

USING KM MODEL TO EXAMINE A FIRM'S EXTERNAL ENVIRONMENT IN STRATEGIC ANALYSIS

Diana Kao, Tony Mao

Odette School of Business, University of Windsor, Windsor, Ontario, Canada N9B 3P4

Tel: 1-519-253-3000 ext.5065, E-mail: kao@uwindsor.ca, tmao@uwindsor.ca

Abstract: The sustainability of a firm mainly depends on whether the firm has an effective strategy to align its internal operations with changes in the external environment. This paper introduces the KM model, which is a framework that guides a comprehensive and systematic strategic analysis of a firm. This article focused on using the KM model to examine a firm's external environment systematically. The KM model divides a firm's external environment into four interdependent and strategically relevant layers. By understanding the changes and trends in each layer as well as the interactive relationships across these layers, companies could identify the emerging needs and trends in the external environment. The model facilitates an orderly and effective way to identify gaps between a firm's internal operations and changes in its external environment. The KM model provides a platform for incorporating most existing strategic analysis tools to obtain a comprehensive view of a firm's external environment, and supports companies to set their global strategic positions accordingly.

INTRODUCTION

Comprehensive and systematic analysis of a firm's external environment provides management better planning and decision-making capabilities. The formulation of effective strategies often depends on whether a firm's analysis reflects the changing environment.

Many tools have been developed to examine environmental factors in the strategic analysis process. PEST model looks at the political, economical, social and technological factors to analyze the macroeconomic situation of the firm (Narayanan and Fahey, 2001). Porter's five forces model analyzes a firm's industry by looking at other existing companies, potential new companies, substitutes for products, suppliers and customers (Porter, 1979). Porter's value chain identifies a firm's primary and support activities. The fundamental principle of the model is that primary and support activities contribute to both firm's costs as well as the ability for a firm to deliver value to its customers (Porter, 1985). SWOT framework identifies a firm's strengths, weaknesses, opportunities and threats. Blue ocean strategy argues that firms employing a blue ocean strategy are deliberately redefining existing industry boundaries and creating uncontested market spaces as a source of competitive advantage. It suggests that firms engaging in blue ocean strategy see the barriers to competition are not only surmountable, but also present opportunities for untapped revenues (Kim and Mauborgne, 2005). The Diamond-E framework emphasizes that a firm's successful performance depends on having high consistency among the firm's internal environment, its strategy and the external environment (Fry and Killing, 1989). Crossan et. al. (2009) introduced a five-step framework to conduct environmental analysis. Mao and Kao (2008) proposed the KM model as a framework to guide systematic and comprehensive strategic analysis.

However, increasing global competition, advancement of technology, incomplete information, economical crises and a wide range of uncertainties has made the analysis of the environment more challenging and difficult. Not only it is difficult to identify relevant environmental impacts, practitioners also find it difficult to relate the overall macroeconomic factors directly to the firm's internal operations.

We believe that practitioners would benefit from a framework that will support them to observe and analyze the continuous external changes and trends by 1) defining the relevant macro-environment from the global level to strategically relevant segments in the environment such as the firm's focused countries, industries and supply chains, 2) relating the impacts of macro-environmental factors to the firm's internal operations by following a prescriptive and systematic approach, and 3) identify the gaps between the external environment and internal operations. The KM model provides a structure to facilitate this process. In the following sections, the description, structure and applications of KM model for environmental analysis will be discussed.

DESCRIPTION OF KM MODEL

The KM model is a framework that guides a comprehensive and systematic strategic analysis for a firm. It provides a detailed structure for environmental analysis. It is constructed based on four premises about the environment of a company. First, a firm's

survival depends on companies that can sustainability. Second other. The firm's sustainable environment is being understand the environment

The KM model divides changes and trends in needs and opportunity analysis tools to obtain identify gaps between

In addition to the model. By studying the external environment, which may give the firm

