One of the most awkward conversations I have ever had was with someone who simply refused to believe that anything as abstract as “analytics” could possibly be real. The conversation culminated in his rather backhanded compliment that, and I paraphrase, “I was lucky to have ended up in an industry where it was so easy to make things up.”
INTRODUCTION

Business analytics, when successfully executed, plays multiple roles within an organization. It:

- Supports strategic planning
- Creates competitive advantage
- Delivers tactical value

Everything needs a starting point. While we will get into detail of how to successfully overcome common barriers in later chapters, this chapter is primarily focused on giving a basic grounding as to why business analytics almost inevitably forms a cornerstone strategic enabler.

Within this chapter we will examine the key driver of market success: the ability to develop competitive differentiation. To do this, we will review four different perspectives on how organizations create competitive advantage through strategic planning:

1. The Traditional Perspective: SWOT Analysis
2. The External Perspective: Porter’s Five Forces
3. The Internal Perspective: The Resource-Based View of the Firm
4. The Market Perspective: Wilde and Hax’s Delta Model

Each of these approaches provides a structured process to identify and nurture competitive differentiation. By examining the assumptions behind and execution of these different perspectives, we will uncover the critical role business analytics invariably plays within each. And, by doing so, managers can consciously map their tactical activities into strategic outcomes, raising the profile of their work within the organization.

After establishing the importance of business analytics in effective strategic planning, we will look into how it supports innovation, invention, and agility. And finally, we will briefly review the biggest reason why business analytics is different from most initiatives: its ability to deliver constant incremental returns with relatively low investment.

BUSINESS ANALYTICS: A DEFINITION

Before we start examining the role of the organization in an economic context, it is important to quickly review what is meant by “business analytics” and why it is different from pure analytics or “advanced analytics.”

The cornerstone of business analytics is pure analytics. Although it is a very broad definition, analytics can be considered any data-driven process that provides insight. It may report on historical information or it may provide predictions about future events; the end-goal of analytics is to add value through insight and turn data into information.

Common examples of analytics include:

- **Reporting**: the summarization of historical data
- **Trending**: the identification of underlying patterns in time series data
- **Segmentation**: the identification of similarities within data
- **Predictive modeling**: the prediction of future events using historical data
All of these applications of analytics have a number of common characteristics:

- They are based on data (as opposed to opinion).
- They apply various mathematical techniques to transform and summarize the raw data.
- They add value to the original data and transform it into knowledge.

Broadly speaking, various applications of analytics can be divided into two categories. Activities such as business intelligence, reporting, and performance management tend to focus on what happened—they analyze and present historical information.

Advanced analytics, however, aims to identify:

- Why things are happening
- What will happen next
- What is the best possible course of action

The distinguishing characteristic between advanced analytics and reporting is the use of higher-order statistical and mathematical techniques such as:

- Operations research
- Parametric or nonparametric statistics
- Multivariate analysis
- Algorithm-based predictive models (such as decision trees, gradient boosting, regressions, or transfer functions)

Business analytics in turn leverages all forms of analytics to achieve business outcomes. It seems a quibbling difference, but it is an important one—business analytics adds to analytics by requiring:

- Business relevancy
- Actionable insight
- Performance measurement and value measurement

There is a great deal of knowledge that can be created through applying various forms of analytics. Business analytics, however,
makes a distinction between relevant knowledge and irrelevant knowledge. A significant part of business analytics is identifying the insights that would be valuable (in a real and measurable way) given the business’s strategic and tactical objectives. If analytics is often about finding “interesting” things in large amounts of data, business analytics is about making sure that this information has contextual relevancy and delivers real value.

Once created, this knowledge must be acted on in some form for value to be created. Whereas analytics focuses primarily on the creation of the insight and not necessarily on what should be done with the insight once created, business analytics recognizes that creating the insight is only one small step in a larger value chain. Equally important (if not more so) is that the insight be used to realize the value.

This operational and actionable point of view can create substantially different outcomes when compared to applying pure analytics. If the insight is considered in isolation, it is quite easy to develop a series of outcomes that are impossible to execute on within the broader organizational context. For example, a series of models may be developed that, although extremely accurate, are impossible to integrate into the organization’s operational systems. If the tools that created the models are not compatible with the organization’s inventory management systems, customer relationship management systems, or other operational systems, the value of the insight may be high but the realized value negligible.

By approaching the same problem from a business analytics perspective, the same organization may be willing to sacrifice model accuracy for ease of execution, ensuring that economic value is delivered even though the models may not have as high a standard as they otherwise could have. A model that is 80 percent accurate but can be acted on creates far more value than an extremely accurate model that cannot be deployed.

This operational aspect forms another key distinction between analytics and business analytics. More often than not, analytics is about answering a question at a point in time. Business analytics, however, is about sustained value delivery. Tracking value and measuring performance therefore become critical elements of ensuring long-term value from business analytics.
ROLE OF THE ORGANIZATION

To understand how business analytics helps create competitive advantage, it helps to revisit the role of the organization in the market and society. Because business analytics requires *business relevancy*, creating real competitive differentiation requires a strong comprehension of *why* organizations exist. By understanding these drivers, one uncovers the critical role analytics plays in enabling competitive advantage.

Private Sector Perspective

There are multiple perspectives on the role of the organization in the private sector. Some of the most common reasons include:

- To increase the efficiency of converting inputs into value-added outputs
- To deliver a return to shareholders
- To jointly benefit stakeholders

Organizations do not exist within a vacuum. They operate in what is often a highly complex interexchange with other organizations, individuals, and regulatory forces. Not surprisingly, a great deal of research has been conducted into why organizations form in the first place.

*Value-Added Transformation*

In principle, all of the elements necessary to produce a given output already exist in the market (in an economic sense). If this is the case, why should organizations appear?

One of the original (and most influential) perspectives on why this formation takes place was developed by Ronald Coase in the early twentieth century. Coase’s argument was that the formation of an organization is an economically efficient outcome where there exists the opportunity to benefit from longer-term arrangements but the market cannot support such an arrangement. This holds true within the neoclassical perspective of the market, where decisions are instantaneous and isolated.
Fundamentally, the role of organizations within this context is to achieve prices lower than the market would generate in equilibrium through reducing (or eliminating) market-based transactional costs. Although it has been generally acknowledged since that this is somewhat of an oversimplification and that the neoclassical view of the market has various limitations, it is still an important perspective in that it emphasizes the importance of internal efficiencies in economic success.

**Profit-Making Enterprise**

Another common perspective is that the role of the firm is to maximize shareholder value. This perspective, often supported within the value-based management field, emphasizes the role of the firm as an instrument of its owners to deliver sustainable economic return. Quantitative (and often financial) measures such as revenue, working capital, and the duration of competitive advantage are identified as success criteria.

