



# IDENTIFYING AND RANKING BARRIERS TO STRATEGY IMPLEMENTATION IN VIETNAMESE IT ENTERPRISES USING BEST-WORST METHOD

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**Abstract.** The paper was conducted to identify and rank the barriers to strategy implementation of Vietnamese IT businesses, using a Multi-Criteria Decision-Making method (MCDM) called Best-Worst Method (BWM). The BWM helps determine the weights (importance) of the strategy implementation barriers, thereby proposing solutions to overcome these barriers. The results have shown that there are 6 main groups of barriers and 20 sub-barriers that affect the strategy implementation of Vietnamese IT enterprises and are sorted according to the importance level and need to be addressed first. Finally, the author also proposes solutions to overcome the barriers to strategy implementation, providing administrators in IT businesses to improve the efficiency of strategy implementation.

**Keywords:** barriers, Best-worst method, IT industry, strategy implementation

## 1 Introduction

The implementation of the strategy is the first step to bring a planned strategy into the actual business operations of the enterprise. Therefore, it can be said that the implementation of the strategy is a crucial stage to the success of the strategy. However, the reality is that many organizations fail during the strategy implementation phase, although they may have well-planned strategies. Gurowitz E.M. [5] suggests that fewer than 10% of good planning strategies are effectively implemented. Another study in The Times also found that up to 80% of the studied companies had a suitable strategy, but only 14% of those companies implemented the strategy well. Therefore, it is necessary to investigate the reasons why the planned strategies did not bring success.

This study attempts to identify and rank existing obstacles in the strategy implementation of Vietnamese IT enterprises. The impetus for focusing research on the IT industry mainly comes from the important role of the industry in the economy as well as the development potential of the industry. Vietnam is one of the most potential information technology (IT) markets in the world and is an attractive destination for foreign investment. The industry always maintains a high growth rate, in 2019, total IT industry revenue is about 112 billion USD [4]. However, the

level of competition in the industry is also very high, especially in the context of Vietnam participating in trade agreements, and new economic organizations.

The paper focuses on two main objectives as follows: 1) Identify and rank barriers to strategy implementation of Vietnamese IT enterprises, and 2) Propose solutions to overcome these barriers to help the company's executives improve the effectiveness of strategy implementation. To achieve these goals, the author used the BWM to rank the strategy implementation barriers, combined with in-depth interviews with executives of IT businesses to gain a deeper understanding of the barriers and propose solutions to overcome them.

## 2 Literature review

Many previous studies have shown that obstacles in implementing strategy are one of the main reasons for the failure of organizational goals.

A study by Alexander [2] investigated more than 90 companies in the US and found 22 common barriers that make strategy implementation unsuccessful. Among the 10 most common hurdles that most companies face are: (1) Implementation took more time than originally allocated, (2) Major surfaced problems had not been identified earlier, (3) Other activities within the company reduce the focus on the implementation of the strategy, (4) Certain unfavorable and uncontrollable factors from the external environment hinder implementation, (5) Leadership and direction provided by department managers were not adequate enough, (6) Key implementation tasks and activities were not defined in enough detail, (7) Information systems used to monitor implementation were not adequate, (8) Collaboration among departments is ineffective, (9) Capabilities of employees were not sufficient, (10) Training and instruction given to lower level employees were not adequate.

Al-Ghamdi [1] also used Alexander's research model to identify problems in the implementation process of companies in Bradford (UK). The results showed that the six strategy implementation problems faced by more than 70% of the research firms were: (1) Implementation took longer than initial allocation, (2) Major surfaced problems had not been identified earlier (3) Coordination of implementation activities is not effective enough, (3) Coordination of implementation activities is not effective enough, (4) Competing activities distracted attention from implementing this decision, (5) Key implementation tasks and activities were not sufficiently defined, (6) The information system used to monitor implementation was inadequate. The study also showed that companies experiencing high success in strategy implementation have less barrier issues than companies with low success. Good communication, management support, and information systems are the main tools for smooth implementation processes.

In addition, Nazemi, Asadi & Asadi [7] used qualitative methods, namely semi-structured interviews with a panel of experts of eleven top managers to explore the barriers to implementing

a strategic plan at Mashhad Electric Energy Distribution Company (MEEDC), Iran. The results of the study have shown eight different groups of barriers including culture, structure, managerial, human resource management, environmental, insufficient resources, inadequate strategy formulation and lack of effective performance measures. The study also identified 31 specific components of these barrier groups.

