DEFINITION AND ROLE OF AN INNOVATION STRATEGY

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ABSTRACT

The concept of an innovation process to formalize Innovation Management in a company has been suggested [1]. As part of the formalization of innovation as a core business process the role and importance of an innovation strategy has come to the fore.

The questions are; what is the definition of an innovation strategy? What is the role of an innovations strategy? What are the components of an innovation strategy?

This paper presents a definition for an innovation strategy, the components of an innovation strategy and describes how the innovation strategy is positioned in relation to traditional business strategies.

OPSOMMING

Die konsep van ‘n innovasieproses om Innovasiebestuur in ‘n maatskappy te formaliseer word voorgestel, en as deel van innovasie se formaliseringsproses word die rol en belangrikheid van ‘n innovasiestrategie benadruk.

Die volgende vrae word gestel: Wat is die definisie van ‘n innovasiestrategie, wat is die rol van ‘n innovasiestrategie en wat is die komponente van die innovasiestrategie?

Hierdie artikel stel ‘n definisie voor vir ‘n innovasiestrategie en die komponente van so ‘n strategie, en beskryf hoe die innovasiestrategie geposisioneer moet word ten opsigte van tradisionele besigheidstrategieë.

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1 INTRODUCTION

In recent times the role and importance of Innovation in companies has grown significantly [2]. The amount of time, money and effort focused on Innovation and Innovation Management in both academic and commercial environments has too increased significantly. The concept of an innovation process to formalize Innovation Management in a company has been suggested [1]. Innovation processes are receiving more attention in companies and several attempts to describe these processes have been published.

As part of the formalization of innovation as a core business process the role and importance of an innovation strategy has come to the fore. As with all business processes the decisions made and the way in which the process is implemented are all governed by a strategy. The strategy governing innovation in a company is termed an innovation strategy.

This paper aims to define what an innovation strategy is and to describe the role of an innovation strategy in a company and how an innovation strategy can be positioned in context with other business strategies. This paper concludes by identifying the different components required in a comprehensive innovation strategy.

The questions addressed in this paper are:

1. What is the full scope of a definition for an innovation strategy?
2. What is the role of an innovation strategy in a company?
3. What are the main components of an innovation strategy?

In order to address the first question and develop a comprehensive definition of an innovation strategy, the various definitions of innovation and of strategy as separate domains need to be understood. The paper therefore starts with an investigation into the definition of both innovation and strategy with each of these sections concluding with a comprehensive definition.

Before the first research question can be finalized and a comprehensive definition for an innovation strategy presented, the second research question has to be answered. The role of an innovation strategy is described based on the role of innovation and the structure and role of general business strategies in a company.

Once the definition of an innovation strategy is developed and the role of an innovation strategy is described the final research question is answered by suggesting the components required in a comprehensive innovation strategy in order to fulfill the previously defined definition and role. The process followed is illustrated in Figure 1.

![Figure 1 - Process followed in this paper](image-url)
2 DEFINITIONS FOR INNOVATION AND STRATEGY

The difficulty in defining what exactly is an innovation strategy is due to the many different definitions within the two separate domains of innovation and strategy. Therefore, in order to develop an appropriate definition for innovation strategy it is important to first understand the range of definitions for both innovation and strategy as separate domains.

2.1 Defining Innovation

It is important to clarify a complete definition for innovation, in order to develop a complete definition for an innovation strategy.

The definition of innovation is highly varied, possibly due to the fact that many different disciplines have focused on innovation from their specific perspective. Also, the concept of innovation has become more complex over time [3].

An early definition of innovation, from an economics perspective, was presented by Schumpeter. An innovation - by definition -

“had a substantial economic impact. An innovation was something that changed the market place in a profound way. The innovating organization was, thus, likely to become the new market leader and to gain an immense advantage over its competitors” [4].

The 21st Century Working Group defines innovation as follows:

“Innovation transforms insight and technology into novel products, processes and services that create new value for stakeholders drive economic growth and improve standards of living” [5].

Several other definitions also include the concepts of new and novel [6].

2.2 Categorizing Innovation

Several different ways of categorizing innovation have been suggested [2]. These include:

- Types of innovation,
- Newness of the innovation,
- Impact of the innovation.

2.2.1 Types of Innovation

Types of innovation can also be described as the end result of the innovation. This can be clearly seen from the following six different innovation types [6]:

- New products
- New services
- New methods of production
- Opening new markets
- New sources of supply new ways of organizing

As reported by Katz [7]:

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“When looking at types of innovation, Baker [2] states that a company’s ability to support product and process innovation is no longer adequate and that a third type of innovation, strategy innovation needs to be introduced in order to provide further support. This type of innovation specifically emphasizes the importance of a longer term view of the contribution of innovation towards competitiveness and success as a company.”

