



# Strategic Management Indicators for Sustainable Road Traffic Management

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**Abstract:** Human is very critical and important asset of any nation. Human security is the prime need. Also, at organizational level, the business success depends on the human efficiency. Hence, strategic management is very important to achieve effective performance. This paper assessed various indicators and attributes of strategic management. However, the limitation of this study was to focus on strategic management used in traffic management used by public security sector of Abu Dhabi. Evaluation involved 29 common attributes of strategic management identified from literature. These were categorized into five indicators as learning & training; traffic setting; emergency response; road engineering & vehicle safety; and strategies being enforced. Analysis of the data collected through Questionnaire survey with officials involved in traffic management was done with mean score method. Results of the analysis showed that review and develop a driver training program and licensing mechanism is the top ranked attribute in the domain of learning & training. The respondents highlighted effective traffic control in pedestrian and cyclist safety areas and seatbelts as very useful in the indicator traffic setting. Top indicators in the indicator emergency response are development of effective systems for geographical positioning of traffic accidents and spreading a culture of prioritising emergency vehicles in emergency situations. Develop an integrated traffic safety management system (ITSMS) is the most useful attribute related to road engineering & vehicle safety indicator. While in the indicator strategies being enforced, the respondents mentioned that the attribute at top rank is developing smart traffic settings to minimize the accidents.

**Keywords:** Strategic management, traffic management, questionnaire survey, Abu Dhabi

## 1. Introduction

Human resource is one of the most valuable assets in an organization. Human resources in any organization are to select, attract, create, and motivate people to perform efficiently for achieving the goals. Hence, in planning for effective human resource development, all the organizational stakeholders should support the strategy for the organization's members (Langley & Tsoukas, 2016; Buller & McEvoy, 2012; Jones & Hill, 2013). Strategy means "being about maintaining a balance between ends, ways, and means; about identifying objectives and about the resources and methods available for meeting such objectives" (Freedman 2015). Strategic management entails identifying a strategic alignment between an institution's internal components and external environments to create an optimized equilibrium between external and internal processes (Hill, Schilling, and Jones 2016).

Human resource is very significant resource (Rahman et. al. 2013). Human resource performs according to organizational strategies to meet the organization's objectives (Lynch, 2015). Strategy development is an essential attribute for achieving success. Thus, strategic management is a vital tool for creating a strategic direction (Freedman, 2015). Strategic management is one of the modern-day approaches adopted to achieve organizational goals and objectives (Grunig & Kuhn, 2015). Human resource frequently moves from place to place and uses vehicles. With increasing population and living standard, the number of vehicles on roads is also increasing. Hence, there is a need for a proper traffic management system to ensure the smooth and safe movement of the human. Thus, an efficient strategic management plan is essential for appropriate traffic management. Hence, this study investigated the indicators of strategic management and their attributes adopted for proper traffic management in Abu Dhabi.

## 2. Literature Review

### 2.1 Strategic Management

Strategy is an important management principle (Seidl & Whittington, 2014) that provides a plan, pattern, or viewpoint that people follow as a means of realizing their vision (Langley & Tsoukas, 2016). It describes the mechanism used by managers to implement policies based on their particular organizational needs. Ansoff et al. (2018) highlighted that the managers obey separate routines and thus employ distinct methods based on their findings. Bynum (2001) stated that the concept of strategy creation and execution is primarily driven by identifying resource and capacity gaps in organizations about the vision and purpose of the organisations. As a result, the process of strategy formulation and execution is motivated not only by the need to gain a competitive advantage but to put an organization in a stronger position to achieve its objectives.

Human capital is a critical component of any effective organization, including capital intensive (Lynch, 2015; Rao, 2016), and the policies that fail to incorporate human resources cannot be sustainable. Human capital development should be prioritized in every organization's strategy development since achieving organizational objectives should be impossible without the requisite skills and expertise. Human capital refers to an organization's stock of human resources and expertise that aid in achieving its strategic goals (Grunig & Kuhn, 2015). Effective strategic management comprises various steps as presented in Figure 1.