Importantly, maximizing shareholder value within this point of view does not necessarily mean purely short-term economic benefits: Factors such as reputation, trust, and longer-term investments can and should play a significant role in decision-making processes. For example, taking advantage of limitations in foreign regulation around managing toxic assets may lead to a short-term reduction in manufacturing costs. However, this short-term cost efficiency advantage could turn into a longer-term brand and value issue should these toxic assets create health concerns in the general public.

Balancing these and understanding the longer-term picture (and not just the short-term opportunities) is a critical component of effective value-based management. One of the critical elements of this point of view is the emphasis it places on market performance.

**Maximizing Stakeholder Value**

A final perspective is that the role of the firm is to maximize stakeholder value. A key distinction is made between shareholder value and stakeholder value: Within this point of view, while shareholders are a key stakeholder, they are not the only stakeholder. Equally important
is ensuring that all involved stakeholders (employees, partners, and society in general) benefit. This perspective is heavily normative and emphasizes social responsibility over profitability; it argues that sustainable profitability is a natural byproduct of pursuing stakeholders’ joint interests.

This point of view reinforces a final critical component of the firm: the role and satisfaction of stakeholders in achieving success. If the role of the organization is to increase aggregate social welfare, benefiting all involved stakeholders is the most efficient way of maximizing total utility. By doing this, the organization works toward Pareto optimality, a situation where no individual can be made better off without making another individual worse off.

**Public Sector Perspective**

The role of the public sector has a similarly varied series of perspectives. Some of the most common reasons for the existence of public sector organizations include:

- To intervene to mediate and resolve various forms of market failure
- To increase social welfare
- To provide for national security and economic stability

**Prevention of Market Failure**

The free market has a wide variety of advantages. As Adam Smith identified over 200 years ago, it is a highly efficient mechanism for moving toward optimal pricing efficiency. And while the ideals of a Walrasian auction (where perfect equilibrium is achieved between supply and demand) are arguably impractical, prices do tend to exhibit greater efficiency where the conditions of a free market are met.

However, not every situation allows for these characteristics. An organization may produce pollution as a byproduct of manufacturing, impacting society as a whole. As this hidden cost (also known as a negative externality) is not explicitly carried by the organization in a free market, society as a whole is made worse off. Equally, imbalances in
access to information (also known as *information asymmetries*) can lead to inefficient pricing where one party takes advantage of the other.

One perspective is that the role of public sector organizations is to minimize the occurrence and impact of these market failures. Through appropriate application of regulation and public investment, market failures can and should be prevented. This perspective emphasizes efficiency in the form of interference only where necessary. If the net impact of a policy would have created a disproportionate cost in policy creation and administration when compared against market efficiency improvements, the policy should not have been enacted in the first place. Within this context, efficiency is key: The role of the government is both to operate efficiently and to ensure the market is operating efficiently.

*Welfare and Net Utility Creation*

Another perspective, one highly grounded in normative economics, is that the role of the public sector is to maximize social welfare, often through minimizing income inequalities for the broader good. *Social welfare* within this context is often defined as the aggregation of individual measures of welfare, emphasizing measures including wealth, utility, or more recently, estimates of life satisfaction and happiness.

Within this point of view, the role of the public sector is to actively shape the market to maximize social welfare. Pareto efficiency is the end goal, where no individual can be made better off without making another individual worse off. A wide range of outcomes are targeted, including minimizing market failure, limiting income inequalities, and focus public sector investment on ensuring macro- and microeconomic stability and growth.

This point of view emphasizes effective information management and policy consideration. Without excellent access to various measurement devices and market indicators, it is impossible to track welfare gains. By measuring welfare gains in the form of industry concentration, well-being, or any other number of social elements, policies can be individually assessed in terms of their positive or negative influence on society as a whole. Policy is often created through multiple instruments in a relatively complex manner and considering the interactions between these instruments is critical.
Security and Stability

A final commonly held view of the role of the public sector is that it is an agent of growth and stability. Threats exist nationally and internationally across both economic and security spheres of activity and the role of the public sector is to identify, mitigate, and eliminate these risks where possible. This may take the form of macroeconomic policy focused on encouraging investment, the creation of domestic and internationally focused security agencies and military operations, or targeted market regulation or deregulation to generate competitive efficiencies and regional centers of excellence.

This point of view emphasizes the role of the public sector as caretaker and strategic visionary, tasked with identifying strategic direction and minimizing risk. Macroeconomic and risk modeling is a key element in this approach, as limited resources must be deployed for maximum gains.

REASONS BEHIND STRATEGIC PLANNING

At the highest level, these reasons are fairly straightforward. As is commonly the case, the devil lies in the details—achieving these outcomes is rarely guaranteed. Success requires a plan.

Developing a Plan

As a rule, we are a fairly motivated species, regardless of whether one is talking about individual performance or organizational performance. As individuals, we typically seek opportunities for professional or personal advancement. As organizations, we typically seek opportunities for financial or social improvement. In both situations, we leverage the resources that are available to us in order to achieve our desired outcomes.

However, success does not normally occur without effort. At an individual level, we deal with personal limitations and environmental challenges that have the potential to undermine our success. At an organizational level, we face competitive challenges and regulatory constraints. The opportunities in front of us are often real; the difficulty is in determining the best route to achieving them.
To help identify this path to profitability, we need a plan of some form. And that, fundamentally, is the role of strategic planning within an organization. Through applying the principles of strategic management, leaders aim to:

- Identify longer-term opportunities
- Understand their current advantages and limitations
- Develop a plan to achieve their target opportunities
- Manage challenges in such a way as to limit or negate them

In the private sector, these are often steps toward developing a sustainable competitive advantage in some form. In the public sector, they are often steps toward achieving particular policy outcomes or production efficiencies when benchmarked against comparable peers. In both cases, however, planning is a means to an end: It articulates a series of steps that, if taken, will hopefully lead the organization to a stronger position.

Success Requires Change

By definition, successfully achieving this outcome almost always involves change in some form. Part of effective strategic planning therefore involves understanding the impact of these changes, providing the organization with sufficient compelling reasons to make those changes, and managing the change as it happens. Because of this, strategic planning can also be seen as a process to create organizational transformations and identify sources of competitive and comparative advantages.

The specifics behind this planning process vary by organization, culture, and philosophical alignment. Some of the most common models include:

- The traditional view, represented by SWOT analysis
- The external view, represented by Porter’s Five Forces and generic strategies
- The internal view, represented by the resource-based view of the firm
- The market view, represented by the Delta model
One of the biggest reasons for the importance of business analytics is that it inevitably has a role as an enabler in creating sustainable competitive advantage, regardless of which perspective (or combination of perspectives) is used.

An essential point leading from this is that a tight relationship often exists between the application of business analytics and the creation of competitive advantage. Because of this, effective use of business analytics almost inevitably means relating it back to specific organizational objectives. In other words, what works for one firm may not work for another. Different organizations have different business models, different focuses, and different cultures—because of this, it is rare that exactly the same application of analytics will work as effectively in two different contexts. Competitive advantage comes from differentiation, not replication.

