> 200	59.69	488.88

According to Table 2, alternative structural equation models are appropriate. Harmonize with empirical data, which can be explained. As follows:

1. Relative chi-square value )  $\chi^2/df$ (, a value of less than 2.00 indicates that the model is consistent with empirical data.
2. The Goodness of Fit Index (GFI) is 0.99 and the acceptable GFI is greater than 0.90.
3. The Adjusted Goodness of Fit Index (AGFI) is equal to 0.93.
4. The square root of the square mean square of the standard remaining (RMR) is equal to 0.011. This indicates that the model corresponds harmoniously with the empirical data, since it is less than 0.05.
5. The square root index of the square mean square error of approximation (RMSEA) is equal to 0.028.
6. The Comparative Fit Index (CFI) is equal to 1.00, indicating that the model is relatively consistent, since the CFI value is 0.90 or higher.
7. The sample size index (Critical N: CN) is equal to 488.88, indicating that the model is relatively consistent because the CN value is greater than 200.

## 2.4 Hypothetical Test Results

Hypothetical test results showed that risk management, knowledge management, transformational leadership and organizational culture had a direct influence on organizational efficiency statistically significantly, they have influence values of 0.62, 0.45, 0.19, and 0.14, respectively. Support the set hypothesis. Proposed according to table 3.

**Table 3: Hypothetical test results**

Research Hypothesis	Path Coefficient	t statistics	Result
1. Transformational Leadership directly affects Organizational Efficiency (LEAD --> EFFI)	0.19*	2.26	Support
2. Organizational Culture directly affects Organizational Efficiency (ORGA --> EFFI)	0.14*	1.96	Support
3. Knowledge Management directly affects Organizational Efficiency (KNOW --> EFFI)	0.45*	2.33	Support
4. Risk Management directly affects Organizational Efficiency (RISK --> EFFI)	0.62**	2.93	Support

\* p value  $\leq 0.05$ , \*\*p value  $\leq 0.01$

### 1. Enhancing Organizational Efficiency of Contractors Company

Bangkok Metropolis and Municipal Region We analyzed and synthesized quantitative findings and qualitative findings, along with new findings derived from qualitative research. Integrated Able to summarize and present guidelines for increasing organizational efficiency of construction companies in Bangkok and vicinity, as follows:

- 1) Entrepreneurs build transformational leadership to come up with their own to promote, Support personnel to be able to perform their tasks with the highest efficiency.
- 2) The organization develops an effective risk management plan to prevent or reduce risks that arise and create safety while conducting business.
- 3) There is a knowledge management process. In a systematic and strong organization to create new knowledge that is their own and can apply existing knowledge to increase organizational efficiency.
- 4) Create an organizational culture in which executives and personnel are constantly developing their potential and ready for the changes that occur.

## CONCLUSIONS

1. Transformational Leadership, Organizational Culture, Knowledge Management, The Risk Management and Organizational Efficiency of the construction business is at the highest levels of all 5 factors.
2. Transformational Leadership, Organizational Culture, Knowledge Management and Risk Management have a direct influence on the organizational efficiency of the construction business statistically significantly, Support the set hypothesis.
3. The road to increasing the efficiency of construction companies Bangkok and It consists of 1) entrepreneurs, creating transformational leadership for themselves 2) The organization prepares an effective risk management plan 3) Have a knowledge management process and (4) creates an organic culture in which executives and personnel continuously develop their potential.

## Discuss the results

Researchers discussed the findings based on definable hypotheses, as follows:

H1: Transformational Leadership directly affects the construction company's Organizational Efficiency.