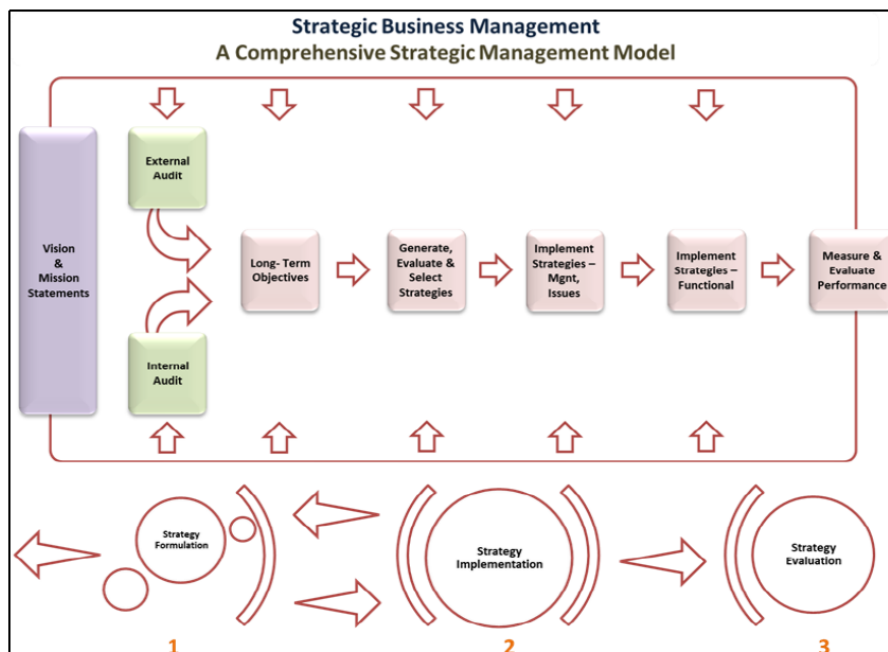


Fig. 1 - The steps in strategic management. (Source: Steyn, 2000)

In today's knowledge-based global economy, human capital is a critical resource in every enterprise because its efficacy contributes significantly to the successful execution of the capital investment strategy (Wood & Watson, 2016). Analysts have agreed that strategy development is primarily focused on human capital development and the leveraging of other strategic tools that would allow a company to gain a competitive advantage in conducting its activities more efficiently. Strategic management offers various advantages and disadvantages, as summarized in table 1.

**Table 1 - Advantages and disadvantages of strategic management**

ADVANTAGES	DISADVANTAGES
It helps avoid competitive convergence. Firms that follow strategic management gain more financial profits. It increases market share and profitability, especially if you have a focused plan and strategic thinking. It promotes business longevity. It helps in making better business decisions. It creates a better future for a business.	It is time-consuming because it involves many steps. The implementation process is challenging. It requires proper and perfect planning to succeed. It is a complex process that includes various types of continuous functions that check all major critical components.

Strategic management and planning techniques have grown in popularity in public agencies in recent years, as governments aim to improve service delivery to the public. Strategic planning enables the organization to create a strategic balance between its internal competencies and resources and the external environment (Hill et al. 2016). Globally, large organizations adopt strategic management to maximize the efficiency of their capital (Grunig & Kuhn, 2015). Strategic management and planning should be customized in the organization based on available resources and external background. Strategy implementation process is the not too easy. Ansoff et al. (2018) argued that effective strategy implementation is often correlated with aligning the strategic resources in the organisation with the organisational vision. Barney (2001) pointed out that the most practitioners understand the value of successful strategy execution, more focus is always placed on strategy design, but when it comes to actual implementation, fewer efforts are paid. Due to structural differences of the organizations and dependency of the strategic management on resource, yet any common structure of strategic management is not presented (Hitt et al., 2016). Further, with insufficient planning, it can be difficult to track down the actual phase of plan execution in order to control the actualization of deliverables (Grant, 2002). Besides these, one of the key issues in strategic management is the clear definition of role of board of management in developing the strategies and identifying key implementation actions (Al Darmaki, 2015). It is reported that the emergence of a project management office (PMO) can play vital role in executing strategic activities (Hill et al., 2016). Effective managing of resources is also a critical action of the team leader in strategic management (Langley & Tsoukas, 2016). Hence, it is very essential to define the role of the strategic management team as described in Table 2.

