Paper PD11

Applied Strategy: The Human Touch to Success

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ABSTRACT

Successful strategy implementation within the data science industry requires emergent strategies to quickly adapt to regulatory and industry standards, which are ever-evolving. From a business perspective, strategy includes identifying; mission setting and agenda setting, diagnosing; external assessment and internal assessment, conceiving; option generation and option selection, and realizing; action taking and performance control. "The successful strategic thinker is guided by a clear business concept based on a thorough understanding of the economics of his business and of the success factors in his industry" (Morrison & Lee, 1979). From a professional development perspective, understanding the business-level strategies and the corresponding risks and benefits empowers targeted growth and transparent knowledge. Knowledge provides an intentional opportunity to focus on performing differently or different activities to help reach individual and organizational goals. To do so successfully requires aligning values, transparency, and filling an unmet need.

INTRODUCTION

Applied strategy within the data science industry requires emergent tactics to quickly adapt to regulatory and industry standards, which are ever-evolving. From a macro business perspective, strategy includes identifying; mission setting and agenda setting, diagnosing; external assessment and internal assessment, conceiving; option generation and option selection, and realizing; action taking and performance control. "The successful strategic thinker is guided by a clear business concept based on a thorough understanding of the economics of his business and of the success factors in his industry" (Morrison & Lee, 1979). From a professional development perspective, understanding the business-level strategies and the corresponding risks and benefits will empower targeted growth and transparent knowledge of individual applied strategies. With strategic knowledge in hand, one can have an intentional opportunity to focus on performing differently or different activities to help reach individual *and* organizational goals. To do so successfully requires aligning values, transparency, and filling an unmet need.

STRATEGY

Strategy is a comprehensive process that allows for a profound understanding of unmet needs, core competencies, competition, and stakeholders. Strategy is not just crucial but empowering and knowledge-enhancing. While the comprehensive process is more commonly applied at a macro business level, the same opportunities for application are present for individual growth when the strategy is applied at a micro-individual level. The inputs used to formulate a strategy, regardless of the application being at a macro or micro level, include identifying opportunities and risks, values and behaviors, visions and aspirations, the mental model of what is achievable, and acknowledging social responsibilities.

BUSINESS AND INDIVIDUAL STRATEGIES

Strategic Management defines business-level strategy as, "an integrated and coordinated set of commitments and actions the firm uses to gain a competitive advantage by exploiting core competencies in specific product markets" (Hitt, Ireland & Hoskisson, 2013). The five generic business-level strategies include cost leadership, differentiation, focused cost leadership, focused differentiation, and integrated cost leadership/differentiation. Each strategy has risks and benefits, while the purpose is either to "perform activities differently or to perform different activities" (Hitt, Ireland & Hoskisson, 2013). However, according to Treacy and Wiersema, this can be consolidated into three categories: cost leadership strategy, differentiation strategy, and customer intimacy strategy – Porter agrees. Within the data science industry are various types of organizations: pharmaceutical, contract research organization (CRO), and software – all of which have diversified business-level strategies. It is helpful, but not mandatory, for professional development individual strategies to be aligned with the business-level strategy. This paper will further explore generic business-level strategies and how each can be applied to data scientists' professional development.

COST LEADERSHIP

The cost leadership strategy also referred to as the operational excellence strategy, is the simplest of the three, with the overall goal of becoming the lowest cost producer in the industry, which is led by the operations business function. "An integrated set of actions taken to produce goods or services with features that are acceptable to customers at the lowest cost, relative to that of competitors" (Hitt, Ireland & Hoskisson, 2013). The advantage of this strategy includes operational superiority; the process is standardized, which has lowered overhead costs, all while holding a minimal inventory through stringent controls (DeWit, & Meyer, 2013). The disadvantages of the cost leadership strategy include pricing limitations, which cannot be below the average rate of return for an extended period, the possibility of the products becoming obsolete, or imitation by competition becoming acceptable to target markets (Treacy & Wiersema, 1993). Within the data science industry, cost leadership is achievable when economies of scale are possible. For example, worldwide leading drug manufacturers. Applying and aligning this strategy may include implementing relevant changes that have a macro impact on cost. For example, implementing automation through artificial intelligence software or machine learning or creating company macros that improve operational performance.

DIFFERENTIATION

The differentiation strategy, referred to as product superiority strategy, is led by R&D and HR business functions. Differentiation Strategy is "an integrated set of actions taken to produce goods or services at an acceptable cost customers perceive as being different in ways which are important to them" (Hitt, Ireland & Hoskisson, 2013). The differentiation must be valued enough by the consumer to pay a premium price which will offset the additional cost to the business paid for the "unique factor", as well as the additional marketing expenses. The advantages of this strategy include innovation and low bureaucracy, allowing for speed in turning ideas into implementation. The disadvantages include the risk of misinterpreting what the consumer wants, which may become realized after R&D monies have already been invested. Alternatively, it is what the customer wants, but the customer does not see enough value in the unique factor equal to (or worth) higher cost (Treacy & Wiersema, 1993). This strategy utilizes customer intimacy and product superiority. Commonly this strategy approach is successful with software companies. If software development or even emerging trends that allow for standard operating practices which can be automated, or machine learning poses a high opportunity for alignment with this professional development strategy.

