



Committee of Sponsoring Organizations of the Treadway Commission

Enterprise Risk Management

Integrating with Strategy and Performance

Compendium of Examples



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Committee of Sponsoring Organizations of the Treadway Commission

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Foreword

In keeping with its overall mission, the COSO Board commissioned and published in 2017 *Enterprise Risk Management—Integrating with Strategy and Performance*. That publication recognizes the increasing importance of the connection between strategy and entity performance as well as concepts and applications of enterprise risk management. The second part of that publication, the Framework, accommodates different viewpoints and organizational structures to enhance strategies and decision-making. It also sets out core definitions, components, and principles, and it provides direction for all levels of management involved in enterprise risk management.

During the development of *Enterprise Risk Management—Integrating with Strategy and Performance*, the PwC Project Team received requests for the publication to include examples of the Framework in use. The publication you are reading now responds to that request, providing illustrations of how organizations of different types and sizes and in different industries and geographies might choose to apply these principles. All the examples were developed by identifying industry practices through interviews, case studies, and research.

Each example focuses on a specific industry, but those in other industries can benefit from the insights. Similarly, while each example describes how a different entity has scaled and adapted the principles, other entities can use the information as they see fit.

The COSO Board would like to thank PwC for its significant contributions in developing *Enterprise Risk Management—Integrating with Strategy and Performance: Compendium of Examples*.



Robert B. Hirth Jr.
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1. Introduction

The COSO publication *Enterprise Risk Management—Integrating with Strategy and Performance* sets out a relationship between an entity’s mission, vision, and core values; its strategic goals and directions; and the approaches used in carrying out its strategy.

This complementary publication offers a compendium of examples to illustrate how an organization might apply principles from *Enterprise Risk Management—Integrating with Strategy and Performance* to its day-to-day practice. Each example highlights specific principles that are relevant to entities of different types and sizes in different industries. Together, the examples relate to each of the five components and twenty principles set out in the Framework.

How to Use This Document

To get the most out of this publication, your organization should consider the principles in the Framework and how to tailor them to the particular strategies, business objectives, risks, and opportunities for the entity. The first step is to think about the size, scale, and complexity of your organization, and then find the section that best applies (see below).

Each example is a standalone case, which means that not all aspects of the components and principles are illustrated in each case. Nor are the examples meant to provide “how-to” instructions or illustrate best practices. But all the components, principles, and definitions illustrated here are discussed in *Enterprise Risk Management—Integrating with Strategy and Performance*, and you should refer to that publication for a comprehensive discussion of how entities design, implement, and oversee enterprise risk management.

Keep in mind that this compendium of examples is written from the perspective of day-to-day business practices, which does not preclude a risk management function from having its own separate activities. In many cases, a risk function exists within a regulated industry that must adhere to specific activities set by the regulators. **This publication is not intended to interpret or supersede regulations that apply to any entity.**

Also note that smaller entities may apply these principles using different approaches. For example, all public companies have boards of directors or other similar governing bodies with oversight responsibilities relating to the achievement of an entity’s strategy and business objectives. A smaller entity may have a less-complex operation, governance and operating model, and organizational and legal structure. Management may also communicate more frequently with directors, enabling greater reliance on board oversight for enterprise risk management practices.

Some entities that are just beginning to develop enterprise risk management capabilities may find the examples to be complex, while entities that have more advanced enterprise risk management capabilities may find them simplistic. Keep in mind that this compendium was written for a wide audience and is not intended to be tailor-made for any one organization. Rather, it provides additional context and understanding to the Framework.

What the Examples Include

The examples have been developed for entities of different sizes (local, national, international) and in different sectors, organized as follows:

Local

- Financial services company (Chapter 4)
- Consumer products company (Chapter 7)

National

- Government entity (Chapter 3)
- Energy company (Chapter 5)
- Technology company (Chapter 8)
- Healthcare company (Chapter 10)

International

- Higher education institution (Chapter 2)
- Not-for-profit entity (Chapter 6)
- Industrial products company (Chapter 9)

Applying the Principles

The examples in the various chapters show how the principles can be applied, with each focusing on aspects of different components covered in *Enterprise Risk Management—Integrating with Strategy and Performance*. Each example:

- Provides context to the industry in which the illustrated entity operates (both external and internal environments).
- Provides background information on the specific entity.
- Highlights the applicable principles.
- Discusses in detail how the organization applies those principles.
- Shows how enterprise risk management is integrated with the business.
- Summarizes the key benefits of those enterprise risk management practices.

Please note that the names of organizations and people in the examples are fictional, and any resemblance to actual organizations and people is coincidental.

What Principles Are Covered

Table 1.1 shows which principles are primarily illustrated in the examples for each type of entity (denoted by a “♦”). Some of the examples include secondary information beyond the primary principles to provide context (e.g., information about the risk appetite or business context), denoted by an “*.” The presentation of the examples follows the order of components in the Framework that the principles primarily relate to (Governance and Culture; Strategy and Objective-Setting; Performance; Review and Revision; Information, Communication, and Reporting).

Table 1.1: Principles Illustrated by Examples

PRINCIPLE	INDUSTRY								
	Higher Education	Government	Financial Services	Energy	Not-for-Profit	Consumer Products	Technology	Industrial Products	Healthcare
1	♦								
2	♦								
3		♦	♦						
4		♦	♦						
5		♦	♦						
6			*	♦	♦				
7				♦	♦			*	
8	*			♦	♦		*		
9				♦	♦				
10						♦	♦		
11						♦	♦		
12						♦	♦		
13						♦	♦		
14	*					♦	♦	♦	
15								♦	
16								♦	
17								♦	
18									♦
19									♦
20	*	*				*	*		♦



2. Governance in a Higher Education Institution

Industry Context¹

Higher education, often referred to as postsecondary or tertiary education, refers to learning delivered by universities, academies, colleges, seminaries, and institutes of technology that award academic degrees or professional certifications at the successful conclusion of a program of study. Many of these institutions also have research programs driving technology developments, scientific discoveries, and innovation in all disciplines.

Higher education entities may be influenced by any or all of the following external factors:

- Government policies and funding that impact operations and revenue streams.
- Pressures from business and other external stakeholders that challenge institutions to better account for student outcomes.
- Increased competition from international institutions in attracting students.
- Technology that has fueled the growth of on-line programs purporting to offer greater flexibility, accelerated learning, and lower tuition for students.
- Legal uncertainties relating to intellectual property ownership, authority of course materials, and academic freedom for teaching and research staff.

They may also be influenced by the following internal factors:

- Pressures to maintain certain levels of domestic and international student enrolments, which have an impact on forecasted revenue from student tuition and the reputation of the university.
- Challenges in attracting and retaining highly skilled faculty and administrative staff capable of developing challenging curricula and supporting the changing operating needs of the institution.
- Student activism relating to operating decisions that affect the direction and scope of student learning, research programs, and academic freedom.
- Requirements for complying with all laws and regulations concerning ethics, privacy, cyber risks, operations, and campus safety.

Institutions typically finance their operations through a combination of student tuition, government funding, grants, donors, and other sources of income. This involves:

- Attracting and maintaining international and domestic student enrolments to generate tuition fees.
- Meeting the standards required for government funding, borrowing, research grants, and subsidies based on the institution's reputation for academic rigor and innovation.

.....
1 Reminder: The examples do not illustrate a complete view of all enterprise risk management practices in an organization. Each organization should consider and adapt the principles set forth in the Framework to its specific strategies, risks, and opportunities based on its size, scale, and complexity.

- Entering into business partnerships with private enterprises, industry groups, and other organizations in pursuit of a common objective.
- Soliciting financial support from alumni and other benefactors through lobbying, outreach, and marketing programs.
- Managing the financial assets of the institution.