Hence three main innovation types can be defined. These are product innovation, process innovation and strategic or business model innovation.

2.2.2 Newness of Innovation

The newness of an innovation can be described on a continuum from radical innovation to incremental innovation.

“Radical innovations are those that produce fundamental changes in the activities of an organization and large departures from existing practices, and incremental innovations are those that result in a lesser degree of departure from existing practices” [8].

2.2.3 Impact of Innovation

The impact of innovation can be described on a continuum from sustaining to disruptive.

“Sustaining innovations improve the performance of established products or services. Discontinuous innovations bring to market very different products or services that typically undermine established products and services in the particular market sector” [2].

2.3 Comprehensive Definition of Innovation

Taking into consideration the key concepts of innovation from the literature as well as the different ways of categorizing innovation a comprehensive definition of innovation can be developed.

“The successful generation, development and implementation of new and novel ideas, which, introduce new products, processes and/or strategies to a company or enhance current products, processes and/or strategies leading to commercial success and possible market leadership and create value for stakeholders, driving economic growth and improving standards of living” [7].

This definition is used to develop a comprehensive definition for an innovation strategy.

2.4 Defining Strategy

In order to develop a comprehensive definition for an innovation strategy an understanding of the types and definition of strategy is required. In this section an explanation of the evolution of strategy is provided along with several definitions for strategy.

There are almost as many different definitions for strategy as there are writers on the topic [9]. As cited by Heath [9], Donald C. Hambrick suggested two main reasons for the lack of consensus: first, strategy is a multi-disciplinary concept and second, strategy is situational and will consequently tend to vary by industry.
2.4.1 A Brief History of Strategy in a Business Context

The origins of strategy can be traced back through history, initially as a military concept. General Ulysses Grant in the 1860’s viewed strategy as:

“the deployment of one’s resources in a manner which is most likely to defeat the enemy” [10].

The application of a structured strategy in a business context can be traced back to the early 1970’s [11].

The history of strategy in the context of business started with the framework of Richard D. Irwin in 1971. This framework defined strategy as a match between what a company is capable of doing within the given environmental circumstances. The company’s capabilities are considered its strengths and weaknesses, while the environmental circumstances are considered as external opportunities or threats. At the time the required techniques to analyze the internal and external environments were not available, which made the practical use of this framework challenging [12].

In 1980, Michael E. Porter’s book, Competitive Strategies: Techniques for Analyzing Industries and Competitors, introduced a range of breakthrough approaches for developing company strategies based on the forces which exist within a given industry [12]. These forces are commonly known as the five competitive forces that shape strategy [13]. Porter’s approach does take the internal capability of the company into account; however it has a strong focus on the competitive positions at industry level.

At a later stage the focus of strategy shifted to a more internal perspective. Emphasis was placed on the internal skills and capability of the company. The strategic quest for a learning organization was deemed essential to achieve a competitive strategic position. The analysis of the industry and external environment received little attention [12].

In the mid-nineties a resources based view of strategy development was suggested. This approach includes both the external analysis and internal perspective promised by Irwin’s original framework [12].

2.4.2 Defining Strategy

As with the definition of innovation there are several different concepts that are suggested in the many different documented definitions of strategy.

There are definitions which consider strategy to be management’s action plan for running the business [14]. Other definitions include the concept of competition, where the aim of a strategy is to gain a competitive advantage in the market. In several definitions the concept of determining long-term goals and objectives is included. The allocation of resources at a high-level is another concept used in the definition of strategy. The definition by A.D. Chandler incorporates the majority of these concepts.

“Strategy can be defined as the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for the carrying out of these goals” [15].
The problem with a single definition for strategy is that it limits the use of strategy and therefore limits the potential benefits companies may gain from a wider application of Strategic Management. Mintzberg addresses this issue by providing five definitions for strategy and discusses the interrelationships between these definitions [16]. Table 1 summarizes these five definitions.

<table>
<thead>
<tr>
<th>Strategy as a ...</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan</td>
<td>Consiciously intended course of action, a guideline to deal with a situation.</td>
</tr>
<tr>
<td>Ploy</td>
<td>A specific “maneuver” intended to outwit an opponent or competitor.</td>
</tr>
<tr>
<td>Pattern</td>
<td>Stream of actions revealing a consistency in behavior.</td>
</tr>
<tr>
<td>Position</td>
<td>Locating a company in the greater business environment. A niche.</td>
</tr>
<tr>
<td>Perspective</td>
<td>Ingrained way of perceiving and interacting with the world. A company’s personality.</td>
</tr>
</tbody>
</table>

Table 1 - Five definitions for strategy [16]

2.4.3 Strategy Hierarchy

An important part of understanding the role, structure and importance of an innovation strategy is to understand other business strategies. More specifically, the way in which traditional business strategies create various layers of a company’s strategy.