**Table 2 - Role of various stakeholders in strategic management**

Stakeholders in Strategic Management	Role
Event Collector	Observe the behaviour of underlying functional components and generate relevant reports.
Monitor	Collect goes events and report abnormal behaviour to interested strategic management parties.
Strategy Selectors	Select a relevant and appropriate adaptation strategy based on feedback collected from monitors.
Strategy Activators	We are implementing a particular strategy, for example, manipulating a component graph.

## 2.2 Strategic Management Performance Indicators

The primary goal of strategic management success is to develop a vision, translate that vision into a mission, and determine who will set goals and strategies in an organization. Furthermore, it investigates an agency as well as the other companies associated with that organization. Because in compliance with SMP's key objectives, a company can estimate its outlook, search its market, and, most importantly, set appropriate strategies. Management must track and change a plan regularly for it to be successful. "Depending on its size and the market climate, a company may use a specific approach to strategic management" (Hill et al., 2009, p.21). As a result, small businesses would have a less organized SMP management model than large corporations. "A vision articulates the role that an entity aspires to achieve in the far future" (Andrews et al., 2009, p.23). "Vision, then, is potential hopes that inspire one to be the best in one's field of activity" (Andrews et al., 2009, p.23). Good dreams are both thrilling and terrifying. Identity and the logic of determination are often created by vision. A feasible vision is exclusive, exclusive, and unpretentious.

Mission statements are persistent statements of intent that differentiate one company from its kind (Lendel & Varmus, 2012). An organization's mission defines the scope of its activities in terms of product and market. For example, Nike Inc.'s mission statement is "to bring inspiration and creativity to every athlete in the world, because if

you have a body, you are an athlete" (www.nike.com). As we can see from the mission statement, it discusses the foundation of an organization's strategy in the same way that every other corporation does. Nike Inc. chose this simple task because the company's primary aim is to sell sports goods to everybody. It meets current strategies while also assessing prospects. Nike Inc. management understands that a strong mission statement usually maps an organization's future path. If Nike Inc.'s mission is to "carry on its tradition of creative thinking, whether to build goods that help athletes of all abilities achieve their potential, or to create market opportunities that set Nike apart from the competition and bring value to our shareholders."

### 2.3 Strategic Management Assessment

Under the Strategic Management Approach, there are three phases necessary for a process to be valid. Those three phases are formulation, implementation, and evaluation. Strategy formulation refers to the process of choosing the most appropriate course of action for the realization of organizational goals and objectives and thereby achieving the organizational vision (Boyne & Walker, 2010). This study further argued that it is impossible and unsuitable to classify a firm as going with one type of strategy. A firm shift from one type to another when faced with different conditions. Many of these conditions are external and are not controlled by the organization itself.

A great example would be a political change within the country of operation. While researching this study, the researcher found out that rationality and logic are two key representations of strategy formulation. Therefore, an organization with no rationality or logic when establishing strategy will eventually be without the strategy.

Any plan to be successful, it must be rational, which will lead to a suitable strategy. The options generated by this process are evaluated before setting organizational targets, which are then regularly reviewed and monitored (Mintzberg & Quinn, 1998). The importance of rationality in planning cannot be ignored. Most managers have realized that the rational plan plays an important role in organizational success. On the other hand, no businesses do not believe in strategic planning or have proper procedures in place. They argue that the market changes so fast in today's environment and that it makes plans unused. Under the circumstances that every business enterprise is heading in some direction, the researcher believes necessary planning needs to be in place.

Furthermore, for any formulation of strategy to be a success, it must have rational planning and be logical, leading to proper SMP. For example, researchers live in a society where every business faces daily challenges multiple times. Many of the challenges that organizations encounter daily can be identified with proper planning before its encounter. When researchers plan to react to what-if scenarios, our organization's strategy will achieve its goals. Last but not least, the organization faces challenges that are unpredicted and cannot be planned. But as they say in US Army, proper planning prevents poor performance.