Retailers provide an excellent example of how significant a difference this can be. One retailer may have built its differentiation around being the lowest-cost provider in the market. To achieve this, it may have deployed a variety of supply-chain management and cost-monitoring solutions, focusing on logistics and using technologies such as radio-frequency identification (RFID) to assist with low-cost/high-visibility goods monitoring. In this retailer’s context, leveraging operations research to support supply-chain optimization may make a great deal of sense: There is a strong culture of cost minimization, the retailer has the required supporting operational systems to facilitate model deployment, and it builds on the retailer’s existing competitive advantage.

Another retailer may have a focus on customer engagement, using that to seek higher prices in the market. It may put a priority on one-to-one customer relationship marketing, providing highly personalized offers and seeking customer loyalty and overall share of wallet. In this retailer’s context, it may find significant benefits in using segmentation and cross-sell/up-sell models to increase offer relevancy across its customer base. Using this approach will likely fit in well with this retailer’s already-in-place campaign execution systems and will require relatively minimal cultural change.

While each organization would benefit from trying to transplant the other’s analytical application, they are each also likely to
experience a harder time achieving success. This is not because the analytics approach does not add value; it is because the organizations are operating in different contexts. Understanding this context and ensuring the analytical application fits well within the organization’s unique competencies and focus are essential.

In practice, each of these models is leveraged within a generally stereotypical planning process, as shown in Figure 2.1.

Equally important as identifying which planning approach to use is identifying the appropriate level at which planning will take place.

**Strategic Planning Occurs at Multiple Levels**

Planning is needed within every area of the organization. Within the context of creating deliberate organizational change, it is useful to consider planning as occurring at three levels:
1. Organizational
2. Business
3. Functional

The relationships between these and their target outcomes are described in Figure 2.2.

**Organizational Planning**

At the highest level is organizational planning. Within the private sector, this level typically focuses on identifying the markets where the organization will or will not compete, targeting acquisitions or creating key competencies and cultures. For example, a bank may have a strategic objective of increasing its footprint within a particular geographic region. Or, a telecommunications company may have a strategic objective to expand its role within the information value chain.

Within the public sector, the focus tends to be on policy objectives and the high-level allocation of resources for public benefit. For example, a department tasked with ensuring state-level or national competitive efficiency might set an objective of minimizing monopoly rents to maximize public welfare. At this level, the planning process is normally the responsibility of the most senior individuals within the organization.

**Business Planning**

Strategic planning at the business level focuses more on the individual strategies that will lead to the broader organizational strategies. Business planning may include the creation of competitive differentiation, cost minimization, or vertical integration. It is normally focused more on identifying ways of achieving levels of competitive or comparative advantage and less on deploying and managing operational units.

Within the private sector, business-level strategic planning identifies the actions needed in the market to achieve competitive dominance. For the same bank discussed earlier, its primary business-level strategy may involve identifying and building a dominant retail
Figure 2.2 Levels of Strategic Planning

TARGET OUTCOMES

- Company vision
- Key markets
- Target culture
- Organizational structure

- Competitive differentiation
- Environmental response
- Sustainability
- Target outcomes

- Operational planning
- Business execution
- Resource management
- Departmental management
network leveraging joint-investment partners in the region it is interested in growing. For the telecommunications company, it may be around consolidating its position within the information consumption chain by providing value-added information matchmaking services.

Within the public sector, the focus is often on the programs and policy needed to achieve various outcomes. For the same department discussed earlier, it may involve focusing on specific industries with heavy capital investment (such as telecommunications or the electrical utilities). Whereas competitive advantage is often a driving factor in the private sector, relative efficiencies compared to peers is often used as a primary measure within the public sector. At this level, the planning process is often owned by the more senior individuals within the organization but developed jointly with functional or departmental heads.

**Functional Planning**

Strategic planning at the functional level focuses on the operational activities needed to achieve the objectives outlined at the business level. *Functional planning* normally revolves around processes and resources. Activities at this level are the most specific, often dealing with detailed execution plans and individual resources. For the same bank, the plan may involve conducting a series of location studies to identify comparative market potentials, developing a series of partner engagement models, and starting a series of jointly funded capital works programs. For the telecommunications company, it may be the progressive creation of content, an investment in automated content categorization and information matchmaking technology, along with a series of targeted campaigns aimed at delivering relevant content to high-potential users.

At this level, the target outcomes from strategic planning are largely similar within the public sector. Our competitive efficiency department may focus on delivering a project to identify relative levels of market concentration within global markets, a progressive benchmarking of local companies along with assessments of relative market power, and then a series of policy recommendations aimed
at improving overall competition levels. Planning at this level is typically owned by functional or departmental heads.

**Intentional versus Opportunistic Planning**

Developing these plans can be a relatively complicated process, especially given the varying levels of internal and external uncertainty many organizations experience. For organizations dealing with stable markets, planning may be easy; the future will likely look much like the past.

Alternatively, for organizations dealing with highly volatile markets or goods that cross multiple segments, accurately predicting market outcomes over a typical planning horizon can be extremely challenging. This is especially true when organizations deal with products that are going through high levels of convergence. The relatively fast rise and fall of PDAs when smartphones blurred the boundaries of the two markets provides a very real example of how difficult planning can be!

Regardless of where the organization sits, every organization needs a plan. These strategic plans are often created in two ways: *intentional* planning and *opportunistic* planning.

Intentional planning follows a deliberate methodology and remains the focus of this chapter. Depending on the perspective chosen, this methodology may vary. However, its key characteristics include a series of normally predefined planning steps, a deliberate consideration of various influences, and a horizon that extends relatively far into the future.

A key advantage in using this approach is that substantial change over relatively long periods of time can be explicitly defined and worked toward; effective intentional strategic planning coupled with deliberate execution can grow and transform an organization. A key weakness, however, is the degree to which short-term opportunities can be overlooked by focusing too heavily on the desired end state.

Opportunistic planning forgoes this level of long-term intention for flexibility and tactical delivery. Instead of following a predefined
methodology and identifying a desired end state relatively far into the future, managers seek incremental tactical improvements that broadly lead toward an often generally described end state. For example, rather than strictly defining desired outcomes in specific regions or markets, an opportunistic plan may be driven on “grow revenues by a set percentage.”

This approach tends to work well in situations where outcomes are highly subject to change due to prevailing market conditions, where internal stability is insufficient to plan beyond a relatively short horizon, or where management commitment to longer-term goals is relatively weak. However, a key trade-off in using this approach is that it is easy to be diverted; by planning on such short horizons, it is difficult to maintain direction for significant periods of time.

Regardless of whether intentional or opportunistic planning is used, the end goal of strategic planning is normally to create a competitive or comparative advantage of some form. As such, for the remainder of this chapter we will consider a variety of models that provide structure around strategic planning and discuss how business analytics inevitably acts as a source of competitive advantage within each of these models.