In the same way that a company’s organizational structure is seldom completely flat, a company’s strategy also requires hierarchical levels. These levels start with the overall corporate strategy and then filter down into more detailed functional strategies. Three generic hierarchical strategy levels can be defined. These levels are presented in Table 2 [17].

<table>
<thead>
<tr>
<th>Strategic Level</th>
<th>Primary Focus</th>
<th>Questions Answered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate</td>
<td>Scope of business.</td>
<td>What set of businesses should we be in?</td>
</tr>
<tr>
<td>Business</td>
<td>Distinctive competencies and competitive advantages.</td>
<td>How do we compete in a particular business?</td>
</tr>
<tr>
<td>Functional area</td>
<td>Coordination and integration of activities within a single function.</td>
<td>How do we maximize resource productivity?</td>
</tr>
</tbody>
</table>

Table 2 - Hierarchy of strategies [17]

Traditionally the following functional strategies are common in companies:

- Finance and Accounting
- Human Resources
- Information Systems
- Marketing
- Production/Operations
- Research & Development
2.4.4 Rational and Incremental Approaches to Strategy

There has been a well documented debate among business strategists about the pros and cons of rationalist and incrementalist approaches to strategy.

“Rationalist strategy has been heavily influenced by military experience, where strategy consists of the following steps: (1) describe, understand and analyze the environment; (2) determine the course of action in the light of the analysis; (3) carry out the decided course of action” [18].

Tidd [18] goes on to explain that,

“incrementalists argue that the complete understanding of complexity and change is impossible: Our ability both to comprehend the present and to predict the future is therefore inevitably limited.”

Therefore incrementalist strategies evolve over time and are adjusted far more frequently than rationalist strategies. These adjustments are made as uncertainty is reduced through a better understanding of the complexities involved.

Due to the high-levels of uncertainty and complexity associated with innovation, an incrementalist approach would best fit the management of an innovation strategy. Despite our best efforts companies are not able to predict the future with any amount of certainty. This means that even an explicit and documented innovation strategy should be adjusted on an ongoing basis in incremental steps as new certainties reveal themselves.

2.5 Comprehensive Definition of Strategy

A single comprehensive definition for strategy is not possible due to the different roles strategy plays, the different hierarchical strategic levels and even the different strategy development processes.

The best one can do is to highlight concepts, which are prominent in the strategy literature and ensure these are represented in the definition of an innovation strategy. Therefore a strategy is a:

- Determination of long-term goals.
- Conscious and pre-determined action plan to achieve goals.
- Allocation of resources required by an action plan.
- External analysis and an internal perspective.
- Ploy, pattern, position or perspective.
- Corporate, business or functional level strategy
- Rationalist or incrementalist strategy

These concepts are used, along with the comprehensive definition of innovation to develop a definition for an innovation strategy.

3 DUAL ROLES OF AN INNOVATION STRATEGY

In order to develop a comprehensive definition for an innovation strategy the role or purpose of an innovation strategy needs to first be described. In this section the dual roles of an innovation strategy are described.
3.1 The Dual Focus of Innovation

The roles of an innovation strategy are closely linked to the role of innovation in a company. Innovation plays two major roles in the success of a company.

Firstly innovation can play a role in achieving a company’s current corporate objectives by enabling a company to launch innovative products, find innovative ways to enter new markets or improve internal efficiencies. However, achieving current corporate objectives is not the only role of innovation in a company.

Another important role of innovation in a company is to change the company direction, when required. Rather than innovation being used to achieve current corporate objectives, it is the mechanism for changing corporate direction and objectives.

A company which can successfully manage its current business optimally, using continuous improvement and innovation to do things better, while at the same time creating the business of the future, doing things differently, (Figure 2) is known as an ambidextrous company [19].

Based on these dual roles of innovation, two roles for an innovation strategy can be described. The first role is an improvement role. The innovation strategy playing this role can be called an improvement innovation strategy. The second role is a future business role. The innovation strategy playing this role can be called a future business innovation strategy.

3.2 Role of an Improvement Innovation Strategy (Doing Things Better)

In this role an improvement innovation strategy:

- Aligns innovation objectives with corporate objectives.
- Is a guideline on the type, level and impact of innovation required to achieve current corporate objectives.
- Allocates resources between current operations and innovation initiatives.
- Is a plan to best utilize resources for innovation.