Key Benefits of Enterprise Risk Management in the Example

This example shows how boards can use enterprise risk management to identify and manage entity-wide risks and reduce performance variability.

Principles Demonstrated

The following principles are primarily demonstrated in this example:

- Principle 1: Exercises Board Risk Oversight—The board of directors provides oversight of the strategy and carries out governance responsibilities to support management in achieving strategy and business objectives.
- Principle 2: Establishes Operating Structures—The organization establishes operating structures in the pursuit of strategy and business objectives.

Aspects of the following principles are also demonstrated:

- Principle 8: Evaluates Alternative Strategies—The organization evaluates alternative strategies and potential impact on risk profile.
- Principle 14: Develops Portfolio View—The organization develops and evaluates a portfolio view of risk.
- Principle 20: Reports on Risk, Culture, and Performance—The organization reports on risk, culture, and performance at multiple levels and across the entity.

Facts and Circumstances²

The university in this example is a highly prominent institution based in Southeast Asia within a network of partner universities in Europe and North America. It is renowned for its Schools of Business and Medicine as well as its executive MBA program, all of which attract students from around the globe. It has 30,000 students and over 6,000 employees (faculty and administrators).

The eleven-member board that oversees the university is made up of representatives from the business, legal, and medical communities; alumni; and faculty and student population. Six board members are considered independent directors. The president of the board is a retired executive and alumnus of the university who assumed the role four years ago.

² Names of organizations and people in this example are fictional, and any resemblance to actual organizations and people is coincidental.

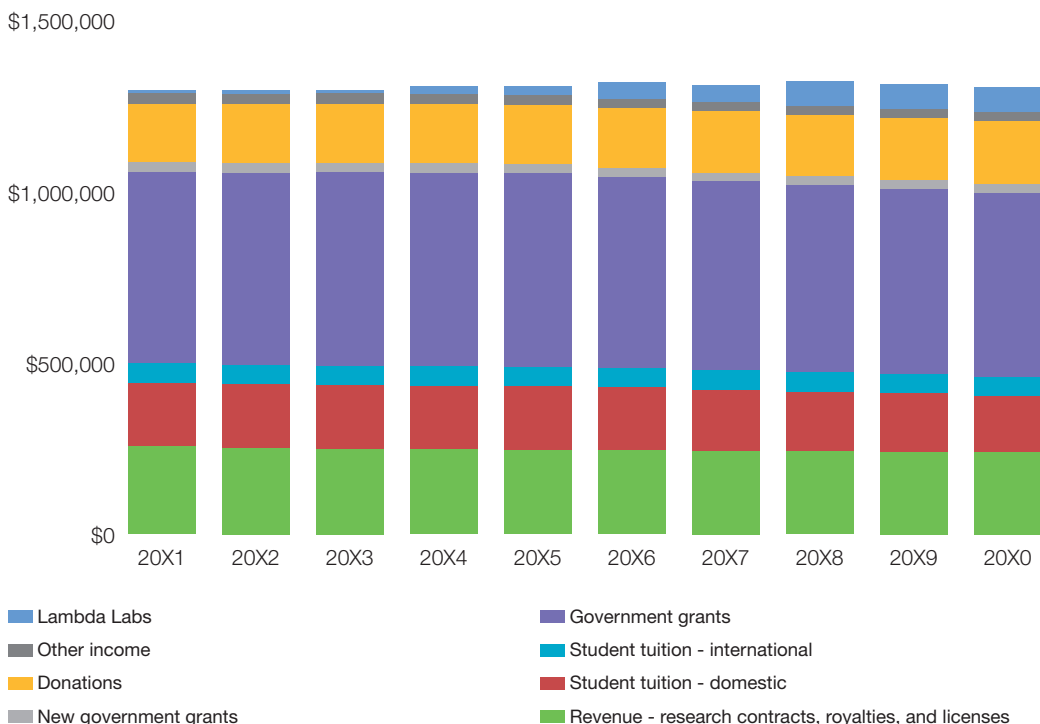
Recently, the university’s student enrolment has declined and financial results have not met forecasts. There have been several contributing factors to these trends:

- The rise of international on-line MBA programs that are luring students with promises of accelerated paths to completion and lower living and tuition costs.
- Increasing requests for programs of study and research in emerging fields of technology, analytics, bioscience-, and aerospace that require a higher cost of delivery.
- Changes to the laws affecting pension plans, which have increased labor costs.
- Lower than expected returns on the university’s investment portfolio due to deterioration in the local stock market and confidence in the regional economy.
- Legacy operating systems and technology that are increasingly disruptive to the efficiency of internal processes and operations.
- Increased security costs and student support services following a series of on-campus incidents and cyber bullying attacks.

During an analysis of its various revenue streams, the university identified that non-tuition related revenue was lagging behind the other revenue sources (see Figure 2.1). Therefore, as part of its longer-term planning, the university is exploring opportunities for joint ventures and third-party relationships to support the achievement of its strategy and business objectives.

The university has already met with one investor, Lambda Labs. A partnership with Lambda Labs would see a multiyear investment in the university’s infrastructure and provide a welcome injection of working capital. As a part of a regular review of board oversight and to bolster stakeholder confidence, the board intends to enhance transparency of its governance, oversight, and risk management systems.

Figure 2.1: University Projected Revenue over Ten Years



Lambda Labs stated that while the financial reporting and forecasting information already provided was critical to their decision to pursue further discussions, they require greater visibility and information on the risks and potential impacts on the university's long-term performance. As an example, Lambda pointed to the increasing number of student protests occurring over proposed curriculum changes and funding decisions, and the impact those could have on the university's reputation and its ability to attract future investments.

Discussion

Designing Board Oversight

The board is supported by three existing sub-committees designed to oversee the performance of the university in relation to its mission, vision, and core values. The board delegates authority to each of the committees, which is outlined in greater detail in their respective charters:

- Investments Committee: oversight of the investments portfolio in line with the university's risk appetite.
- Audit Committee: oversight of financial reporting and audit matters.
- Remuneration and Nomination Committee: appointment and remuneration of the board of directors, where applicable, and senior management.

The board retains governance and oversight for the following:

- Authorization and accreditation of the university by the ministry of education.
- Review of and concurrence with the university's strategy and risk appetite.
- Approval of financial statements and significant investments.
- Approval of designated policies and procedures including staff and academic codes of conduct.

The board identified increasing third-party arrangements as an opportunity to enhance revenue, and it is responsible for reviewing proposals to enter into any significant arrangements. Given the increasing number of such proposals, the board has struggled to manage this particular responsibility. In recent board meetings, some directors have expressed concern about the volume of applications. Many of the proposals are highly technical or in specialist areas outside the experience of the directors, which adds to the time required to review them.

When reviewing a third-party proposal, the board is typically provided with information on the purpose of the agreement, performance targets, potential risks, and ongoing performance-monitoring approaches. But board members have long expressed reservations about the level and quality of information provided. They tend to focus on the assumptions provided that underpin the proposed arrangements and on any contingent payments or obligations placed on the university under the contract, including any that could affect the future accreditation of the university.

As a part of the regular review of board oversight and in an effort to enhance its reporting, the board decided to make the following changes:

- All board members will be required to complete training offered by the National Institute of Board Directors. The training course highlights the responsibilities of directors and includes sections on enterprise risk management.
- Future director nominations will focus on increasing the diversity of experience and expertise of board members in line with the university's mission, vision, and five-year strategic plan. Future candidates will be considered from a range of fields including technology, sciences, and geopolitical and regulatory affairs.