BUSINESS ANALYTICS AND THE TRADITIONAL VIEW

The classic view of strategic planning involves a fairly standard process that:

- Establishes a desired end-state
- Profiles the organization’s current context
- Creates a plan

The first step of this process typically involves identifying high-level organizational target outcomes. The planning process then focuses understanding where the organization sits relative to its environment. This situational analysis then drives the creation and execution of a strategy to achieve the identified targets, creating organizational change as an implicit requirement.
SWOT Analysis

This situational planning involves considering a variety of internal and external factors in turn, each of which has the potential to either create or destroy value within the organization. Often called a SWOT analysis, this process focuses on identifying organizational:

- **Strengths**
- **Weaknesses**
- **Opportunities**
- **Threats**

The organization’s strengths are competencies and assets that can be leveraged to create competitive advantage. Common examples include brand, production efficiencies, research and development capabilities, and access to unique resources. If effectively leveraged, these are often the driving force behind effective product differentiation.

The organization’s weaknesses are often either the counterbalancing force against a strength or a gap in competency. Common examples include a large organization’s lack of agility, an inability to effectively capitalize on the information assets owned by the firm, or an overly complex supply chain leading to high costs. If not appropriately managed, weaknesses create opportunities for other firms to create competitive advantage.

The organization’s opportunities are external conditions that, if appropriately realized, lead to success in some form. This success may be market growth, it may be increased revenue streams, or it may be improved policy outcomes such as lower rates of criminality within society. Opportunities represent areas of potentially successful outcomes.

The organization’s threats are potential changes in the external environment that, if they occur, may prevent the organization from achieving the opportunities it has identified. Common examples include a new entrant into the market, a shift in consumer preferences, or a significant change in macroeconomic conditions.
Strategic Planning Using SWOT Analysis

Once these factors have been considered and enumerated, the organization goes through a process of matching and converting to develop a variety of value-creating strategies. “Matching” involves mapping strengths to opportunities, looking for ways to establish a competitive advantage. For example, a heavily vertically integrated bricks-and-mortar retail organization with strong supply-chain efficiency through automation might have significant success moving into the online market, leveraging its experience in logistics to automate shipping given a customer order.

“Converting” involves identifying strategies that transform weaknesses or threats into strengths or opportunities. At best, these strategies aim to overcome these value-destroying factors. At worst, they aim to neutralize them. For example, an organization that is facing potential profitability issues due to national economic conditions might consider expanding its sphere of operations to regional markets, minimizing its risk through spreading its investment portfolio over multiple uncorrelated markets.

Identifying the Ideal Strategy

Underpinning this approach is an implicit philosophy that the ideal strategy is determined by the environment (also known as environmental determinism). As external factors are considered fixed by default, a variety of complementary methodologies have been developed to help consider how the organization’s actions can alter the reality in which it deals.

Additionally, this approach emphasizes pursuing strategies that lead to competitive advantage; while some opportunities may be significant, it is often the case that most sustainable strategies involve matching unique organizational strengths to market opportunities. The harder a particular strength is to replicate, the greater the competitive advantage conferred when leveraged to achieve a matching opportunity.

Assuming the organization uses the traditional model as its planning framework, business analytics inevitably has a key role to play
in creating competitive or comparative advantage. As described earlier, business analytics seeks to apply various forms of data-driven decision making to create business value.

**Business Analytics as a Critical Enabler**

Leveraging business analytics is one of the most direct paths to creating strengths and neutralizing weaknesses. Because business analytics is highly generalizable and can be applied across multiple problems, it is rare that judicious consideration cannot identify ways of applying business analytics that support matching or converting strategies. For an organization focused on market growth, business analytics may allow flexible and relevant pricing structures, one-to-one marketing, or risk-driven pricing. For an organization focused on lowering rates of criminality, business analytics may help optimize allocation of resources to maximize detection rates.

Equally, business analytics helps support modeling the potential impact of various threats. Techniques such as simulation modeling, stress testing, and constraints analysis all help predict the upper and lower impacts based on what is known by the organization at that point in time. By leveraging business analytics, the organization is able to prioritize threats within its planning process and add focus where it is needed.

These applications often form the core of competitive advantage; by being smarter or faster than their competitors within the context of a given opportunity, private sector organizations create sustainable competitive advantage. And, by effectively modeling the potential impact of various threats, organizations can better develop matching strategies to mitigate or neutralize threats.

**BUSINESS ANALYTICS AND THE EXTERNAL VIEW**

An alternative approach, suggested by Michael Porter, is to consider the external factors that influence the attractiveness of a given market. This is often referred to as the “positioning approach” due to the...
importance of positioning the organization within the broader external environment.

**Porter’s Five Forces**

Within this context, attractiveness is considered to be closely aligned with overall industry profitability. By considering the major external drivers of profitability within a given market, strategic planners can develop a series of strategies that aim to mitigate or manage these forces.

Porter identified five major forces that influence market attractiveness:

1. The threat of new market entrants  
2. The threat of substitutable products  
3. Competitive rivalry  
4. The bargaining power of suppliers  
5. The bargaining power of customers

The interrelationships among these factors are shown in Figure 2.3.

**New Entrants**

New entrants create a significant force against market attractiveness: They may drive prices down in the interest of gaining market share, they reduce mindshare in consumers, and they dilute profitability. Barriers to entry act as a constraining force against new entrants, but their threat is real. New entrants may pose an especially significant threat if products are largely undifferentiated and substitutable. Equally, the lower the start-up costs associated with market entry, the higher the odds of new competitors entering the market. And, the simpler the processes used by incumbents, the easier it is for a new entrant to replicate their activities.

**Substitutable Products**

The degree to which products can be substituted within a given industry also forms a powerful force against attractiveness. The
greater the degree of product substitutability in a given market, the harder it becomes to maintain profitability. In aggregate, these substitutes create a de facto price ceiling under which all market participants are constrained. Example factors that affect product substitutability include the level of differentiation provided by a particular firm and the contribution of non-price considerations to purchasing decisions. In the presence of commodity products, the ability of a firm to increase price within the market is limited, if not eliminated.

**Competitive Rivalry**

Competitive rivalry is traditionally the strongest of the five forces. However, its influence will vary significantly from one industry to the
next. One way to consider this force is to view it as the aggressiveness with which market participants pursue market success, focusing their attention on various playing fields such as price, bundling, value-add, or customer engagement. Cultural and technological factors can have a significant influence on the level of competitive rivalry in a given market; markets characterized by high levels of innovation or market volatility (either positive or negative) may exhibit high levels of competitive rivalry. Failure to adequately plan for this force can lead to losses in market share and potentially exiting the market.

Suppliers

Suppliers also form a major force in influencing market attractiveness. This influence can manifest in a wide variety of ways. For example, a small number of upstream suppliers can make identifying alternative sources of raw inputs extremely difficult. Or an organization’s suppliers may operate their own retail network, reducing the importance of the organization in the value chain. These different forms of supplier lock-in and market control all reduce the ability of an organization to capture market rents.