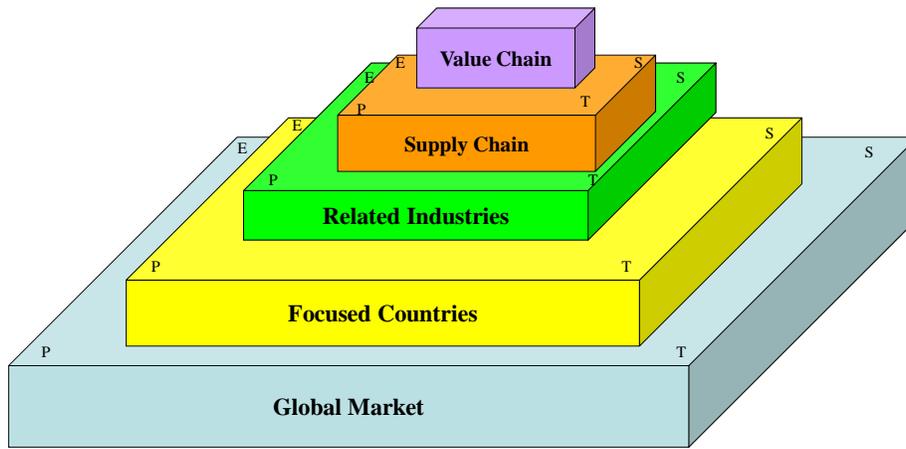


Figure 1 The KM Model Structure

always changing. Only environment will achieve interactive with each layer of the external forces in order to

By understanding the identify the emerging most existing strategy and effective way to

other dimension in the knowledge about the external environment,

The structure of the KM

- 1) A firm exists in a multi-layered environment. With the firm's value chain sitting on top, the external environment is represented in four layers: the supply chain, related industries, focused countries and the global Market. The structure illustrates that all layers of the external environment form the building blocks that support the firm's existence.
- 2) Each layer is being shaped and driven by its own political, economical, social and technological macroeconomic forces, as noted as P, E, S, T in the corners of each layer.
- 3) Layers in the firm's external environment are interactive and interdependent. Any change caused by the PEST forces in one layer will trigger ripple effects in all other layers.
- 4) The structure is dynamic and robust. Figure 1 only represents a snapshot of a continuous interactive process of a firm's external environment overtime. Understanding the past and current states of each layer will help predict future changes and trends. Hence, historical changes and trends in any layer are implied in the KM model.

This structure provides a birds-eye view of the firm and its environment. It guides practitioners to systematically observe and understand changes and trends in the external environment. Using this structure, practitioners will be able to comprehensively analyze relationships between the firm and its environment. In the next section, how to apply the KM Model to analyze a firm's external environment and to identify the gaps between a firm's external environment and its current operations will be presented.

APPLICATION OF KM MODEL FOR ENVIRONMENTAL ANALYSIS

The objectives of using the KM model for environmental analysis are the following:

Objective 1

To define the external environment of a firm from the global level to strategically relevant segments in the environment such as the firm's focused countries, related industries and supply chains

Objective 2

To relate the impacts of macroeconomic factors to the firm's internal operations by following a systematic approach

Objective 3

To identify the gaps between the external environment and internal operations

Described below is a six-step process to help practitioners to achieve these objectives.

For objective 1

Step 1

Divide the firm's environment into different layers based on the structure in KM model.

Step 2

Identify the components of each layer in the environment.

For objective 2

Step 3 Observe the external environment from the bottom layer of global market to the firm's supply chain. Identify major forces, changes, trends and opportunities in each layer by applying appropriate strategic analysis tools.

Step 4 Based on the observation, identify impacts of major changes and emerging needs of the external environment on the firm's operation and sustainability.

For objective 3

Step 5 Identify gaps between firm's value chain and the needs and changes in the external environment that may affect the firm's sustainability.

Step 6 Analyze the firm's value chain to identify resources and core competencies. Evaluate whether the firm has the ability to bridge these major gaps in the existing environment.

Step 7 Decide to stay in the existing environment if gaps can be bridged effectively. Consider move to a new environment if gaps cannot be bridged effectively.

Step 8 Conduct steps 1 to 7 on a routine basis.

The KM model has been used to conduct strategic analysis and provide strategic recommendations for firms in the service and manufacturing sectors, including automobile industry, food, technology, medical as well as non-profit organizations for consulting and managing purposes. It was also adopted as a teaching tool in executive MBA classes to help students analyze their companies. Given that the focus of this paper is on environmental analysis, included in the appendix of this paper is an example how the KM model was applied in analyzing Fiat SpA's external environment.

SUMMARY

The environmental analysis component of the KM model presented in this paper provides a framework to systematically analyze the external environment of a firm. The model examines external environments by analyzing the political, economical, social and technological impacts in the context of a firm's supply chain, related industries, focused countries and the global market. It also incorporates historical trends and cultural influences in the analysis process.

By following the proposed steps, practitioners can examine the external environment of a firm using currently existing strategic analysis tools such as Porter's value chain, PEST, Diamond E, Porter's five forces, SWOT, etc. In addition, the KM model will help companies identify the gaps between the external environment and internal operations. Once the gaps are identified, companies can set their strategic directions accordingly.

The KM strategic analysis model is in the process of being further developed and refined. Modifications and improvements will be presented in future studies.