CUSTOMER INTIMACY

The customer intimacy strategy is defined as "segmenting and targeting markets precisely and then tailoring offerings to match exactly the demands of those niches" (Treacy & Wiersema, 1993). Marketing and Advertising are the leading business functions. This strategy is driven by customer demanded customizations. The customizations are offered at a significantly higher price and are available whenever the customer demands. The disadvantage of this strategy includes the risk of out-of-stock issues which can result in the loss of a lifetime customer, acceptable substitute options available, and inconsistent pricing from the consumer's perspective. This can result when the business thinks they know better than the customer. This strategy can be very successful in contract research organizations. Often, biometric leaders, people leaders, and project managers are attracted to this strategy.

FOCUS

The focus strategy which is not agreed by Treacy and Wiersema as a distinct business level strategy, however Porter, Hitt, Ireland & Hoskisson believe it is. Hitt, Ireland & Hoskisson break down into two types: a focused cost leadership strategy and a focused differentiation strategy. The single difference between a focused cost leadership strategy and a focused differentiation strategy is the breadth of focus; the focus strategy is narrow in scope. Otherwise, the same advantages and disadvantages are present as with the cost leadership strategy and differentiation strategy. Successful application of any of the strategies requires tools.

STRATEGIC MANAGEMENT TOOLS

Within organizations, leadership plays a pivotal role in strategy formulation, deciding on the key information necessary for strategy success and the tools to acquire it. It is well served to understand the influences of environmental scanning and stakeholder analysis, particularly regarding individual-centric strategies. Alternatively, market analysis, for instance, can be used to segment the market, thereby maximizing individual competitive advantages and minimizing strategic disadvantages. Based on professional strategies, planning can take multiple forms, as will be further reviewed during the objective of the strategic planning phase. Additionally, data scientists will benefit from utilizing their networks to support their professional strategy. The three subcategories or networks are operational teams, strategic networks, and developmental networks. These networks will prove to be invaluable in defining and meeting the objectives of strategic planning.

OBJECTIVE OF STRATEGIC PLANNING

Mintzberg & Water define strategy as, "a pattern in a stream of decisions" (Mintzberg & Water, 1985). This definition further allows the sub-categorization of strategy as deliberate or intended and emergent or unintended. While it is rare for a strategy to meet the three criteria necessary for a purely deliberate strategy, more often, strategies will fall under one of the following eight forms:

- Planned Strategy originates from formal plans; the benefit is authority is in control of in great detail with the goal of implementation. The disadvantage is the plans are so detailed it is very difficult to execute, especially when factors such as environmental are out of the firm's control.

- Entrepreneurial Strategy is accepted by players usually within small organization from a central vision. The advantage when applying in such a young firm vision can also emerge in route the strategic leader can react quickly to reformulate the vision. The disadvantage again is there is the lack of control over environmental factors.

- Ideological Strategy is embraced by players from shared beliefs. The advantage is there is not one sole leader implementing the change, it is a group. The disadvantage is the collective group must buy-into the change, which may be highly resistant.

- Umbrella Strategy is formed through guidelines and boundaries for players operating from constraints. The advantage is the lax in control, either from a single party or group. The disadvantage is that the central group of management may have great ideas, without the buy in from others, which may result in halting or delaying moving the company in a direction (emergent or deliberate).

- Process Strategy allows leadership influence indirectly through process. The advantage is management does not focus on the uncontrollable environment but rather exercises influence indirectly. The disadvantage is even through indirect influence management and the selected division managers there is a lack of control resulting in the same disadvantages the umbrella strategy is faced with.

- Unconnected Strategy is tied to/from a subunit or individual. The advantage is the ability to make autonomy in deciding the strategy. The disadvantage is that the deliberate strategy is hard to identify and understand.

- Consensus Strategy is a mutual adjustment among different actors. The advantage is the emergent strategies are formulated by mutual adjustments, not forced intentions of the organization. The disadvantage is there is no control over the amount of influence or lack thereof is provided by each player in forming the mass consensus.

- Imposed Strategy is controlled through the environment. The advantage is the strategy is not working against or ignoring the uncontrollable environmental factors. The disadvantage is the small possibility of choice. Additionally, it is rare that only environmental factors will drive strategy (Mintzberg & Water, 1985).

ISSUES INVOLVING STRATEGY FORMULATION

"The most important problem involving strategy formulation is failing to distinguish planning from strategizing" (Hamel, 1996). The school of thought is too high a focus on process, planning, and forecasting will produce virtually no results. The same is true in personal development – there are many paths towards reaching the attainable strategy, and one should be prepared to be flexible along the way. Within the data science industry, many external forces such as the economy, technology, regulations such as GDPR or CCPA, and competition influence the data science business and individual strategies. Some factors may be predictable, however social, cultural, and environmental influences are less easy to predict. Agility during predicted and/or unpredicted landscapes which impact competition should be forefront within every strategy formulation.

CONCLUSION

Within organizations, leadership invests in awareness of the competition, the business environment, the business's core competencies, and key stakeholders, allowing for the creation of an attainable strategy. These same skills can be used for professional development within the data science industry. It is vital to embrace emergent strategies and adaptation to changes. Business and individual strategy alike should never be considered blueprints set in stone; rather, strategies need to be accurate, flexible, and reassuringly adaptable to changes regardless of the model of the initial strategy formulation.

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