Customers

Just as suppliers form a major force in market attractiveness, so do customers (also referred to as “buyers” by Porter). For example, as the concentration of customers increases, the ability of the organization to exert market control decreases. As this concentration increases, so does the level of exposure faced by the organization should a customer move to a competitor. Similarly, the greater the cost of the good to the customers proportional to their overall budget, the more price sensitive they are likely to become, increasing the odds of their shopping around for a more competitive offering.

Strategic Planning Using Porter’s Five Forces

Similar to a SWOT analysis, this perspective emphasizes the importance of the external environment in determining strategy. However, unlike with SWOT analysis, strengths and weaknesses are not explicitly
considered. Rather than focus on innate capabilities, the focus is instead on identifying ways of dealing with the five forces.

Strengths and weaknesses are implicit within the planning process, but by avoiding focusing on them, the intent of the planning process moves away from the current environment and instead toward the desired outcome. Because of this, Porter’s Five Forces are often used to augment a SWOT analysis by providing a less constrained field of view.

As macroeconomic conditions often determine the overarching strength of these forces, modifying these forces is usually beyond the capability of the organization. Instead, the whole point of the planning process is to determine strategies that will manage these forces effectively. Competitive success comes from minimizing the impact of these forces on the organization and competitive advantage comes from developing unique competencies or assets to deal with these forces.

Porter’s Generic Strategies

Leading from these five forces are Porter’s generic strategies, shown in Figure 2.4. Porter suggests that there exist two primary dimensions to any strategic plan:

![Figure 2.4 Porter’s Generic Strategies](image)
1. Strategic scope, focused on the size and composition of the market to be targeted

2. Strategic strength, focused on the core competency to be leveraged within the strategy

In considering all the possible combinations of these dimensions, Porter identified three commonly effective strategies:

1. A differentiation strategy
2. A cost leadership strategy
3. A segmentation strategy

One argument is that by restricting focus to a single strategy, organizations avoid the trap of trying to “be everything to everyone.” However, a common criticism of this approach is that it paints a relatively single-dimensional view of customer value perception. Both positions have validity; regardless of which position is taken, business analytics is often a key enabler in delivering successful generic strategies.

**Differentiation as a Strategy**

A differentiation strategy focuses on building unique competitive differentiators within the broader market. This differentiation can then be leveraged to charge higher prices, increase customer loyalty, or otherwise create barriers against competitors. Often, these focus on unique features, proprietary technology, brand appeal, or positive network externalities and customer lock-in. This strategy tends to be most effective in highly saturated markets characterized by relative price insensitivity.

**Cost Leadership as a Strategy**

A cost leadership strategy takes the alternative approach and instead focuses on achieving the lowest perceived market price (taking into account the value received from the good). Often, this strategy is heavily aligned to achieving supply chain efficiencies, economies of scale or scope in production, and high sales volumes; given the lower margins implicit with this approach, profitability comes from
increasing turnover or reducing costs. Inputs and production efficiencies are therefore typically a key component of this strategy.

**Segmentation as a Strategy**

A segmentation strategy, also known as a focus strategy, attempts to deliver success by identifying subgroups within the market and treating these groups differently. One could argue that in many mature industries, it is the natural progression for organizations keen to increase their profitability; by segmenting their customers and building product and offer differentiation into their customer engagement models, they not only increase their relevancy within each segment but also increase their overall segment attractiveness.

**Business Analytics as a Critical Enabler**

For an organization intent on pursuing a cost leadership strategy, business analytics provides numerous ways of reducing cost. By focusing on competencies such as pricing analytics, supply chain optimization, and hedonic pricing analysis, organizations can:

- Identify the ideal balance between price and demand
- Drive cost out of their supply chain
- Prioritize features to maximize customer perceived value at minimum cost

Equally, for an organization intent on pursuing a differentiation strategy, business analytics provides numerous ways of creating customer loyalty and perceived value. By focusing on competencies such as retention analytics, direct marketing analytics, and up-sell modeling, organizations can:

- Discourage customers from moving to other providers
- Improve product or service relevancy to their customer base
- Increase overall share of wallet through positioning appropriate value-added offers

Finally, delivering a segmentation strategy requires a thorough understanding of customers’ similarities. Segmentation modeling is often one of the most effective ways of developing this understanding,
especially when dealing with highly complex, multidimensional information. If the only things the organization considers are levels of spend, product preferences, and geographic distribution, a simple rules-based segmentation model may suffice.

However, when additional factors such as behavioral patterns, changes in preferences, and sociodemographic information are also included, rules-based models become increasing unwieldy, increasing the attractiveness of analytics-based segmentation models. Algorithm-based segmentation models have no issues with scaling to deal with large sets of customer information. Where a rules-based model might be able to consider only a handful of customer characteristics in defining a segment, algorithm-based models often deal with hundreds or thousands of factors when identifying what makes customers similar.

In practice, business analytics becomes a strong counteracting force against Porter’s Five Forces, allowing organizations to:

- Better target distinct groupings of customers
- Increase differentiation in customer treatment patterns
- Optimize pricing structures
- Reduce costs by increasing automation and efficiencies
- Scale to deal with increasingly complex market strategies

Although business analytics is not the only way of delivering these generic strategies, it is often an extremely cost-effective choice. And, it can often be delivered faster than other enabling options.

BUSINESS ANALYTICS AND THE INTERNAL VIEW

Another point of view is to derive strategy based on the internal characteristics of an organization. While this approach is often seen as a direct alternative to Porter’s Five Forces, it is arguably better viewed as a complementary position.

Resource-Based View of the Firm

Rather than start with the assumption that the external environment dictates organizational strategy, this perspective argues that an
organization is a construct of resources and competencies. Because of this, competitive advantage comes from reconfiguring these internal factors in a way to add value or differentiate the organization from other competitors.

While the external environment still has a role to play in dictating what level of differentiation is needed to achieve competitive advantage, strategic planning in this context is more focused on identifying the best allocation of resources, the ideal internal processes, and the most important competencies to develop. Success in the market requires leveraging tangible and intangible resources through core competencies to create distinctive capabilities that lead to sustainable competitive advantage.

One of the most effective ways of creating this sustainable competitive advantage is to focus on acquiring or developing resources that are:

- **Valuable**
- **Rare**
- **Inimitable**
- **Nonsubstitutable**

These are sometimes referred to as **VRIN** resources.

Valuable resources are resources that allow an organization to achieve improvements in efficiency and effectiveness if leveraged. Similar to the perspective used within a SWOT analysis, valuable resources allow organizations to either create a strength or mitigate a weakness.

Rare resources are held only by the organization in question and are difficult to source by other organizations. By definition, if a resource is available to many organizations within a given market, it is unlikely that it will lead to sustainable competitive advantage.