APPENDIX

FIAT SpA Environmental Analysis, 2009

After a successful turnaround from 2004, Fiat, an Italian automobile manufacturer became profitable again in 2007. However, heading into 2009, the environment for auto industry has changed dramatically. Factors such as decreasing European sales, stronger competition from Japanese and German automakers, the emergence of new low cost Asian manufacturers, changing government policies, and global economical crisis have brought Fiat to a cross road again.

This example demonstrates how the KM model is used to analyze the external environmental of Fiat SpA.

Environmental Analysis

In this section, the internal and external environments will be analyzed. The objectives of the environmental analysis are to 1) identify external environment changes and internal environment of the firm, and 2) articulate the implications to see if there is a need to change

as well as the direction and timing of the changes. This analysis will also help identify the core competence and key success factors of FIAT.

The analyses are grouped into three parts. First, the KM model and PEST is used to analyze the internal and external environment of FIAT. The second part of the analysis focused on identifying the gaps between FIAT's current position and the global environment. A SWOT analysis was conducted as the third part of this analysis. The goal is to identify its resources and core competencies to further evaluate whether the firm has the ability to bridge the major gaps in the existing environment.

Step 1 Divide Fiat's environment into five layers based on the structure in KM model.

- Fiat's value chain
- Fiat's supply chain
- Fiat's related industries
- Fiat's focused countries
- The global market place

Step 2 Identify the components of each layer in the environment.

- Fiat's value chain: Fiat has an automobile manufacturer's value chain.
- Fiat's supply chain: Fiat depends on a global supply chain from its suppliers' network and delivers its products and services through distributors to consumers.
- Fiat's related industries: The Fiat group also manufacture other industrial equipments besides automobiles.
- Fiat's focused countries: Fiat has a global presence with a main focus on European countries and has no establishment in the U.S. market until 2009.
- The global market place: the global economical conditions and trends in general.

Step 3 Observe the external environment from the bottom layer of global market to the firm's supply chain. Identify major forces, changes, trends and opportunities in each layer by applying appropriate strategic analysis tools.

Step 4 Based on the observation, identify impacts of major changes and emerging needs of the external environment on the firm's operation and sustainability.

Global Market Place

- Economical
 - Global economical downturn/crisis
 - Decreasing consumer buying power in North America and Europe
 - Increasing car consumption in Asia especially in China
- Political/Legal
 - governments still support global trade
 - there are signs of national protectionism
 - tougher laws in car emission
 - Trend of more government involvement and regulations in the market and economy
- Social Cultural
 - Consumer behavior changing from large/gas hunger cars to smaller gas efficient/green cars.
 - More conflicts in society and between management and the workers such as "bosnaping" due to economical crisis.
- Technological
 - Global trend in green technology and gas efficient cars
 - Technology advancement causes decreasing gaps between high-tech companies in developed countries and low tech company in developing countries such as China and India

Implications

- Fiat needs to identify what are the opportunities in the time of crisis.
- Government support is important.
- Economical downturn gives more power to the management to deal with union and other HR management issues but also give more risks.
- Consumer and legal trend toward gas efficient cars and green technology.
- More competitions in the traditional car markets as new players joining from low cost countries due to technology advancement.

Focused Countries/regions (use PEST to identify general local market trend and Fiat’s market positions in these specific markets)

Region	Highlight of PEST	Market Position of FIAT
Europe	<ul style="list-style-type: none"> • Global economical crisis is hurting European economy badly • Social crisis due to economical downturn and loss of jobs • Decreasing consumer confidence and buying power 	<ul style="list-style-type: none"> • Leading auto maker • Sales decrease dramatically in Europe in 2008 • Sales primarily rely on Europe
U.S.	<ul style="list-style-type: none"> • Financial and economical crisis started from the U.S. is going deeper • Heavy government involvement/management in the auto industry. • Lack of small car/green technology (Big three) 	<ul style="list-style-type: none"> • There is no establishment for Fiat in the U.S. and Canada market, the biggest auto market in the world
Asia	<ul style="list-style-type: none"> • Economical crisis hurt export economy in China and India badly • Growing auto market with car sales increasing in China every month • Consumer trend in purchasing import luxury cars in China. 	<ul style="list-style-type: none"> • There is no significant establishment for Fiat except some partnership with few Chinese/Indian companies.
Latin America	<ul style="list-style-type: none"> • Growing auto market • Economical crisis hurt export badly. Slow growth expected as much of Latin America depends on trade with the United States (which absorbs half of Latin America’s exports, alone, for example). • Banking regulations and policies changes due to financial crisis. 	<ul style="list-style-type: none"> • Car sales in Latin America especially in Brazil are successful. • Competition increased (from 25 models in 1992 to more than 100 models in 2005)