- To help add rigor, consistency, and efficiency to the review process, and to improve transparency, the board will establish a management steering committee to improve the university's risk management capabilities and practices when assessing potential partnerships.
- The new steering committee will be given the task of reviewing the university's current reporting capabilities and proposing improvements to provide better insight into performance and the portfolio view of risk.

Creating a Steering Committee

At the request of the board, the chief financial officer and chief operating officer created a steering committee comprising representatives from each of the schools, the Office of Industry and Commercial Liaisons, information technology teams, and other core administrative functions. The following objectives of the steering committee were set:

- Develop criteria for evaluating third-party agreements that align with the university's five-year strategic plan and cover a range of strategic, performance, and risk considerations.
- Develop new integrated performance reporting for the university that expands on the current financial reporting of key performance indicators.

The steering committee began by examining the university's longstanding mission, vision, and core values:

- **Mission:** To provide world-class academic and research opportunities.
- **Vision:** To be the leading university of choice in academic excellence enabling staff and students to contribute to the advancement of society.
- **Core values:** The pursuit of academic excellence and quality, integrity, freedom of enquiry and expression, diversity, and inclusion.

Key Observation

By highlighting the assumptions that underpin the strategy and business objectives, or the assessment of risks, the organization is in a better position to identify changes to the risk profile and performance of the entity in a timely manner.

Next, the committee looked at the university's five-year strategic plan, which is based on the mission, vision, and core values, and considers risk appetite. The strategic plan has four parts, each of which provides a detailed description of the supporting business objectives, activities, and anticipated resources to achieve the overall strategy:

- Delivering academic excellence.
- Fostering innovation and advancement.
- Supporting the needs of the future economy.
- Optimizing financial and operational performance.

The steering committee identified and assessed risks related to the strategy and performance of that strategy. In addition, the team worked closely with other stakeholders to identify the assumptions underpinning the strategy. Those assumptions included anticipated growth of student enrolment, levels of government funding and other grants, and developments in technology and science that drive interest to particular areas of research. Other assumptions concerned funding allocations, regulatory requirements, and policy objectives.

Designing Relevant Reporting

Figure 2.2 is an extract from the university's five-year plan, showing the risks identified during the strategy-setting process and assumptions underlying the business objective and performance target.

Figure 2.2: Five-Year Strategy Part 1: Delivering Academic Excellence

Business Objectives	Identified Risks	Sample of Performance Measures	Assumptions
Attract and retain teaching staff to facilitate academic excellence (Human capital)	<ul style="list-style-type: none"> • Risk of the hiring programs not attracting teaching staff, impacting academic excellence • Risk of limitations imposed on research funding, impacting the ability to attract teaching staff • Risk of attrition of qualified teaching staff, impacting academic excellence 	<ul style="list-style-type: none"> • Number of open teaching positions • Average duration of open teaching positions • Comparability of teaching staff salaries and benefits • Percentage of tenured staff • Number of recognition awards received • Number of papers published by teaching staff 	<ul style="list-style-type: none"> • Time taken to fill a teaching position is typically three to six months • Teaching roles for in-demand areas will continue to be difficult to fill and extend from six months to more than a year • Candidates cite expectations on research, publication, and salary base as key to accepting offers
Attract and admit eligible students (Admissions)	<ul style="list-style-type: none"> • Risk of admission program not attracting student interest and applications, impacting admissions volume • Risk that student entry standards are set inappropriately, impacting admissions volumes 	<ul style="list-style-type: none"> • Number of student applications • Percentage of student offers accepted • Admissions-related marketing costs per student • Year-on-year student retention rate • Number of students per class 	<ul style="list-style-type: none"> • Profile of student body is likely to change over the next five years with international students representing 25% of admissions, up from 18% • The university receives applications from 80% of eligible high school students in the area • The university has a historical acceptance rate of 72% of eligible undergrad students • Eligible students represent 65% of graduating high school students in the region
Maintain a diverse student body (Admissions)	<ul style="list-style-type: none"> • Risk of admission program not attracting a diverse student body, adversely impacting the student body • Risk of admission program not attracting student interest and applications, impacting admissions volumes • Risk that student entry standards are set inappropriately, impacting admissions 	<ul style="list-style-type: none"> • Student diversity indexes • Percentage of students requesting financial assistance • Percentage of international students 	<ul style="list-style-type: none"> • Diversity index has been improving by 1% to 2% every year • Number of students requesting aid has increased from 9% to 12% in the last five years and is likely to double over the next five years given economic forecasting • International enrolments increase between 12% and 17% for every 2% drop in the local currency, which improves affordability

Continued

Figure 2.2: Continued

Business Objectives	Identified Risks	Sample of Performance Measures	Assumptions
Offer a rigorous independent academic curriculum (Academic affairs)	<ul style="list-style-type: none"> • Risk that programs of study do not meet academic standards • Risk that courses are perceived as biased or academic freedoms are threatened • Risk that programs of study are deemed out of date or irrelevant • Risk that the curriculum breaches intellectual property obligations • Risk that the curriculum is not perceived as adequately preparing students, impacting future employment opportunities 	<ul style="list-style-type: none"> • Number of new courses accredited each academic year • Number of graduating students • Number of graduating students with employment offers • First-year student retention rates • Student feedback scores 	<ul style="list-style-type: none"> • All core curriculum classes (those deemed mandatory as part of a program of study) are reviewed every two years • Student feedback scores are obtained by approximately 55% of students at the conclusion of each course • Course development typically takes three to six months, including accreditation
Satisfy compliance requirements and obligations (Compliance)	<ul style="list-style-type: none"> • Risk of losing accreditation, impacting university's ability to operate • Risk of academic violations leading to loss of accreditation, impacting the university's ability to operate 	<ul style="list-style-type: none"> • Percentage of programs successfully reaccredited • Number of academic violations 	<ul style="list-style-type: none"> • Historically, every significant violation of education standards identified by the ministry of education has resulted in a monetary impact of between 0.25% and 1.5% of university profits

Key Observation

By using the strategy and business objectives to structure a report, an organization will more clearly highlight information relating to new and changing risks and the impact to performance. Those who use the report can observe how one risk may impact multiple objectives, or how changes in the business context may impact more than one risk.

Considering the risks identified, the new steering committee decided on the following approach to improve the university's current reporting capabilities:

- Confirm who is anticipated to use the reports and what the specific reporting requirements of those users are, given their responsibilities. Report users are likely to include:
 - Members of the board with responsibility for governance and oversight of the university.
 - The ministry of education that retains regulatory oversight over many of the university's functions, including accreditation, government funding, and quality assurance.