The goal of an improvement innovation strategy is to ensure the optimal plan and resource allocation in order to achieve the company’s corporate objectives. Anthony [20] writes:
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“by allocating resources more efficiently and accelerating the highest potential innovations, companies can enjoy a winning streak of innovation successes that will throw competitors off balance.”

3.3 **Role of a Future Business Innovation Strategy (Doing Things Differently)**

In this case the role of an innovation strategy is to help decide when and how to selectively abandon the past in order to focus on the future business (Figure 2). It is about managing the transition between the company’s current S-Curve and its future S-Curve (Figure 3).

The S-Curve reveals how the growth of yesterday’s innovation, which over time has been improved and optimized, eventually starts to decline. Today’s innovation is the key to future growth. Deciding which S-Curve to follow next and when is the correct time for stepping from the old to the new is the role of a future business innovation strategy.

![Figure 3 - Transition between S-Curves](image_url)

Another way of understanding the role of a future business innovation strategy is to look at the different types of strategies presented in Table 1. A future business innovation strategy would be required to consciously change either the pattern, position or perspective strategies of a company. Changing a company’s historic pattern of actions or its position in the business environment or its inherent personality would require a significant departure from the current business and the creation of the future business.

Traditional corporate, business and functional area strategies are required to provide consistency and reduce uncertainty [21]. Therefore these strategies are a stabilizing force in a company allowing the company to concentrate on the detailed operations without having to keep worrying about the long-term direction. This means that once these strategies are set they become a barrier to change and therefore a barrier to innovation. The role of the future business innovation strategy is therefore to counteract this barrier and provide a framework in which these other strategies can be changed if and when required.
Therefore a future business innovation strategy is required to:

- Selectively abandon the past and start a new S-Curve.
- To change pattern, position and perspective strategies.
- Provide a framework to change traditional corporate, business and functional area strategies.

4 DEFINING AN INNOVATION STRATEGY

In both the International and European Journal of Innovation Management not a single result is found when searching for the term “innovation strategy”. This lack of literature about the definition, structure and use of an innovation strategy is reflected in the fact that very few companies have an explicit, documented innovation strategy. Companies, which do include innovation in their overall business strategy either, include it as a company value, a pillar of their overall strategy or as an important attribute of their business.

There are a few definitions of an innovation strategy in the literature, but each of these cover only a section of the overall role of an innovation strategy.

If, in its simplest form a company’s strategy is defined as a plan designed to achieve a particular long-term aim, then an innovation strategy can be defined as a plan, which will enable a company to achieve its long-term goals through the use of innovation.

“An innovation strategy helps firms decide in a, cumulative and sustainable manner, about the type of innovation that best match corporate objectives” [22].

If strategy is defined as a guide for the allocation of resources in order to achieve the company’s objectives then:

“An innovation strategy guides decisions on how resources are to be used to meet a firm’s objectives for innovation and thereby deliver value and build competitive advantage. [22]”

These definitions are in line with the improvement role of an innovation strategy. If the future business role of an innovation strategy is also taken into consideration, along with the identified concepts in the definitions of innovation and strategy then the following, comprehensive definition of an innovation strategy can be defined. An innovation strategy is:

- an incrementalist, functional, predetermined plan governing the allocation of resource to different types of innovations in order to achieve a company's overall corporate strategic objectives and,
- a decision framework guiding a company about when and how it should selectively abandon the past and/or change its corporate strategy and objectives in order to focus on the business of the future.

In the following section these definitions as well as the previously defined roles of an innovation strategy are used to identify the components of an innovation strategy.
5 COMPONENTS OF AN INNOVATION STRATEGY

Based on the different roles and the comprehensive definition of an innovation strategy a set of components for an innovation strategy can be identified. These components provide the structure and content of an innovation strategy.

For the first part of the definition of an innovation strategy components are required to guide innovation selection and to allocate resources. For the second part of the definition components are required to guide the decision making process and to prepare the company for the possibility of significant change.

5.1 Components for Guiding Innovation Selection

These components are required to guide the selection of innovation initiatives. The type, level, impact and risk profile are four components which can be used to define the required portfolio of innovations and guide the selection of new innovation initiatives.

The innovation strategy describes the required blend of innovation types, levels, impacts and risks required to support the company’s strategic objectives. This then allows the gates and filters in the innovation process to be tuned to achieve this blend. Therefore, once the innovation strategy is aligned with the corporate strategic objectives the innovation process will ensure the correct innovation initiatives are selected in order to achieve those strategic objectives.