Inimitable resources cannot be easily replicated by other organizations; they represent a uniqueness that leads directly to competitive advantage. They may come from location, experience, or any other number of factors; what is important is that they are hard to copy. Three common reasons for this uniqueness are:

1. History
2. Causal ambiguity
3. Social complexity
The historical choices made by an organization may lead directly to a unique resource. Without replicating the entire history of the organization exactly, it may be impossible to develop the same resource.

Equally, the organization itself may not know how it developed the resource in question; the resource may have been accidentally created through a series of fortunate choices. Creating a positive culture is a common example: An organization may experience success through innovation, encouraging ideas, and just “having the right attitude.” Although there are often lots of theories as to why this culture may have developed, it is extremely hard to replicate. This causal ambiguity makes it extremely difficult, if not impossible, for other organizations to replicate the resource.

Finally, the resource may have been created through various complex social interactions, such as a particular combination of skill sets carried by internal resources. Having the right combination of organizational structure, highly unique skill sets, and the right supporting processes can sometimes create highly inimitable resources.

The final necessary condition is that the resource be nonsubstitutable. While a particular resource (such as a leadership team) may be valuable, rare, and inimitable, it is not necessarily nonsubstitutable—by hiring another team with similar capabilities, another organization may be able to replicate the same strategic outcomes without having access to a directly equivalent resource.

Sustainable competitive advantage arises from acquiring or developing resources that meet all these characteristics. They represent a strong focus on the uniqueness of the organization itself as a source of competitive advantage.

**Strategic Planning Using the Resource-Based View of the Firm**

As this approach emphasizes competitive advantage coming from within, strategic planning involves five core steps:

1. Understand the resources available within the organization, especially those that are valuable, rare, inimitable, and nonsubstitutable.
2. Identify the organization’s competencies and core capabilities.
3. Profile the profit-making capacity of resources and competencies in terms of their potential for competitive advantage and their ability to generate revenue streams.
4. Develop a strategy based on these findings that best leverages the resources and competencies available within the organization.
5. Identify any resource or competency gaps and invest in strengthening or creating these.

While comparisons against competitors and the external environment are not explicitly conducted, they are implicit in resources meeting VRIN criteria.

**Business Analytics as a Critical Enabler**

Because of this internal focus, business analytics forms a direct enabler when applying the resource-based view of strategic planning. Business analytics creates both competencies and resources that, when effectively executed, meet the requirements for VRIN resources. One of the reasons for this is the high level of alignment between good use of business analytics and unique organizational characteristics; whereas the technology and resources are often highly portable between organizations, the execution and use of these resources can vary significantly and meet the core requirements for either historical dependency or social complexity.

For example, a market analytics team may develop their competencies and processes over a number of years, tailoring them heavily to the organization’s unique information ecosystem. These competencies could include specific segmentation, market insight, predictive modeling, and deployment skills. And, the resources development may include individuals, technology platforms, and organizational structures and cross-team relationships that facilitate this approach to customer engagement.

By leveraging the unique set of total technology available to it through sustained effort, the organization may be able to achieve faster-than-market-average time to execute campaign activities, which
will create a competitive advantage around its ability to bring new products to market as well as increase customer communication relevancy regardless of changing environmental characteristics.

Getting to this point requires navigating significant social complexity. It often involves working with a large number of discrete teams within the organization spanning multiple business units. And, creating these processes is often a byproduct of a sustained history of many incremental improvements, making it extremely difficult for other firms to replicate.

It is important to note that this execution in its own right does not create sustainable competitive advantage; given enough time, competitors could possibly replicate these benefits through creating substitutable resources. Instead, sustainable competitive advantage comes from creating an organizational culture that focuses on leveraging business analytics within a large variety of processes. By transforming the organization, business analytics creates a culture of smarter, faster, and more effective decision making, a distinct competitive advantage in its own right.

BUSINESS ANALYTICS AND THE CUSTOMER VIEW

A final perspective on strategic planning is to put the customer at the forefront of strategy. Within this context, competitive advantage comes from establishing a high level of customer bonding, thereby discouraging them from moving to the competition.

Wilde and Hax’s Delta Model

Successfully achieving this level of bonding comes through three possible strategies:

1. Best product
2. Total customer solutions
3. System lock-in

These represent points on a spectrum, as shown in Figure 2.5.

*Best product* is closely aligned to Porter’s generic strategies; using this strategy requires achieving either a high level of product
differentiation or becoming the cost leader. This competitive advantage may stem from innovation, economies of scale, or any other number of commonly cited economic factors.

A key criticism against this approach is that differentiation is dynamic and rarely sustainable in isolation—once a product is available in the market, it is often only a matter of time until competitors duplicate its value proposition. Ongoing dominance through differentiation requires a culture of continuous innovation, something that is frequently hard to develop. This perspective therefore suggests that the outcome is more often than not commoditization when this strategy is used.

A second possible strategy involves offering total customer solutions. Practically, this means achieving three things:

1. Relevancy and understanding of your customers, through segmentation
2. Making things easier for your customers than they would have been otherwise, through effective delivery
3. Increasing the breadth of dealings with your customers, through horizontal breadth
By understanding the patterns of what its customers are looking for, the organization can better establish a unique value proposition for each of these groups. If the organization is more effective in solving customers’ problems than they are, customers will prefer to engage in a relationship. And by expanding the breadth of this relationship to as wide a portfolio as possible, the organization decreases transaction costs and increases value proportionally.

This strategy hinges on providing what is effectively a “one-stop-shop” for a customer and focusing on cooperation and relationships over acquisition and competition. Value comes from moving away from selling products and instead solving customers’ problems, even if this means leveraging external partners within the value chain.

*System lock-in* involves establishing an ecosystem with such strong system economics that moving to alternative market offerings creates active economic disincentives. For example, one of the benefits of a dominant technology platform is that it is easy to source skills, find applications, and source developers. Apple’s wildly successful App Store provides a prime example of how effective this strategy can be: Developers and consumers are linked through access to an attractive ecosystem that covers hardware, distribution, development, and commerce. While other platforms may be available, moving to them requires sacrificing ease of sourcing resources and support as well as increasing overall risk. In Apple’s case, moving to any other mobile platform means sacrificing access to a large set of consumers from the developer’s perspective and access to a wide variety of highly functional apps from the consumer’s perspective. These directly discourage customers from migrating, even if they are unhappy with their current platform.

Not every organization has the potential to deliver this strategy; many industries lack sufficient network externalities to allow such a strategy to succeed. Organizations that form one small part of an overall value network may find it impossible to achieve system lock-in. However, by understanding the power of system lock-in as a strategy and actively looking for ways to encourage it, even non-network-based organizations can sometimes increase their overall value proposition to a customer. For example, an organization can focus on the creation of industry standards or vertical integration through acquisition or exclusionary contracts.
In practice, these three strategies are not mutually exclusive—many organizations balance between two of these approaches. Importantly, however, each of these is focused on the customer’s perception of value, not the product design. Competitive advantage stems from developing and executing strategies that achieve a high level of customer bonding, regardless of which of the three approaches is adopted.