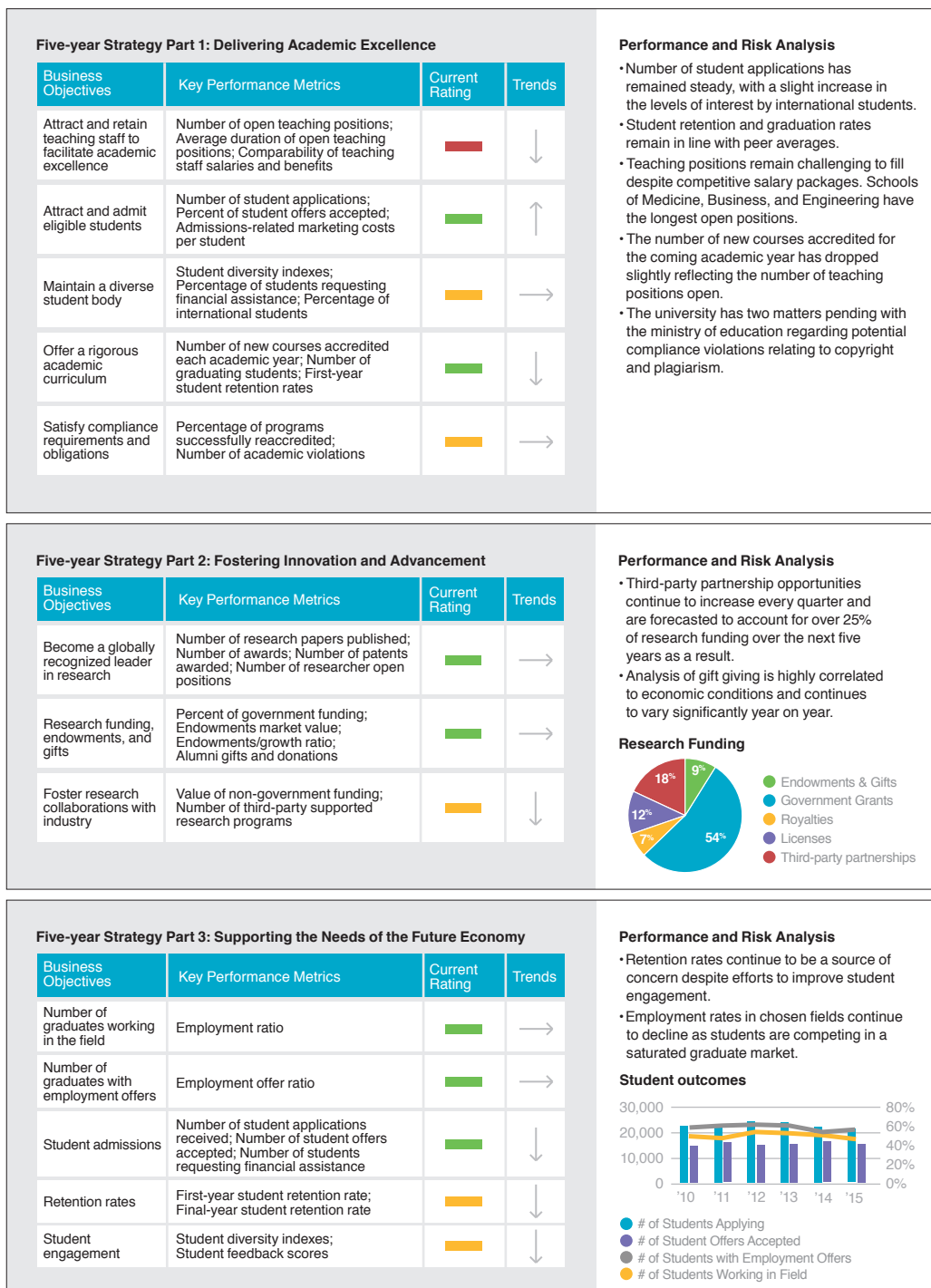
- Potential third-party investors and partners who are looking for insights and confirmation of the university's financial and operational performance and the portfolio view of risks that are managed on an ongoing basis.
- External auditors and ratings agencies.

- Agree on the performance and risk information that should be periodically reported to the board.
- Identify the resources and capabilities required to develop ongoing, integrated reporting.
- Assign roles and responsibilities.

At the time, the university was using a “balanced scorecard approach” for reporting, which covered the four parts of the strategic plan (see Figure 2.3). The steering committee

decided to retain that approach. It reviewed the list of indicators, selecting which it would periodically report on to the board, and whether any additional context and analysis would be needed.

Figure 2.3: University Monthly Management Report—Executive Dashboard³

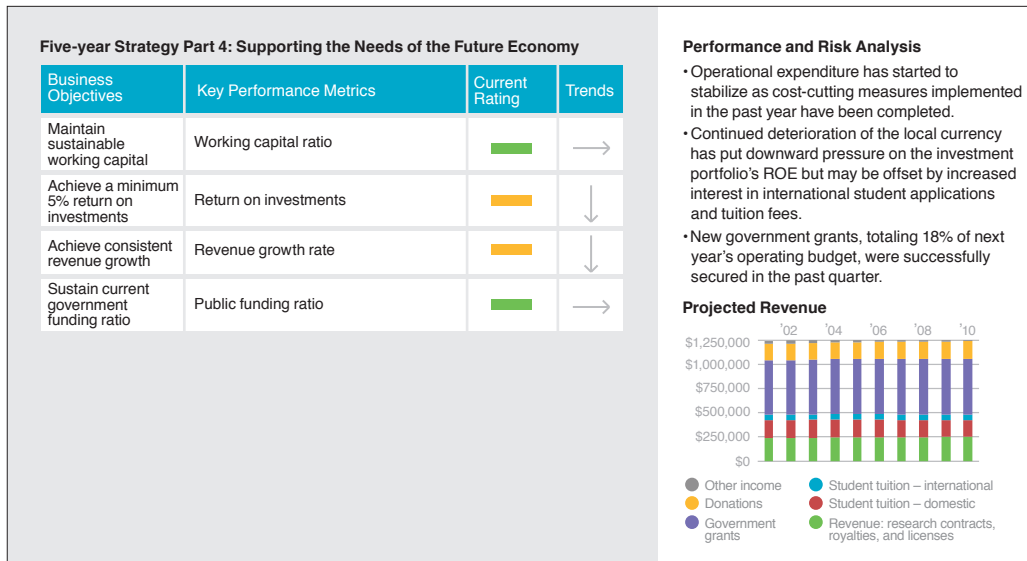


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³ For brevity, only select key performance metrics listed in Figure 2.2: Five-Year Strategy Part 1: Delivering Academic Excellence are shown in the executive dashboard.



Figure 2.3: Continued

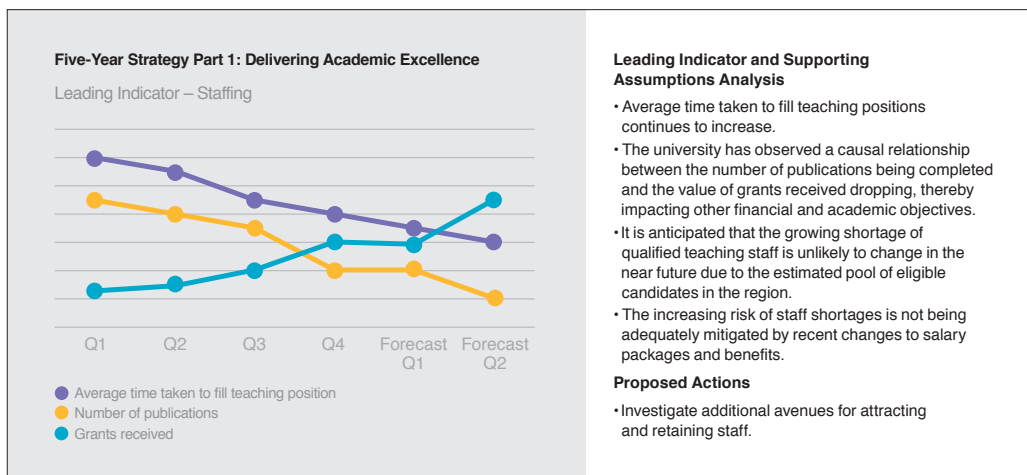


Key Observation

The rating and trend analysis was completed in relation to objectives, not risks. This approach focuses the board on performance-related conversations rather than risk-centric conversations.