The results showed that Transformational Leadership has a direct impact on organizational efficiency for construction companies. Support the hypothesis, it can be explained that entrepreneurs with leadership, especially change leaders, will adapt to change and help drive the organization to be more efficient. In particular, organizational efficiency construction that requires quality control, managing people, ensuring health safety and satisfaction for stakeholders. Transformational Leadership therefore affects organizational efficiency )Fehan & Aigbogun, 2020(. Consistent with Buba & Tanko (2017) Studies have shown that Transformational Leadership has the greatest impact on productivity. Leadership also influences the aesthetics and quality of the building, making it suitable for its intended use. And a study by Al Kazaz & Shibani (2016) found that leadership skills are an important factor that distinguishes between effective leaders and managers, effective Leadership, Cultural awareness of the members is an important factor in facilitating the successful construction of the project.

H2: Organizational Culture directly affects Organizational Efficiency, construction companies.

The results showed that Organizational Culture has a direct impact on Organizational Efficiency for construction companies. Support the hypothesis, it is explained that an important feature of Organizational Culture is to cease acceptance of values, Different methods and a determinant of employee behavior. Especially organizations with a strong culture, will achieve unity, have a high level of adaptation strategy, build confidence, be socially acceptable, and are able to exist under an ever-changing external environment )Payambarzadeh, 2009). Organizational culture is important for construction businesses because culture determines a sustainable competitive advantage, as well as the company's long-term performance and success. Organizational culture is a way of forcing people to work in the same direction in order to achieve the goals set by the organization. If the construction business can create a culture that is accepted by the personnel in the organization, it will cause the personnel to perform their work in a quality way, leading to organizational efficiency. In line with the Fehan & Aigbogun (2020) study, organizational culture is one of the factors affecting the organizational efficiency of Syrian construction companies. In line with Coffey & Willar (2010), the study found that Organizational Culture is linked to the Organizational Efficiency of construction businesses and Organizational Culture has a statistically significant positive direct influence on the Organizational Efficiency of construction companies.

H3: Knowledge Management directly affects the construction company's organizational efficiency.

The results showed that Knowledge Management directly affects the organizational efficiency of construction companies. Support the hypothesis. It is explained that Knowledge Management is the mechanism of strategies and practices used in an organization, which is critical to the growth of the organization. Because Knowledge Management brings innovations needed to improve business efficiency. There is a positive correlation between knowledge management and growth in Malaysia's construction industry )Yusof et al., 2015). In addition, Arisman & Fuadah (2017) analyzed factors affecting an organization's performance in implementing accounting information systems through user satisfaction and information system integration. Knowledge management has been found to be a factor that affects organizational efficiency. In line with Yepes & Lopez (2021), the study found that Knowledge Management in the field of knowledge exploitation and the use of knowledge affects the use of technology and organizational efficiency. Construction industry. And in line with the Wibowo et al. (2018) study, the Knowledge Management process has a significant positive influence on the performance of construction companies.

H4: Risk Management directly affects the construction company's organizational efficiency.

The results showed that Risk Management directly affects the efficiency of construction companies. Support the hypothesis. In other words, risk is uncertainty that is likely to cause the project to go out of plan. The risk is something that has not yet happened, The manager must consider when discovering that risk is a project risk. Once this happens, it becomes a problem and therefore needs to be solved or managed. By identifying risks, analyzing and responding to risks throughout the life of the project (Varsrong Duangjinda, 2011). The risk inevitably affects the organizational efficiency of the construction business. In line with alsaad' study & Norhayatizakuan (2021), it was found that Risk Management significantly affects the success and

efficiency of construction projects. Consistent with Ali et al. (2018), the study found that Effective Risk Management processes positively affect the efficiency of the project and contribute to the success of the construction project. In line with Al-Ajmi & Makinde (2018), risk management studies are key to successful projects. And in line with Khattak et al. (2019), the study found that contractors and project owners agreed that the risks posed were "unconstitutional." Without an effective administrative process, it affects the success of the project.

### Summarize

The entrepreneurs who run a business want an important outcome, organizational efficiency that is reflected in many dimensions, such as profit, quality of work, Stakeholder satisfaction, etc. And Organizational Efficiency. It also affects the competitiveness of the business. Currently, the construction business is very competitive. Therefore, if entrepreneurs can promote organizational efficiency, it will lead to greater business success.

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