The second step when formulating strategy within an organization is that management must be aware of company's strengths and weaknesses. Management needs to understand the existing position of the company. Additionally, the mission needs to be identified. Further, the administration needs to explore past strategies of the organization and see how successful they were and their performance. Last but not least, the objectives of the company must be set; what are the company's goals of the operation.

Situation analysis involves "scanning and evaluating the organizational context, the external environment, and the organizational environment" (Coulter, 2012, p.6). Meaning, all management must pay attention to the facts of a market rather than go with their own opinion. Opinions are sometimes good and make sense, but the truth and reality of customers' needs win the market and improve shareholder's wealth. Facts of market needs will show to an organization prospective customer; it will also help establish accurate preform financial statements, which will eventually help the company develop long-term goals.

According to Ratcliffe (2008), the analytical feature is the process of transforming data into information and intelligence to make better decisions. The research entails using experimental methods to solve a problem by first understanding its cause-and-effect relationship. For example, data in security systems can be described as an observation or measurement related to crime, disorder, and other challenges associated with crime-fighting (Genet & Hayward, 2017; Grunig & Kuhn, 2015). Then, when data is analyzed, viewed, and interpreted, intelligence agencies better understand the areas to focus on or develop based on their existing competencies and capabilities. Carter et al. (2010) addressed intelligence processing, stating that analytical work in security agencies is primarily correlated with collecting data, collating it, analyzing it, and disseminating actionable intelligence information.

### 3. Research Method

We used a simple random sampling technique to collect the data. This technique provides equal opportunity to each attribute to be chosen. Determining the sample size is very important (Boddy, 2016), for which the researchers have to assess the target population and relative specified characteristics (Hair et al., 2011). In this study target population was the official institute of Abu Dhabi involved in traffic management i.e., the ADP's Traffic and Patrols Directorate. Data collection applied a questionnaire survey method. Questionnaires are an easy but helpful testing method that is cost-effective and minimizes data distortions caused by interviewer bias (Ott & Longnecker, 2015). The survey design was based on a five-point Likert scale, which is introduced to address the quantitative aspect of the study

and demonstrate the test instrument's superiority. For data collection, a total of 335 questionnaire forms were distributed, and 305 complete forms were received back. From these questionnaire forms, forty-five forms were incomplete and discarded for analysis purposes. The remaining 260 forms were considered valid for analysis.

#### 4. Results and Discussions

Data gathered from 260 valid responses was analyzed statistically for ranking the indicators using Mean Score techniques as adopted by Alameri et. al. (2021). Before analysis of the indicators, the profile of the respondents was examined. The summary of the respondent’s profile is presented in table 3.

**Table 3 - Characteristics of the respondents**

Category	Items	Frequency	Percentage of respondents
Experience	Less than 5 years	14	5.3%
	5 years to 10 years	66	25.38%
	11 years to 15 years	64	24.6%
	16 years to years	99	38.1%
	Above 20 years	17	6.53%
Respondent’s Income	Less than AED 10,000	64	25%
	AED 10,001 to AE 15,000	80	30.7%
	AED 15,001 to AED 20,000	64	24.6%
	AED 20,001 to AED 25,000	30	11.5
	More than AED 30,000	22	8.46%

From Table 3, around 70% of the respondents have been involved in traffic management activities for more than 10 years. Among the rest, 25% of the respondents have experience in traffic management for more than five years, and only 5% have experienced less than five years. In addition, respondent’s income profile shows that they are working at different levels and scales in the organization. Twenty-five percent of respondents have income less than 10K AED while fifty-five percent respondents have income between 10K to 20K AED and around twenty percent respondents have pay more than 20K AED. The mean score of the responses for each attribute of the strategic management indicator is presented in table 4.