The study by Heide, Grønhaug, and Johannessen [6] also uses a structured interview method with administrators and staff working in a Norwegian ferry-cruise company to identify barriers to the successful implementation of the strategies. The research results have shown 7 groups of basic barriers including communication, organizational structure, learning, personnel management, culture, politics and resource. In which, the biggest barrier was communication and structure factors. The meager interaction between the administrator and the employees, and the heavy organizational structure are the main causes of the unsuccessful strategy implementation.

Cândido & Santos [3] used the method of qualitative and case studies to examine the strategy implementation obstacles and the relationship between them. The results of the study have outlined 14 main groups of barriers and show that most of the obstacles in implementing a successful strategy are organizational factors under governance control. And barriers contribute to slow strategy implementation, distort the process, incur excessive expenses and ultimately hinder the success of strategy implementation.

### **3 Introduction of Vietnamese IT industry**

The information technology industry is becoming an economic sector with fast, sustainable growth, high revenue and large export value, making an important contribution to the national GDP (Ministry of Technology and Communication of Vietnam, 2019). During the past decade, the average growth rate of the industry was 10-20%, of which the software sector grew 30-35%, and the digital content service sector increased 60-70%. Information technology is one of the most effective supporting tools, the driving force for the overall development of the whole society. Therefore, the demand for information-technology applications in production and business increases sharply due to this being an effective method to cut costs, improving the efficiency of production and business activities. According to statistics, Vietnam ranks in the top 5 fastest-growing information-technology countries in the world. Vietnam has also been ranked No. 1 in the world for outsourcing in the software sector, becoming the world's most attractive destination for attracting investment in information technology. Figures proving the status of the IT industry are shown in Table 1.

**Table 1.** Vietnam IT industry

<b>Criteria</b>	<b>Number of businesses</b>	<b>Employees (person)</b>	<b>Revenue (mil USD)</b>	<b>Export turnover (mil USD)</b>
Hardware industry, electronics	4.001	678.917	81.582	74.936
Software industry	8.883	112.004	3.779	3.301
Digital content	3.202	55.908	799	734
IT services	12.338	75.692	5.432	52.138
<b>Total</b>	<b>24.502</b>	<b>922.521</b>	<b>91.592</b>	<b>78.971</b>

Source: [4]

In a fiercely competitive environment, IT businesses need to focus on building and implementing appropriate strategies to improve their competitiveness and operational efficiency. These reasons emphasize the importance of research on strategic deployment by Vietnamese IT businesses.

## 4 Research methodology

### 4.1 Research sample and data collection method

To study and rank barriers in strategy implementation by Vietnamese IT businesses, the author has applied a combination of BWM and in-depth interview method. The BWM allows for weight-assessing, thereby identifying the biggest barriers to strategic deployment by Vietnamese IT businesses. (The steps using BWM are described in detail in 3.3). In-depth interview method was applied to interpret and form a comprehensive and in-depth understanding of the research issues. Semi-structured interviews were conducted to develop a deeper understanding of the barriers encountered in implementation and the solutions for overcoming them. Interviews have been conducted with interviewees being middle-and-senior-level executives in 12 IT enterprises who are knowledgeable and directly involved in the strategy implementation of the businesses. With a total of 24 experts participating in the interview, the interviews were conducted at the workplaces of the respondents following a pre-existing interview guide and several used open questions. For in-depth interviews, all interviews are recorded and processed through content analysis to provide insight and specific understanding of the barriers that businesses are facing in their strategy implementation, as well as the solutions that businesses are applying to overcome these barriers.

### 4.2 BMW and Steps to apply

Multiple criteria decision-making (MCDM) are methods to make individual decisions, in the event of more than one conflicting criteria. Several MCDM methods have been proposed and the most popular ones are AHP, ANP, TOPSIS, MAUT, SMART, etc. A recently introduced MCDM

method is Best-Worst Method (BWM), developed by Rezaei [8],[9]. According to BWM, first, the best (e.g. most wanted, most important) and worst (e.g. least wanted, least important) criteria are determined by the decision-maker. Then, a paired comparison is made between these two (best and worst) and other criteria. Afterwards, the weights of the different criteria are then determined, from which the best alternative is chosen. BWM has an advantage over other MCDM methods because it requires fewer pair comparisons and has higher reliability than MCDM techniques such as AHP [8].