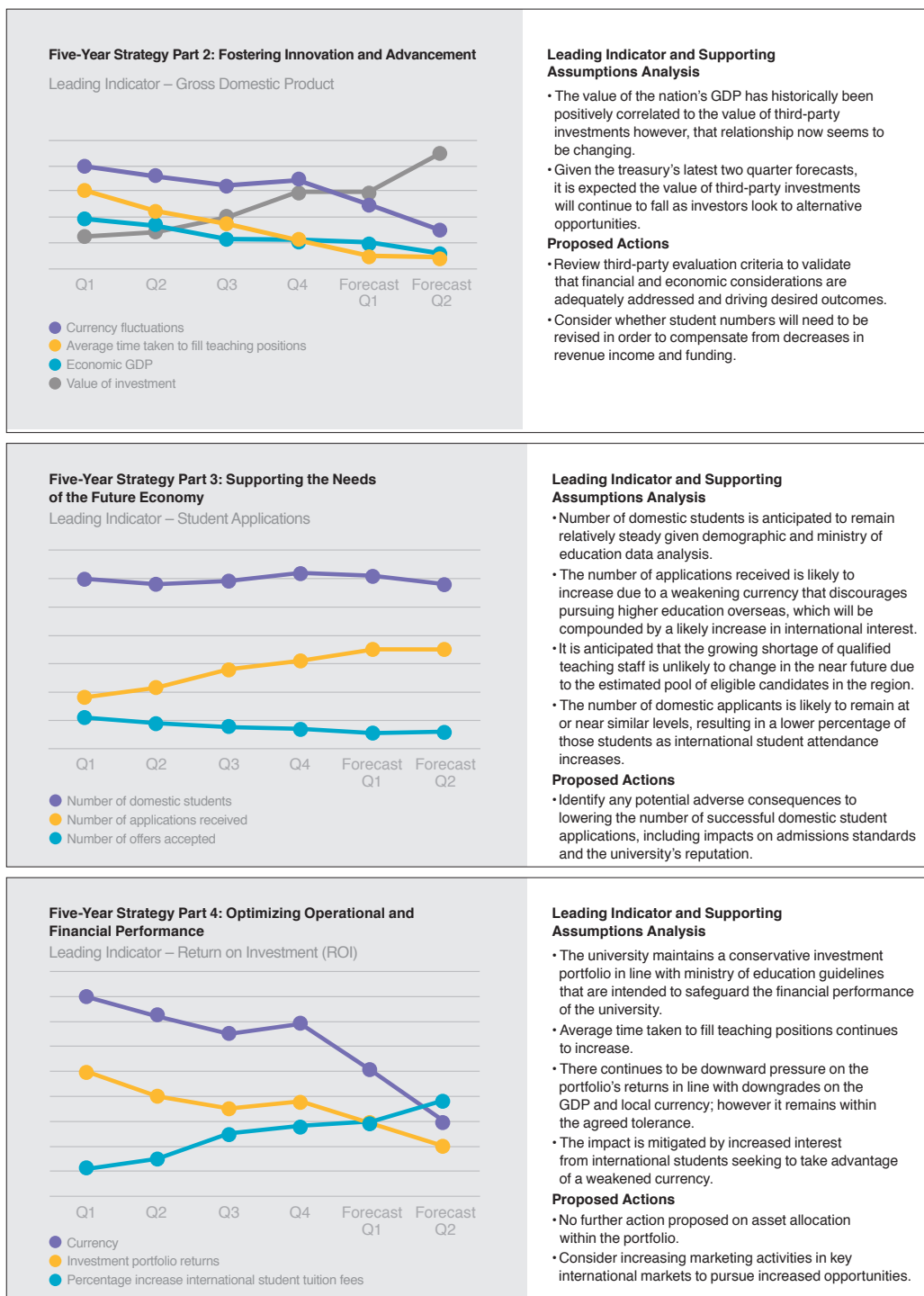
The balanced scorecard included key indicators and trends for each business objective to highlight levels of performance and identify potentially manifesting risks. The analysis, included in the monthly management report, integrated the discussion of performance and risk to provide context to the university's level of confidence in achieving its strategy and business objectives (see Figure 2.4).

Figure 2.4: University Monthly Management Report



Continued

Figure 2.4: Continued



The analysis also permitted the university to highlight those risks or trends that impact more than one section of the strategic plan. As an example, the increase in university partnerships with industry and commercial entities influences the risk profile of Part 3, Supporting the Needs of the Future Economy, and Part 4, Optimizing Operational and Financial Performance.



Once it improved its reporting practices, the university was able to provide greater transparency of its current and forecasted performance to share with potential third parties. In the case of Lambda Labs, the pharmaceutical research group was seeking to partner with the university to build a state-of-the-art research laboratory that would house world-class research teams and teaching facilities for undergraduate and postgraduate medical students. The construction of the laboratory would be seen as a competitive advantage in recruiting students and bolstering the quality of the academic curriculum and teaching capabilities.

As part of the proposed contract, Lambda Labs included a provision granting them an exclusive license and patents to the use of any inventions produced as result of the contract. Using the evaluation criteria, the members of the steering committee compared the effect of the agreement on the university’s projected financial performance and its objective of maintaining a rigorous academic curriculum.

- The Office of Industry and Commercial Liaisons (OICL) identified that the agreement would be highly lucrative to the university and likely result in increased revenues from government funding and grants, greater investment from other potential donors, higher student admissions, particularly from international locations, and less need to self-fund significant capital expenditures that would have been necessary in the mid-to long-term. However, it also identified the potential for the partnership to overperform in some of these areas, which could challenge the capacity of the university.
- The steering committee also noted the potential of the academic program. They identified two areas of concern in particular: actual or perceived bias in the research, and the ability to maintain academic freedom.
- Moreover, the impact of the proposed new research would have mixed results on the ability to recruit and retain academic staff. While the facilities themselves would likely entice more interest from experienced researchers and faculty staff, the clauses in the contract that might affect academic freedom and cause the perception of or actual bias would likely have an opposite effect. The steering committee also identified clauses in the contract that could impact existing employment contracts and performance metrics relating to research and publication efforts.

The steering committee presented the findings to the board for their consideration. Figure 2.5 is an extract of that report.

Figure 2.5: Report to Board—Extract

Risks Likely to Increase as a Result of the Proposal	Risk Category	Business Objective Impacted
Risk of partnership agreement not satisfying MOE accreditation requirements	Obligations	Satisfy compliance requirements and obligations
Risk of IP, copyright, or other infringements due to partnership agreement	Obligations	Offer a rigorous independent academic curriculum
Risk of academic freedoms being threatened	Academic Affairs	Offer a rigorous independent academic curriculum
Risk of not attracting staff due to concerns relating to academic freedoms	Human Capital	Attract and retain teaching staff to facilitate academic excellence
Risk that Lambda Labs is subject to adverse media coverage due to its other business activities impacting the reputation of the university	Academic Affairs	Offer a rigorous independent academic curriculum

Steering Committee Recommendation:
Submit to university Board of Trustees for consideration.