Implications

- Too much depending on one market Europe
- Decreasing European sales indicating red ocean competition.
- No significant development in the world largest auto market – U.S.
- No significant development in the world largest emerging market – China and India
- Stronger competition in Latin America indicates the need to adjust local strategy.
- The impacts from the Big Three’s struggling for survival in the U.S. can be considered as an opportunity.
- Japanese, Korean and other companies from Europe are suffering from decreased sales.
- Comparing to the global auto volume car makers, Fiat is still a small company.

Industry (Use Porters and KM industrial positioning)

Porter’s Model	
Suppliers	<ul style="list-style-type: none"> • Power neutral • Supplier network in Europe is strong • Lack of own supply network in Asia and the U.S.
Customers	<ul style="list-style-type: none"> • Power strong. • Changing preferences and buying habit due to economical crisis. • Different, segmented market needs and demand in Europe, North America, Latin America and Asia.
Competitors	<ul style="list-style-type: none"> • Power strong. • Global auto industry is saturated with new players joining at a fast speed

	<ul style="list-style-type: none"> and low cost. Fiat has no significant influence in important Asian markets such as China and India Fiat has the leading position in the European auto industry. Big Three tumbling Japanese, European competitors are very strong New Asian competitors from China, India in back mirror but not big enough yet.
Barriers to Entry	<ul style="list-style-type: none"> Power low Comparatively lower than before due to government support from Asian and Eastern Europe. More emerging low cost auto makers in the past 10 years.
Substitutions	<ul style="list-style-type: none"> Power strong A lot of substitutions can replace partial or complete functions of cars. Low cost players are trying to get into the world market from India and China. Fiat is considered as a niche player in certain regional markets.

Implications

- Market segmented, no single market can support sustainability
- Severe competition in the industry in all global markets. Each market needs to be dealt with different local preferences. A strong global supply chain network is needed to support global operations.
- Red ocean and pink ocean competitions, needs to create blue ocean.
- Current position safe but not sustainable.
- Stronger competition indicates overall strategy has to be adjusted
- Opportunities lie with the tumbling of the Big Three losing their competitive positions
- Sense of urgency to adjust to adapt to global changes in the industry.

Global Supply Chain

- Fiat's global supply chain is strong in Europe
- Indirect but not necessary efficient/effective access to other markets through strategic alliances such as Tata and Cherry, GM often competitors too.

Value Chain

- Primary activities – efficient production of small cars and high end sports cars
- Improved customer services
- Strong Management skills and leadership, efficiency
- Fuel efficient technology
- Strong R&D capability and ability
- Lean production
- Efficient structure and control systems.
- Global mentality, long history of global partnerships.

Summary

	Observations	Factors critical to FIAT's sustainability
External Environment	<ul style="list-style-type: none"> Global competition/ red ocean/ 	<ul style="list-style-type: none"> Economy of scale – 5.5 M per year Control of market channel in key market for current and future
Internal Environment	<ul style="list-style-type: none"> Existing business model is not sustainable if stays focus only on limited Europe market, 	<ul style="list-style-type: none"> Technology Product line/combinations

	<p>limited product lines without establishment in major mature and emerging markets.</p> <ul style="list-style-type: none"> • Competing on cost is given but competing on cost with Asian companies in traditional competition is not sustainable without control of distribution networks and technology innovation and government support. • Change is must, expansion is must. 	<ul style="list-style-type: none"> • Global supply chain • Structure and systems • HR
--	---	--

The observations and factors critical to FIAT’s sustainability identified in this section will be used in Part II of the analysis gaps of FIAT’s current operations, and later in this report to identify alternatives and decision criteria.

Step 5 Identify gaps between firm’s value chain and the needs and changes in the external environment that may affect the firm’s sustainability.

GAP Analysis

In this is part, gaps at each level of the KM Model are identified to see if FIAT’s current model fit the changing environment in order for it to sustain the global competition.