Strategic Planning Using the Delta Model

In many situations, this is an iterative process; assumptions are made, tested, and refined based on further research. Planners start by considering the organization’s current and desired strategic position within the three core bonding strategies. For some organizations, this may identify a desire to move from a best-product position to a hybrid best-product/total-customer-solutions position with the intention of increasing margins and growing revenues through cross-selling multiple services.

Once a desired strategic position has been identified, planners define the mission of the business, the scope of markets it will be competing in, and the competencies required to support these activities. It may seem somewhat counterintuitive to consider this after identifying the preferred strategic position, but the reason for doing it in this order is simple: Focusing on how the organization wants to interact with its customers helps clarify where it should be competing. If the mission and scope are defined before this interaction and value-creation preference, a primary source of competitive advantage may be eliminated.

From there, planners consider the production and external characteristics that define the positioning and context of the organization.

Profiling production activities that create profitability helps identify potential sources of competitive advantage and operational efficiencies. Importantly, though, these activities are not limited to a purely internal focus; as the strategies focus on the entire customer value proposition, it is essential to also consider the role of the system as a whole as well as the sum of all value-chain activities.
Profiling external activities often starts with Porter’s Five Forces model but makes one important modification: It relaxes the requirement to consider competitive rivalry as the only dominant force. Instead, it may be more important to consider overall customer/value-provider bonding. For example, while a best-product strategy may encourage rivalry, a total-customer-solutions strategy may instead encourage complementary partnering or playing the role of a centralized value exchange and service provider.

**Developing an Execution Plan**

Once this profiling has been completed, planners develop an execution plan involving the following three factors, their relative importance and role having been defined by the context of their objectives and organizational context:

1. Operational effectiveness
2. Innovation
3. Customer targeting

Operational effectiveness covers all processes associated with delivering value to the customer. In a classic sense, this would normally include all internal production, supply chain, and service delivery activities. However, the Delta model goes a step further and looks at all value-chain activities, also covering suppliers, customer behaviors, and potential partners/complementors. As would be expected, the major focuses of this process are on capacity and efficiency.

Innovation revolves around the creation of new products and services to offer to the customer. In a classic sense, this would normally be limited to internal product development. However, the Delta model also includes considering how external parties can add value to the customer through various forms of complementary positioning. The major focus within this process is on the creation of differentiation and continuous business renewal.

Customer targeting focuses on the activities involved with attracting, acquiring, retaining, growing, and understanding new and existing customers. Effective segmentation forms a critical enabler within this process, as the ability to discriminate between high-value and
low-value customers, reduce interaction and servicing costs appropriately, and engage effectively drives revenue growth and overall profitability.

**Business Analytics as a Critical Enabler**

Much like the other views of strategic planning, business analytics has the capability to both support strategy as well as provide competitive advantage. Regardless of which position is favored by the planners, business analytics has a role it can play in supporting all three processes within the execution plan.

For example, for an organization intent on pursuing a best-product strategy, business analytics can help achieve operational efficiencies in a wide variety of ways. These could include supply-chain optimization, process improvement through the application of six-sigma methodologies, and measuring total cost of service delivery.

For an organization intent on pursuing a total-customer-solutions strategy, business analytics can help improve customer targeting effectiveness in a wide variety of ways. These could include the application of segmentation models, customer profitability measurement, and the creation of cross-sell and up-sell models to improve horizontal breadth.

For an organization intent on pursuing a system-lock-in strategy, business analytics can help improve innovation effectiveness in a wide variety of ways. These could include highly scalable exchanges that automatically link potentially interested parties or large-scale test-and-learn strategies to identify highly marketable products.

Because the execution of these strategies requires a strong understanding of customer preferences, highly scalable systems support, and excellent access to information, business analytics becomes a significant driver for competitive advantage. Again, while it is not the only source of competitive advantage, it has a unique value proposition in that it can be applied to support multiple execution strategies, making it a competitive differentiator in its own right.

**FOSTERING INNOVATION AND INVENTION**

Innovation and invention play a critical role in creating competitive advantage. The difference between the two is important: Whereas
invention makes ideas a tangible reality, innovation involves doing things differently. Invention may form an important part of delivering innovation, but it is not an essential part.

Innovation often plays a role within strategic planning processes. Whereas strategic planning may help identify a preferred path, innovation can act as a significant force to drive a favorable disequilibrium in the market. By doing things differently, organizations can increase their level of market differentiation and, by doing so, their overall market power. In practice, this often means greater revenue, higher profitability, or increased efficiencies.

Creating innovation is a challenging process; research suggests that the vast majority of innovation activities have little or no impact. However, if successful, innovation has the potential to create not only sustainable advantage but also a temporary monopoly, significantly increasing profits in the short term.

This market disruption can stem from a variety of sources. Technological advancement through research and development can drive significant changes but is hard to predict. Strategic innovation can stem from deliberately focusing on changing the external environment through activities such as:

- Creating a new market
- Developing new products
- Establishing new production methods

All of these objectives are made easier through the application of business analytics. By leveraging the information assets available within the organization, it can reduce uncertainty and improve clarity around target goals, two major reasons behind unsuccessful projects.

Creating a new market is challenging—by definition, the market does not exist. One approach is to launch and hope for the best. A better approach involves using various forms of advanced analytics to understand and model potential cannibalization levels, segment and size target markets, and model the rate of diffusion (and implied profitability) under different assumptions.

Similarly, developing new products is challenging, especially when it comes to understanding customer price sensitivities, the potential for product overlap, and market interest in bundled goods or services.
Again, business analytics has the potential to model these considerations prior to market launch, reducing uncertainty and helping to either redirect focus onto more profitable activities or adjust product design to better increase the odds of success.

Finally, establishing production efficiencies can be challenging without the aid of advanced analytics. It can be hard to understand the relationships between controllable factors and output quality or reliability in many complicated production processes. Techniques such as design of experiments can make this analysis simpler and more effective. And optimizing a multi-echelon supply chain can be close to impossible without the aid of advanced analytics; while it is often possible to achieve a better outcome through manual optimization, it is hard to know whether one has achieved the best outcome.

While business analytics may not always have the ability to create innovation in its own right, it is more often than not a key enabler in delivering innovation.

**DELIVERING VALUE THROUGH RENEWABLE RETURN**

A final reason behind why organizations are increasingly applying business analytics for competitive advantage has to do with its potential for regular incremental return. Unlike the typical investment model where a given investment delivers a one-off return (which may be staggered over a number of years), business analytics has the potential to generate new returns year on year with relatively minimal additional investment.

Because the competencies used within a business analytics team can be applied to multiple business problems, the organization has the potential to reuse these competencies to deliver new returns. And, because business analytics can be readily translated into operational processes, historical gains can be continually captured over time.