Lambda Labs Research Facility Proposal – Executive Summary

Overview of Proposal

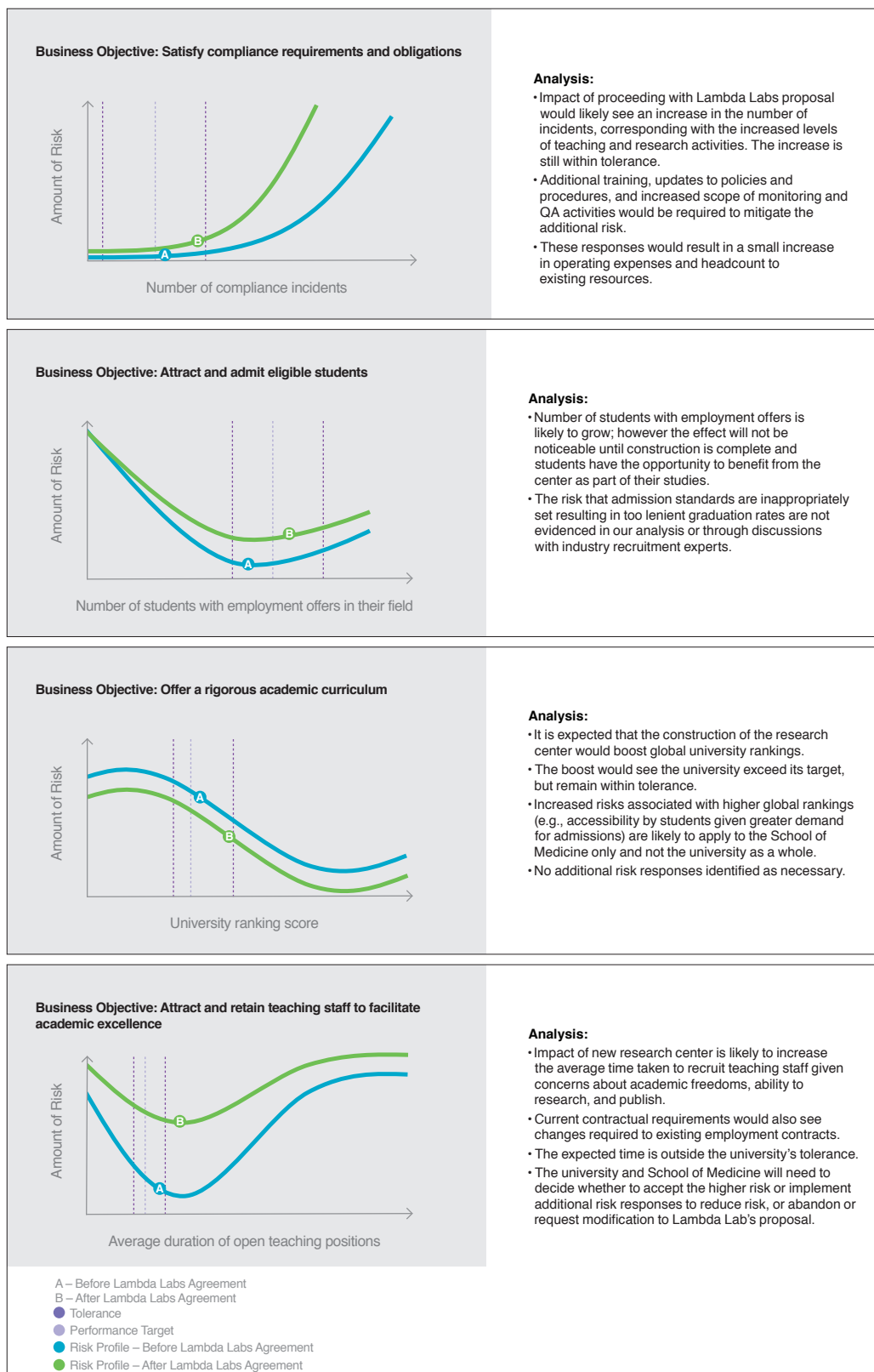
Lambda Labs is an international pharmaceutical research group focusing on biogenetics. Lambda Labs is looking to partner with a prominent university to accelerate research activities leveraging the combined expertise of its partner and in-house resources. As part of the proposal, it would assume the cost of building a new state-of-the-art research center including laboratories, and teaching and conference facilities. As part of the agreement, Lambda Labs would retain an exclusive license to all inventions arising from the partnership.

Intended Benefits

- Construction and maintenance costs of the new research center would be the responsibility of Lambda Labs. This would reduce operating expenses for existing facilities by 2% in the next ten years.
- The research center is expected to attract an increase in research grants, gifts, and endowments of 11% to 16% over the next five years, improving the financial performance of the university.
- The research center is expected to solidify the reputation of the university’s School of Medicine as the undergraduate and postgraduate institution of choice, attracting a greater number of international students in the process.
- It is anticipated that outcomes and employment prospects of students are likely to increase as a result of having benefited from using the center’s facilities and expertise during their studies.
- It is intended to be a positive influence on the ability to attract and retain research fellows and staff from around the world.

The following detailed analysis in Figure 2.6 outlines the anticipated changes to the risk profile and performance of the university if the research center were to be built.

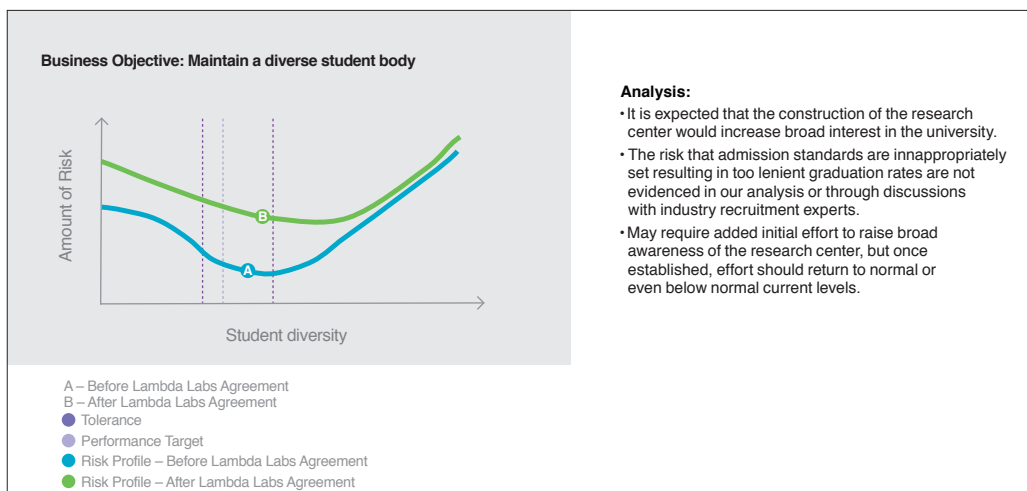
Figure 2.6: Analysis of Risk Profiles



Continued



Figure 2.6: Continued



In its oversight role, the board is required to balance the financial windfall and reputational gains from any agreement against the potential threats to academic freedom and independence of research. In this case, the board ultimately decided to pursue the opportunity with Lambda as it aligned with both its mission and vision and five-year strategic plan, with the proviso that additional clauses be inserted in the contract guaranteeing the university’s rights to teaching, research methods, and publication that are free from commercial influences.

Oversight Delivers Value

Prior to enhancing its enterprise risk management capabilities, the board had taken a less rigorous approach to understanding risk when venturing into new areas. The efforts in place today provide the board with greater confidence that it has considered the full spectrum of risks and evaluated the decisions on more than just the financial merits, such as those offered by the Lambda deal.

Further, by updating reporting to include performance and the risks associated with the levels of performance the university was pursuing, the board had provided the information it needed to exercise its oversight role. The reporting assisted the board in asking more insightful questions and analyzing the level of risk it was accepting relative to the partnership with Lambda Labs. Due to active board oversight, the university was able to secure the partnership, and revenue is expected to increase as the partnership goes into effect. More timely and focused reporting also enables the board to act sooner and with greater clarity, thereby reducing overall performance variability.

3. Culture in a Government Entity

Industry Context⁴

Government entities often have complex and diverse missions that set the stage for the overall strategy to provide services to the public. Developing and carrying out a strategy can be complicated by changes in budget, political climate, highly visible public oversight, and even the overall mission. Many government entities face significant resource constraints and declining budgets, which impede their ability to hire in response to attrition and retirement. This challenging environment often results in employees who focus only on carrying out their day-to-day responsibilities, not the bigger picture.