**Table 4 - Ranking of the attributes and indicator of strategic management**

S. No	Attributes/Indicator	Mean Score	Ranking
<b>Learning and Training</b>			
1	Review and develop a driver training program and licensing mechanism	3.70	1
2	Activating the role of councils and civil society bodies in an effort to improve traffic safety.	3.63	2
3	The introduction of the Abu Dhabi International Traffic Safety Award	3.57	3
4	Preparing and implementing awareness programs for traffic safety	3.55	4
5	Youth Traffic Council.	3.44	5
6	Project happiness patrol.	3.44	5
7	Inclusion of traffic awareness in the primary school education curriculum	3.43	6
8	Developing a smart traffic awareness system.	3.40	7
<b>Traffic Setting</b>			
1	Effective traffic control in pedestrian and cyclist safety areas and seatbelts	3.84	1
2	Activating the security guards after the official working hours	3.80	2
3	Direct traffic control campaigns for the top five dangerous violations	3.78	3
4	Developing the mechanism for monitoring dangerous drivers and dealing with them	3.76	4

<b>Emergency Response</b>			
1	Development of effective systems for geographical positioning of traffic accidents.	3.54	1
2	Spreading a culture of prioritising emergency vehicles in emergency situations.	3.54	1
3	GIS program for mobile geographic data unit and activating GIS-MDT application for smart patrols.	3.46	2
4	Activation of an intelligent geographical system for the distribution of police resources GEO-PAM.	3.42	3
5	Activate the ambulance station for Abu Dhabi Police.	3.33	4
<b>Road Engineering and Vehicle Safety</b>			
1	Develop an integrated traffic safety management system (ITSMS)	3.76	1
2	Develop the traffic safety assessment model to predict and identify the most dangerous streets	3.54	2
3	Development of the periodic inspection program for vehicle licensing (annual inspection mechanism)	3.54	2
4	Upgrade of traffic patrols to smart patrols (Smart Patrol Project)	3.54	2
5	Linking with the Municipal Affairs Department	3.46	3
6	Implementation of the Emirate of Abu Dhabi's speed management plan	3.46	3
7	Integration of traffic systems	3.42	4
8	Develop the skills and skills of the editors of serious accident reports	3.42	4
9	Development of a system for controlling traffic safety according to weather conditions (smart towers)	3.33	5
<b>Strategies Being Enforced</b>			
1	Developing smart traffic settings to minimize the accidents	3.76	1
2	Preparing and implementing good training programs for traffic safety help the police and users in general	3.54	2
3	Effective emergency response helps in saving the lives of many people if there is an accident	3.54	2
4	Driver training program and licensing mechanism help minimize issues on the road	3.54	2
5	Abu Dhabi International Traffic Safety Award encourages people to drive with care	3.46	3
6	Inclusion of traffic awareness in the primary school education curricula addresses the issue from the grass-roots level	3.42	4
7	Effective learning process helps to reduce the casualties on the roads	3.33	5

## 5. Conclusion

This paper highlighted the importance of strategic management. It examined several attributes and their relevant indicators adopted by the organizations for ensuring success in strategic management. This helps in upbringing the organizational reputation. This paper focused on learning strategic management parameters which the public security sector uses for effective traffic management in Abu Dhabi. We determined 29 common attributes of strategic management classified into five different indicators related to traffic management. The indicators are learning & training, traffic setting, emergency response, road engineering & vehicle safety, and strategies being enforced. A questionnaire survey conducted with officials involved in the traffic management system was invited to highlight the importance of each attribute. With statistical analysis using the mean score method, it was found that in the domain of learning & training, the most useful attribute is reviewing and developing a driver training program and licensing mechanism. The attribute at second rank is activating the role of councils and civil society bodies in an effort to improve traffic safety.

Similarly, the respondents reported effective traffic control in pedestrian and cyclist safety areas and seatbelts as very useful in the indicator traffic setting. The second-ranked attribute is activating the security guards after the official working hours. In the domain, emergency response the top indicators reported by the respondents is the development of effective systems for geographical positioning of traffic accidents and spreading a culture of prioritizing emergency vehicles in emergency situations. Develop an integrated traffic safety management system (ITSMS) is the most helpful attribute related to road engineering & vehicle safety indicator. While in this category, the second useful attribute is developed the traffic safety assessment model to predict and identify the most dangerous streets. Finally, the respondents mentioned that the attribute at top rank is developing smart traffic settings to minimize accidents in the

domain strategies being enforced. This is followed by preparing and implementing good training programs for traffic safety to help the police and users in general.

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