For this study, the author uses BWM to rank the barriers to strategic deployment by Vietnamese IT enterprises according to the following BWM steps for determining barrier weights:

Step 1: Define a set of primary and secondary barriers

In this step, we identify the main and secondary barriers through literature review and interview 3 experts to complete the set of barriers, including primary and secondary criteria, suitable to the context of Vietnam's IT industry.

Step 2: Experts are asked to rate the barriers in the main and secondary criteria as the best and worst. Here, the best barrier in the BWM methodology is the most serious and needs addressing first and the worst barrier is the least serious and therefore the least important and can be solved eventually.

Step 3: Determine the priority of the best criterion over all other criteria (the assessment applies to both the main barrier and the sub-barrier) on a scale of 1 to 9

Step 4: Determine the priority of all criteria against the worst criterion, (the assessment applies to both the main barrier and the sub-barrier) on a scale of 1 to 9.

Step 5: Find optimal weights

The weights of the primary and sub-type barriers are calculated separately via the rating by each expert and then aggregated by using the weighted average obtained by the managers.

For this study, there are 2 levels, which are the main barriers and sub-barriers, so it is necessary to determine the weights for each level according to the BWM steps, then it is possible to multiply the weights of secondary criteria with that of the main criterion to get the global weight of the criterion.

## **5 Finding and discussion**

### **5.1 Finalization of selection barriers**

A combined method of extensive literature review and in-depth interview is used to finalize the criteria barriers to strategy implementation. This approach involves first identifying barriers through a review of past studies and then putting these barriers before 24 managers of 12 Vietnam

IT companies to consult on the barriers affecting the implementation of the business strategy where they are working for. From there, it is decided which factors should be retained, removed or supplemented in order to provide barriers suitable to the Vietnamese environment and the context of IT enterprises. After in-depth interviews, 20 sub-barriers were completed and classified into 6 main groups as shown in Table 2.

### 5.2 Ranking barriers to strategy implementation in Vietnamese IT enterprises

Research results show that 6 different groups of barriers including culture, structure, leadership, human resource management, strategic formulation, environment and time available have an impact on hindering the successful strategy implementation by Vietnamese IT businesses in different ranking orders.

**Table 2.** Barriers to strategy implementation

Barriers	Components of barriers	Code
Organizational Culture (OC)	- Lack of confidence in the usefulness of strategic planning	OC1
	- Lack of motivation to achieve strategic goals	OC2
	- Strategic communication activities have not been effectively implemented	OC3
Strategic Leadership (SL)	- Lack of commitment from top managers	SL1
	- Lack of coordination between senior and low-level administrators	SL2
	- Leadership does not closely follow the implementation situation of the businesses	SL3
Human-resource management (HRM)	- There is no alignment between organizational and individual goals	HRM1
	- Lack of motivation	HRM2
	- Lack of qualified staff	HRM3
	- Inadequate training and guidance for subordinate staff	HRM4
Organization structure (OS)	- The implementation measures have not been really suitable with the existing scale and organizational structure	OS1
	- Unsuitable organizational structure for the strategic implementation	OS2 OS3
	- Lack of linkage among departments in organizational structure	
Strategy Formulation (SF)	- Lack of match between the strategy being built and the reality	SF1
	- Lack of involvement by staffs and low-level managers in strategy formulation	SF2 SF3
	- Lack of performance evaluation before developing next action plans	SF4
	- Lack of relationship between the strategic plan and its allocated budget	
Environment and Time	- Uncontrollable external events (macro factors, socio-cultural factors ...)	ET1
	- The implementation takes longer time than that originally allocated	ET2
	- Staff attention is scattered during implementation.	ET3

Table 2 shows the main barriers and their weights, in which Environment and Time Available is the largest barrier (weight = 0.297), followed by strategic leadership barrier (weight = 0.205). The least important barrier to the strategic deployment process by IT businesses is organizational structure (weight = 0.084).