Analytics is one of the few areas in business that can truly deliver renewable returns. Unlike many business investments, the return on technology and skills investment is not limited to the project to which they are initially associated; by being linked to generalizable assets, the investment can be continually releveraged to give additional incremental returns.
A good example lies in the development of a predictive modeling competency. The first project may involve reducing customer churn rates; the total costs booked against this project include:

- Hiring and training of new staff
- Technology platform acquisition
- Systems integration work

On successful completion, the project will accrue various returns to the business. The processes developed by the team will be deployed for ongoing scoring, helping to ensure that the returns captured will continue to exist in the future. And, if properly managed for efficiency, the team will again become available to work on a new project.

This project might involve the creation of various up-sell and cross-sell models to help increase share of wallet and overall sales volumes. It is here that the value of business analytics shines: Despite its being a fundamentally new problem with different requirements and no overlapping value potential, the organization requires virtually no incremental investment to deliver it.

The same team, using the same technology and the same processes, can help deliver direct economic value in a totally new way. This potential for constantly renewable returns at relatively low cost cannot be underestimated as a platform for growth.

**A Practical Example: The ERP Approach**

It is useful to contrast an investment in analytics with an investment in a traditional enterprise resource planning (ERP) system. Both require an investment in technology, people, process, and data. And both require changing how business is conducted to varying degrees, largely dependent on the maturity of the organization. However, that is where the similarities end.

As most organizations will attest, embarking on an ERP transformation is a nontrivial task; project life cycles are typically measured in the order of years. Operational and transactional management are the focus, and strictly defined processes are the norm. Most importantly within the context of this book, the benefits (while often large...
and real) are typically one-off and linked to the completion of the implementation.

A good practical example is the implementation of an improved ordering and inventory planning system. Within most retail organizations, inventory management and ordering is the lifeblood that keeps the heart pumping. If the right stock is not in the right place at the right time, orders go unfilled. One of the most painful things a seller can possibly see is an interested customer walking out to a competitor simply because the product she was interested in is not on the shelf at that point in time!

By implementing a more efficient ordering system, store managers often have greater time to spend analyzing stock flows, seasonal patterns, and future product releases—and, by doing so (the theory goes), make better orders. These better orders may have a number of benefits, including:

- Increasing the speed at which products on shelves move (leading to better revenue)
- Allowing the manager to focus on goods that offer higher margins (improving profitability)
- Allowing the manager to reduce stocks of slow-moving goods (reducing capital investment and improving liquidity)

All of these are real financial benefits, but once the ERP system goes live and is embedded within normal ordering processes, that is it. Because the ERP system is built and tailored to improve a specific process, the benefits are capped to that specific process. Once things are better, that is the end of it; additional benefits require additional investment in new technology, people, process, and (often) data.

Analytics is different. Although a good analytics project is still tightly aligned to a specific business problem, the technology, people, process, and data are far more generalizable to other business problems. In practice, significant percentages of these capabilities can be reused to solve other business problems, leading to ongoing incremental returns on investment.
A Counterexample: The Analytics Approach

Solving that same inventory management and ordering problem using analytics might involve a slightly different approach; the same organization might focus on augmenting its ordering and inventory management processes by applying forecasting and stock optimization techniques. By using analytical forecasting, it might be able to isolate seasonal factors, model the effects of promotional activity on sales, and improve aggregate baseline forecast accuracy through sheer computational scalability. By applying optimization, it might be able to dynamically adjust safety stock levels based on underlying demand, ensuring that the probability that the organization has a stock-out remains below a certain desired level. This may even take into account differing levels of profitability by product, allowing every product to have a different safety stock level that varies automatically throughout the year as the underlying demand patterns change.

As with the ERP system, these benefits are realized only once; after the processes are embedded and management efficiencies have been accrued, all of the project benefits have been capitalized. However, that is where the similarity ends.

How Business Analytics Delivers Renewable Value

As it turns out, the same organization may also have issues with its marketing efficiency. On a day-to-day basis, it may be contacting too many potential customers (incurring needless costs) or the wrong potential customers (causing those same customers to start shopping elsewhere), or not contacting the “right” customers at all (missing on out potential sales). The ERP approach would be to implement another parallel system to reduce marketing costs through making the overall process more efficient. It may involve leveraging additional, lower-cost channels such as e-mail, SMS, or targeted online advertisements. However, regardless of the approach used, the degree of overlap with the order management system already implemented is likely to be low.

Doing this through an ERP system will very likely require that additional investment be made into people, process, technology, and
data. New processes will need to be defined along with supporting rules and activities. New people will need to be hired to manage and execute the processes. New tools will need to be purchased and implemented. New operational data structures will need to be put in place to support these new processes.

Analytics offers an alternative. At their core, both problems have a common root: the need to minimize use of a limited resource for maximal gain. For stock management, it is all about minimizing investment in stock while simultaneously trying to maximize sales. For marketing, it is all about minimizing marketing cost by communication channel (such as telephone versus e-mail) while maximizing customer purchasing patterns. As both problems share a common root, the same capability can be leveraged across both of them.

Importantly, it can be done through using common resources, minimizing additional investment in people, process, technology and data. Because the analytics approach leverages the existing customer contact platform, minimal additional processes are required. Because it leverages the same skills being used to support stock optimization, minimal additional resources are required. Because it uses the same optimization platform, minimal additional tools are required. And, because it uses existing data, minimal extensions are required to the organization’s existing data stores!

This is not to say that ERP systems and analytics are replacements for each other; in practice, they are both necessary components in effective and efficient competition. Best-in-class organizations understand how to leverage both. However, the differences between them are why analytics is such a critical enabler for industry-leading performance: It allows organizations to achieve ongoing incremental return on investment with proportionally small reinvestment requirements.

What does this mean in practice? It means that unlike ERP systems, analytics creates renewable value. It means that the same capabilities developed to improve identifying which products to sell to which customers can be used to proactively identify potential occupational health and safety risks. It means that the same capabilities developed to predict how much product will be needed in a given month can also be used to assist in large-scale network planning. It means that
the same capabilities developed to identify the minimum rate needed to be offered to retain a term deposit can be used to maximize collections of bad and doubtful debts.

Simply put, analytics offers business improvements unlike any other system, ones that have the potential to give new annualized returns, year after year.

SUMMARY

Within this chapter we have reviewed the importance of business analytics within a variety of strategic planning frameworks. Within each of the perspectives, business analytics has the potential to play a key enabling role regardless of where competitive advantage stems from. Equally, business analytics has the potential to act as a key enabler for innovation and an ability to deliver constantly growing incremental economic returns.

With all this going for it, it is not surprising that business analytics is seen as a key strategic enabler and differentiator by so many organizations. However, translating these strategic imperatives into tactical delivery plans is often challenging.

Over the next chapter we will move from a strategic view to a tactical view, looking specifically at:

- What business analytics means in practice
- Where barriers to success come from and why
- A high-level view of how to manage these challenges

NOTE