Government entities may be influenced by any or all of the following external factors:

- Political landscapes that affect funding and priorities.
- Budget allocations by legislatures that impact the priorities of the entity and any mission changes.
- Demographics, including population growth rates and age distribution, that impact the size of the population the entity serves.
- Technological shifts that impact the type and amount of automation within operations and the challenge to keep pace.
- Changing leadership within governments that create new priorities or modify existing ones.
- Climate change, which impacts scrutiny of related government policies.

They may also be influenced by the following internal factors:

- Availability of capital, which depends on the current political atmosphere and may require government to constrain activities or quickly reallocate funds.
- Attrition and competition, which can impact the availability of highly skilled labor.
- Operational failures that challenge the ability to carry out the mission.
- Availability of investment for technology infrastructure that impacts the ability to perform complex and interconnected activities.

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Reminder: The examples do not illustrate a complete view of all enterprise risk management practices in an organization. Each organization should consider and adapt the principles set forth in the Framework to its specific strategies, risks, and opportunities based on its size, scale, and complexity.

Key Benefits of Enterprise Risk Management in the Example

This example shows how a government agency changed its culture to more effectively identify and manage entity-wide risks.

Principles Demonstrated

The following principles are primarily demonstrated in this example:

- Principle 3: Defines Desired Culture—The organization defines the desired behaviors that characterize the entity’s desired culture.
- Principle 4: Demonstrates Commitment to Core Values—The organization demonstrates a commitment to the entity’s core values.
- Principle 5: Attracts, Develops, and Retains Capable Individuals—The organization is committed to building human capital in alignment with the strategy and business objectives.

Aspects of the following principle are also demonstrated:

- Principle 20: Reports on Risk, Culture, and Performance—The organization reports on risk, culture, and performance at multiple levels and across the entity.

Facts and Circumstances⁵

The Department of Local Enterprise is a government entity that has experienced years of declining budgets and increasing mission responsibilities. It also has been faced with an aging workforce, resulting in a high rate of attrition due to retirement. These factors have affected the department’s ability to effectively manage its operations. For some time managers and employees have been overwhelmed and, as a result, have focused on carrying out their day-to-day responsibilities without considering performance or risk implications.

The operational area that reviews applications for real estate development has been particularly hard hit. Over one two-year period, there was an increase in new, first-time applications, a trend tied to revitalization efforts across several communities. Already short staffed, the group was unable to keep up with the volume. Consequently, there were severe delays in reviewing applications and issuing permits—up to nine months in some cases, three times longer than other permit-issuing entities. Worse, the delay snowballed. After two years the backlog of a few hundred applicants grew to several thousand.

Most of the employees who handled the applications considered the situation at the time as being futile and just focused on reviewing what they could in a day’s work. The few employees who tried to discuss the situation with management had their concerns ignored.

This operational issue began to negatively affect the reputation and trust of the entity when the media reported on the significant delays, and external stakeholders expressed grave concerns about the management of basic operations. The public embarrassment was matched by calls for investigations into what went wrong. In response, senior leadership met to discuss how they could solve the application backlog by reallocating resources and considering opportunities for more efficiency. But they also realized it was time to address a growing cultural challenge, reiterate the department’s core values, and look at creative ways to attract the next generation of employees.

⁵ Names of organizations and people in this example are fictional, and any resemblance to actual organizations and people is coincidental.

Discussion

Addressing Cultural Challenges

Russ Desjarles, the head of the Department of Local Enterprise, recognized that the backlog of real estate development applications was a symptom of a larger and growing operational and cultural issue. Management at all levels had not been adequately evaluating the performance and risk implications of their actions and using that information to make better decisions. Additionally, the tone from management suggested that employees should just focus on getting their work done, not on raising issues of risk. Russ and his leadership team acknowledged that this culture was causing problems to linger.

The leaders agreed on a first step to evolve the culture to be more risk aware: embed enterprise risk management capabilities into each business unit in order to create a safe place for employees to talk about risk and provide line of sight into each operating area. They did this by creating the role of “risk ambassador” for each business unit. These risk ambassadors were to be the primary link between their business unit and senior management on issues of risk. They were given the responsibility of helping their individual units develop adequate risk management practices and infrastructure to identify, assess, and treat risk at all levels of the operation. This organizational model allowed the leadership team to be connected to every business unit to drive training, communication, and feedback about the cultural changes made.

Crucial to the success of this model was choosing the right people to be risk ambassadors. Each ambassador needed to command respect from both employees and the head of the business unit—for example, a senior manager with a reporting line directly to the head of the business unit. This helped to improve acceptance of the ambassador within the business unit and made it more likely that employees would be willing to discuss risks with them. The success of this effort soon became apparent. Within the first three months of the program, a risk had been brought up through the ambassador network, which was then escalated to the head of the business and resulted in a change to the process that kept the risk from manifesting.

Also important to the success of the model was the effort to communicate the message from the top—that message being that a fundamental change in environment was needed, one in which all employees felt safe bringing up and discussing risks. Russ reiterated this message in all meetings with employees at all staff levels. The senior leadership discussed what was required to create a safe environment, and they produced a webcast on how to do that. The risk ambassador program showed the tangible commitment to the new culture. Further, several early examples of employees escalating risk information, and the department subsequently responding to the risks without retaliation, communicated to the organization that management’s efforts were sincere and that all comments would be taken seriously.

Key Observation

Defining roles and responsibilities for enterprise risk management at all levels of an organization sets the expectation that it is not something left to those in charge of risk, but something the entire organization must embrace and participate in.

Because Russ could not offer financial incentives to promote the desired behavior, other types of rewards were established, including being recognized by senior leadership. The new practices were formalized into written employee roles and responsibilities, which became part of the measure of individual employee performance during annual personnel reviews. This action reinforced the message that any deviations from the expected behavior would be handled through the personnel performance management process.

Several statements of responsibility related to practices that were intended to help move the organization toward the desired culture:

- Management creates a safe environment, which encourages transparent risk identification by staff from across the units and is supportive of open risk discussions.
- Management motivates employees to embrace risk management and provides them with the tools and training to do so.
- Management encourages integrating risk in the decision-making process.
- Risk ambassadors promote enterprise risk management awareness through transparency in all directions and by sharing business unit enterprise risk management successes and best practices.
- Employees understand and accept responsibility for identifying, assessing, and managing risk.

Finally, the leadership team built on an existing strength to change the culture: its successful training program. Historically, training had been a primary catalyst for communicating transformational ideas. It was also one of the only venues where employees could interact across business units, so they generally looked forward to participating in training. Leadership recognized the power of training and decided to use it to address some of the cultural issues and to enhance the organization's overall risk capabilities. Training was tailored to different staff levels to reinforce the desired behaviors at each level. For senior management, training emphasized the importance of building a culture where risk information is shared at all levels. For employees, training emphasized the importance of identifying and escalating risk information.

Key Observation

By aligning risk reporting with existing reporting processes, risk management is not viewed as a separate activity, but as one part of managing performance and operations at each level.

The positive results were soon apparent. For those employees in the real estate development applications group, raising the level of risk awareness through training allowed them to identify and communicate risks to the objective of processing the applications, which resulted in modifying the process and improving efficiency. At another training event, Carina Mack, Cordell Bramble, and Madeline Fromm, ambassadors from three different business units, identified a risk that was common to them all. Considering the information in aggregate changed the

assessment of the risk and revealed a greater exposure. The three ambassadors worked with their business unit leaders to establish a small cross-functional team to develop the right response to the risk. Carina, Cordell, and Madeline were subsequently recognized by leadership for their efforts to identify, prioritize, and treat the risk. In-depth risk management training is now provided at least once a quarter to the risk ambassadors, since they are responsible for embedding risk management practices and capabilities into the operations of their respective units.