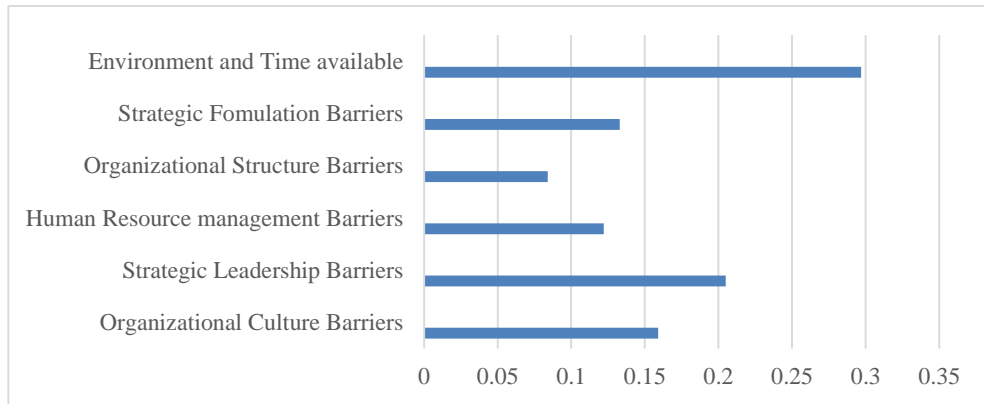


Figure 1. The weights of the main barriers

Table 3. The weights and ranking of main barriers and sub-barriers of Vietnamese IT enterprises

Main Barriers	Weights of main barriers	Sub-barriers	Weights of sub-barriers	Global weight of sub-barriers	Ranking
Organizational Culture	0.159	OC1	0.291	0.046	8
		OC2	0.289	0.046	9
		OC3	0.420	0.067	5
Strategic Leadership	0.205	SL1	0.331	0.068	4
		SL2	0.184	0.038	12
		SL3	0.485	0.100	3
Human-resource management	0.122	HRM1	0.089	0.011	19
		HRM2	0.289	0.035	13
		HRM3	0.383	0.047	7
		HRM4	0.238	0.029	17
Organizational Structure	0.084	OS1	0.349	0.029	16
		OS2	0.127	0.011	20
		OS3	0.524	0.044	11
Strategic Formulation	0.133	SF1	0.234	0.031	15
		SF2	0.369	0.049	6
		SF3	0.239	0.032	14
		SF4	0.158	0.021	18
Environment and Time Available	0.297	ET1	0.376	0.111	2
		ET2	0.471	0.140	1
		ET3	0.154	0.046	10

Table 3 shows the aggregated weights of the 6 main barriers and their sub-barriers based on research results by experts who are senior and middle-level administrators in Vietnamese IT enterprises, using the BWM. We can see from these weights the ranking of each sub-barrier showing the studied businesses' biggest issues in strategy-implementation

Among the largest set of barriers, Environment and Time Available, the two problems ranked first and second are implementation taking longer-than-expected time and unpredictable external events. This result is consistent with the studies by Alexander [2] and Al-Ghamdi,[1] to say that the implementation time longer than expected is always the biggest-barrier problem for businesses. Related to the huge impacts of unforeseen external events, the information technology industry is the one affected by the drastic change in new technology trends. In addition, we can see in recent times that the Covid-19 pandemic has heavily affected all socio-economic sectors and the information technology industry is not an exception. Expert interview results will show clearer discoveries.

"The information technology industry is strongly influenced by the external environment, especially the technology environment. The world is in the 4th industrial revolution and technology is growing faster than ever. If our business does not keep up with technology trends, it will be left behind. Predicting and understanding technology trends is a key factor leading to the business's long-term success." - 1A.

"The Covid-19 pandemic has had a great impact on our business. In the first 6 months of 2020, the revenue decreased 40% compared to the same period last year. We have to stop new recruitment activities for the year 2020. However, we must also take a lesson from this pandemic if a business can turn challenges into opportunities. At this time, the role of IT is clearly and more prominent when it becomes a way to help the society reduce negative impacts by Covid-19". - 12A.

As shown in Table 3, organizational culture is a significant barrier to successful strategy implementation, especially related to strategic communication activities in businesses.