	Gaps in competing globally
Value chain	<ul style="list-style-type: none"> • Lack of global production capability, especially in two important global markets North America and Asia. • Lack of product lines important mid-size cars and larger cars production expertise. • Lack of forward channels in the above markets critical to future survival. • Lack of global brand reputation to its small size, fuel-efficient cars
Supply chain	<ul style="list-style-type: none"> • Too much rely on European supply chain, no capability to efficiently supply globally • Fragmented, not effective global supply chain • Lack of forward channels in global market • Lack of backward channels in global market
Industry	<ul style="list-style-type: none"> • Lack of economy of scale to compete in the global market • Is a niche player but does not occupy primary markets • Although good at small size/gas efficient cars, lack of mid-size/larger family size cars to compete in major markets such as U.S. market
Focused countries and global markets	<ul style="list-style-type: none"> • No establishment of production and forward channels in North American and Asian markets • Overly depends on Europe sales • Bad old reputation in the U.S. market

Implications

Major changes in the external environment, such as the global recession, decreasing European sales, the changing customer preferences and government policies are reshaping the environments Fiat’s future relies on. As a niche player, Fiat’s current value chain is no longer fitting the changing environments. Major gaps listed below have to be bridged in order to achieve sustainability for the company.

- Lack of product lines important mid-size cars and larger cars production expertise to compete in major international markets
- Overly depends on Europe sales and no establishment of production and forward channels in North American and Asian markets
- Lack of economy of scale to compete in the global market
- Lack of global brand reputation to its small size, fuel-efficient cars

Step 6 Analyze the firm’s value chain to identify resources and core competencies. Evaluate whether the firm has the ability to bridge these major gaps in the existing environment.

SWOT Analysis and FIAT’s Core Competencies

<p>Strength and Core Competencies</p> <ul style="list-style-type: none"> • Strong management and leadership • Successful restructuring before the global crisis gave Fiat a good position to compete for future • Efficient production system • Fuel-efficient and small car technology • Experienced in joint ventures, licensing • An environmentally friendly automaker pro-green customers like 	<p>Weakness</p> <ul style="list-style-type: none"> • Overly rely on the European market • Overly reply on the leadership of the CEO • No establishment in other major markets except South America • Lack of global economy of scale - Only selling just over 2 million units per year • Lack of product lines (mid-size, large size cars and trucks) for important global markets. • Technological challenge of implementing Fiat's technology into Chrysler vehicles • Lack of brand name reputation in the U.S.
<p>Opportunities</p> <ul style="list-style-type: none"> • Global economical crisis brought down competitors, provide opportunities for well managed companies like Fiat • Government support • Changing customer preferences toward fuel efficient cars • Emerging market in Asia and South America 	<p>Threats</p> <ul style="list-style-type: none"> • Global recession • Industry wide overcapacity and productivity • Decreasing European sales • Emerging low cost competitors from Asia • Strong existing Japanese, European competitors • Competitors copy successful business models • Rising raw material prices such as steel • Strong Euro hurts exporting • Risk of the company spreads itself too thin and grows too fast • constrained fund-raising options • Consumer losing confidence in economy hurts large item purchases. • Debt and cash flow • Risk of bad union relations due to expansion

Implications

In order for Fiat to be sustainable, the company has to explore and secure the opportunities based on its core competencies as not all the opportunities are realistic to Fiat's future development. Fiat has to be very careful when it chooses opportunities to be the target in its business plan.

Step 7 Decide to stay in the existing environment if gaps can be bridged effectively. Consider move to a new environment if gaps cannot be bridged effectively.

Based on the KM strategic analysis for Fiat's environment, Fiat needs to make a decision whether it should stay in the automobile industry based on its core competencies and strengths. If it decides to stay, it should make adjustments through its value chain to adapt to the changing global markets. It should, for example, consider expanding to the North America auto market and the emerging markets in order to extend its profitability as a global player. Once Fiat establishes its global presence and profitability, it can then determine the role of its auto division in the global markets.

Step 8 Conduct steps 1 to 7 on a routine basis.

The example demonstrated how the external environmental analysis for Fiat could be analyzed by using the KM model.

REFERENCES

Crossan, M.M., Fry, J. N., and Killing, J.P. (2009) *Strategic Analysis and Action*, Toronto: Pearson Education Canada.

Mao, T. and Kao, D. (2008) *Lecture Notes for International Business Management*, MBA for Managers and Professionals, Center for Executive Education, University of Windsor.

Kim, W.C. and Mauborgne, R. (2005) *Blue Ocean Strategy: How to Create Uncontested market Space and Make the Competition Irrelevant*, Boston, Mass.: Harvard Business School Press.

Narayanan, V.K. and Fahey, L. (2001) *Macroenvironmental Analysis: Understanding the Environment outside the Industry*, The Portable MBA in Strategy, 2nd edition. New York: Wiley, p.189-214.

Porter, M.E. (1979) *How Competitive Forces Shape Strategy*, Harvard Business Review, Vol.57, March-April, p.137.

Porter, M.E. (1985) *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press.