5.2 Components for Allocating Innovation Resources

These components are required to guide the allocation of resources for innovation. The distribution of resources for innovation is influenced by three main factors these are the ratio between innovation resources and operational resources, who will be involved in the innovation activities and where the innovation activities will take place. Based on these factors three innovation strategy components can be identified. These components are; collaboration, place and resources.

The resource component includes the split of resources between operating the current business, executing innovation initiatives and improving the company’s capability to innovate.

The place component helps balance the types of resources which are required. In-house innovation requires more internal personnel while outsourced innovation requires less internal personnel but often more financial resources. Greenfields innovation involves spinning out a new company or business unit. This often requires both high-levels of internal personnel and financial resources.

The collaboration component also has an influence on the level of human and financial resources. If the innovation is closed, more internal resources and capabilities are required. If however open innovation is applied less internal personnel are required but more financial resources are needed.
5.3 Components for Guiding the Decision Process and Preparing for Change

These components are required to guide the decision process regarding the future business of the company as well as to determine the required capability of the company to adapt to the future business.

The driver component describes the various external drivers, which at some point in the future will require the company to abandon the past and create its future business. The innovation strategy provides guidance on which drivers the company should focus.

The maturity component describes the current capability of the company to successfully innovate and the maturity improvement path the company should take in order to be prepared for its future business.

5.4 Nine Components of an Innovation Strategy and Options for Each

Therefore, nine components have been identified as crucial for an innovation strategy in order for the strategy to fulfill the roles described and align with the comprehensive definition defined. The components of an innovation strategy are presented in Figure 4.

![Diagram of innovation strategy components]

**Figure 4 - Components of an innovation strategy**

Each component has several options, which either lie along a continuum or are discrete. These options need to be understood and selected by a company when developing an appropriate innovation strategy (Table 3).

For example, the four components for guiding innovation selection each have a blend of options. A specific innovation strategy could therefore require:

- Innovation type: 30% product, 20% process, 50% strategic
- Innovation level: 20% incremental, 50% semi-incremental, 30% radical
- Innovation impact: 10% disruptive, 90% sustaining
- Risk profile: 30% low risk, 40% medium risk, 30% high risk
Table 3 - Components and options of an innovation strategy

The combination of options for each strategy component influences the way in which a company develops its innovation process and capabilities.

The appropriate combination of options for each of the innovation strategy components depends on the industry in which the company operates, the current and medium-term economic conditions, the company’s other business strategies and the company’s internal capabilities and resources.

6 CONCLUSION

In order to develop a comprehensive definition for an innovation strategy the definitions of innovation and of strategy first had to be separately understood. The different roles of an innovation strategy also had to be described.

6.1 Definitions for Innovation and Strategy

Defining what is an innovation strategy is a difficult task due to the many and varied definitions for both innovation and strategy. In its simplest form the definition of innovation is a new or novel idea which adds value. There seems to be no simple definition for strategy. A strategy plays several significant roles in managing a company. These range from charting a direction, describing the way in which a company tries to gain a competitive advantage to allocating resources.

6.2 Different Roles of an Innovation Strategy

Two distinct roles for an innovation strategy are described. They are an improvement innovation strategy role and a future business innovation strategy role. The improvement innovation strategy plays a role in doing current things better in order to achieve current strategic objectives. The future business innovation strategy plays a role in selectively abandoning the past and selecting the business of the future.
6.3 Definition of an Innovation Strategy

It is clear that an innovation strategy needs to function across the different hierarchical strategy levels in a company. At one level an innovation strategy is a functional strategy used to plan the allocation of resources for innovation and to guide the selection of the type, level, impact and risk profile of innovation initiatives.

At another level it is a decision framework assisting corporate management to decide when to abandon their past and focus on the business of the future. At this level it no longer supports the traditional corporate strategy, but aims to change the very nature of the company.

6.4 Components of an Innovation Strategy

Based on the definition and the described roles of an innovation strategy nine components of an innovations strategy are identified.

The identified components of an innovation strategy play a role in supporting the different functions of an innovation strategy. The type, level, impact and risk profile components are mainly used to guide innovation selection. The collaboration, place and resource components influence the distribution of resources for innovation. The maturity and driver components prepare the company to innovate their future business.

The balance between the different options in each of the innovation strategy components has many influencing factors; including the industry, the economic conditions and the internal capabilities of the company. The development of an appropriate innovation strategy for a specific company, based on the identified components and options, is significantly influenced by these factors.

The significance of each factor on each of the innovation strategy components is yet to be determined. The next phase of this research into innovation strategy will concentrate on the various factors influencing the innovations strategy and will try developing an approach for a company to analyze these factors and then decide on an appropriate innovation strategy for its specific circumstances.

7 REFERENCES

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