"Inadequate communication of the strategy deployed for all employees and low-level managers in the enterprise is a major hurdle in the implementation process in our company. Employees can only grasp daily tasks assigned by their direct manager, but do not understand the goals and implementation of the strategy, leading to many errors related to the process." 7A

This result is similar to the study by Heide et al., [6] says that too little communication between the executives of different levels and their subordinates leads to problems during the strategy deployment. Research by Nazemi et al., [7] shows that effective communication should be considered in changing managers' attitudes towards improving knowledge of strategic planning and its usefulness in dealing with an increasingly changing environment.



Organizational structure is the most underrated barrier group in this study. This shows that IT businesses have had organizational structures relatively suitable for their strategy-deploying process. However, for large-scale enterprises, it is also a barrier to the implementation to move and change structures too slowly following external factors.

“The environment changes rapidly, especially related to technology, but large-scale, long-standing enterprises like us find the speed of moving according to strategic environmental changes to be a harder and more time-consuming problem than that faced by the smaller or the newly-founded” - 18A

### **5.3 The solution to overcome the barriers to strategy implementation in Vietnamese IT enterprises**

Consulting experts, the author proposes a number of solutions to overcome barriers in the strategy implementation by Vietnamese IT businesses as follows:

As for environmental and time available barriers, variables from the environment such as economic, social, legal, technology, and demographic factors are to be considered at the time of strategic planning. Their rapid transformations, however, constantly create new opportunities and challenges that require environmental scans during deployment for rational planning adjustments. Especially in the IT industry, it is always necessary to change the strategic plan according to new technology trends. IT businesses can set up a research unit for new technology solutions to be proactive in keeping up with the changing trend of technology.

Regarding the cultural barriers, IT businesses need to change aspects of culture to facilitate the implementation of strategic plans. Corporate culture should be considered from the perspective of the factor affecting the commitment to action by the entire enterprise. Leaders and senior executives need to understand well, define, and promulgate values that emphasize consensus and commitment to act for business-strategy goals and be pioneers in performing and following built cultural values

As regards the leadership barriers, leaders need to focus their time on planning and monitoring performance and may consider reducing the time spent on routine tasks. Strengthening the coordination between senior and low-level executives to help managers grasp timely the process of deploying the corporate strategy, arising problems and give timely direction.

Related to the organizational structure barriers, it is advisable to establish a flexible organizational structure to respond promptly to environmental opportunities, threats and disturbances. The departments in the company must have roles and cooperation mechanisms clearly defined to avoid overlapping in assigning tasks.

As for human resource management barriers, the lack of appropriately qualified personnel is an important barrier that needs to be addressed urgently in the context of an always-in shortage of high-quality personnel in the information technology industry. Therefore, solutions that focus on training, internal instruction, and having personnel trained outside or linking with training institutions to ensure human resources are sufficient in quantity and expertise quality are very necessary and must be applied.

Regarding the strategic planning barrier, the key solution is to allow middle and low-level managers to participate in the strategic planning process. The strategic plans should accompany action plans with many available options. In addition, it is necessary to ensure that employees are always aware of the business situation, the strategy implementation progress as well as the difficulties encountered to create employees' motivation and dedication.

## **6 Conclusion, limitation, future research**

Deploying the strategy is a business process which is difficult and very likely to fail. Many barriers make the strategy implementation unsuccessful. The research results have identified and ranked the barriers encountered in the strategy implementation by Vietnamese IT businesses, using one of the recently developed MCDM methods - the BWM. The method used in the study helps to determine the weights and importance of the barrier factors of the strategy implementation, which helps administrators to identify and focus on the barrier issues that need urgently addressing in their organization. The study has shown that there are 6 main groups of barriers and 20 secondary barriers that affect the implementation of strategies by Vietnamese IT enterprises. Given the weights of the main and secondary barriers shown in the table, the rankings are taken according to their respective weights. In this ranking order, the group of barriers related to environment and time available is ranked first via the opinion and analysis by the administrators. The group of organizational structure barriers is ranked the lowest. Through the method of in-depth discussions with experts, the article also clarifies the understanding of these barriers as well as the solutions to overcome barriers which businesses are applying.

The research sample only focuses on the information technology industry of Vietnam, so it is too early to generalize the conclusions of this study to other sectors. Many factors influence strategy implementation such as type of strategy, size of business, type of business, and attitudes of employees or managers of different levels. Therefore, studies related to barriers in businesses or industries of different types or from the viewpoints of various-level administrators such as senior and middle managers are interesting research directions that can be focused on in the future.

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