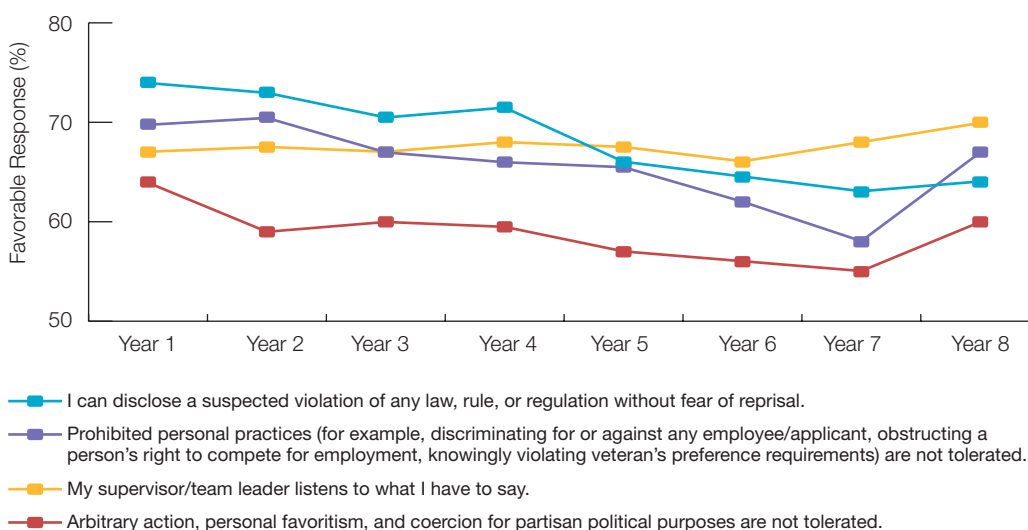
Russ has also made time for regular discussions on emerging risks. In these discussions, ambassadors identify emerging risks, considering the business context of the department and changes to the internal and external environment. This practice has now been carried into the regular processes of identifying business unit risks and strategic planning.

Understanding Changes in the Culture

Having implemented several cultural changes, leadership wanted to evaluate the impact of the measures taken. They already conducted an annual employee survey with broad focus, and that had a good participation rate. To avoid “survey fatigue” (which tends to drive low response rate), they decided they could use the information from the existing survey and build on it.

To that end, they collected the survey data from previous years and reported the responses concerning culture to the risk ambassadors and senior executives. Figure 3.1 illustrates the results of the survey over eight years, with the changes in culture being introduced between years 7 and 8. The four areas being tracked by the survey show improvement, but did not reach 80%, which was the target.

Figure 3.1: Employee Survey Results



Note that while the survey results did not drive culture change, they provided point-in-time information on how behaviors were changing. Senior executives were asked to review the trends and develop an action plan to change behaviors in their units to drive a culture of awareness and transparency for risk.

Designing Relevant Reporting

The issue of the real estate development applications revealed that the leadership team did not have a comprehensive view of the department’s top risks. In addition to taking steps to reinforce the desired behaviors and encourage communication of identified risks, senior leaders designed a risk-reporting process to provide information that would enhance decision-making and performance review. To that end, they developed a matrix showing the information requested, who required it, and the frequency with which it was requested.

The matrix provided what they needed to initiate two reporting requirements (raise awareness of risk and better integrate risk into decision-making). The first step was to tie the risks for each business unit to the unit objectives and performance through the quarterly business performance review. The discussion, which until this time focused on detailed business performance, was modified to include how the department assessed, prioritized,

Key Observation

You need to understand the stakeholders’ expectations for reporting before you begin to design your reports. That’s the only way you’ll prepare a report that gives them what they need.



and responded to the risks. The response discussion included the current response, the progress of any planned responses, challenges that management identified to implementing planned responses, and opportunities to improve the process as a result of the analysis.

The second reporting requirement called for more formal consideration of risk during the decision-making process. Both of these reporting requirements increased transparency of the risks being considered as part of business decisions and of how risks impact the performance of the business unit. As well, they imposed a consistency on management's review of decisions.

Throughout the entire chain of command, leaders now expect personnel to understand the risks at their level and be able to report them. This expectation is built into the management structure, and risk is a common agenda item at management meetings.

Building Human Capital

Russ and the leadership team at the Department of Local Enterprise have continued to build a risk-aware culture with three specific initiatives:

- To respond to the opportunity to attract the next generation of talent (due to high attrition rate), they created a six-month rotational program where participants work with the risk management team, and then move into other management positions. This model allows the program participants to see the value of openly discussing risk and how risk information can be used to enhance decision-making. The program has helped to change the culture as the program participants take the information into the different business units where they use their new skills.
- The leadership team has established a relationship with a local university that includes enterprise risk management in its curriculum. The senior managers provide the university with job descriptions for available positions for graduates, and the university feeds those opportunities into its pipeline of talented students that already have enterprise risk management knowledge.
- The operating model of ambassadors has been continued and is now embedded so that unit leaders better understand the risks to the business objectives of their individual units. Many of the ambassadors now think differently about the business and have consequently been elevated in their levels of authority.

These three initiatives have allowed the leadership team of the Department of Local Enterprise to add enterprise risk management skills and capabilities to the list of required skills for succession planning.

Key Observation

Discussions that specifically focus on emerging risks and risks from the external environment can help an organization understand important disruptive events.

Russ also recognized that the business units needed to embrace risk management and embed it into their operations if they wanted to receive timely risk information to inform decision-making and avoid issues such as the one related to real estate permits. To help support this practice, leadership established a series of operating standards that all the units are expected to meet. These standards provide enough flexibility so units can implement risk management effectively while still retaining

consistency across units. The department uses peer review as one method of evaluating the competence of the staff directly responsible for risk management and whether the units are achieving the standards. Ambassadors review the work of other ambassadors

and provide feedback on how capabilities can be enhanced. Aggregate feedback is also provided to inform topics for enterprise-wide training.

Leveraging Culture Results in Enhanced Performance

Together, all of these changes to enhance the culture and focus on risk awareness created an environment in which employees felt empowered. The result was their finding a solution to the original backlog problem. The focus on the desired behaviors and culture allowed the department to enhance—not inhibit—their ability to identify and communicate risks in the entity. Now the leadership team is better able to identify and respond to entity-wide risks before they became national news.

4. Culture in a Financial Services Company

Industry Context⁶

Financial services companies offer a wide variety of financial products to customers who want to manage their financial assets. These companies range from local credit unions to global institutions. Customers vary from individual retail clients to large organizations with sophisticated financing requirements. No matter what the size and scope of a financial institution, its complexity of products, operations, and balance sheet management is derived from its mission, vision, and strategy and influenced by the prevailing economic and regulatory climate. Regional banks, in particular, provide the financial lifeblood for the area in which they operate, supporting communities, industry, and small businesses in growing localized economies and creating jobs.

Financial services entities may be influenced by any or all of the following external factors:

- Regulatory scrutiny and heightened expectations of staff conduct, lending and sales practices, and the effectiveness of enterprise risk management programs.
- The health of the local economy, which typically is strongly correlated to the ability to increase deposits and lending activity and is affected by financial downturns.
- Economic implications from the distribution of wealth and by institutions financing new opportunities and businesses.
- Disruptions to the traditional banking models as new technology becomes available (e.g., e-banking).
- Significant capital and liquidity requirements imposed by regulators in order to solidify the financial foundations and resilience of financial institutions.
- Social expectations of corporate philanthropy and support of community causes.

They may also be influenced by the following internal factors:

- The need to manage new and increased capital requirements imposed by regulators.
- Competition for talented employees in new areas such as e-banking, model development, and credit risk management to support initiatives and respond to changes in the market.
- Stable, long-standing relationships centered on understanding customers' businesses, risk profiles, and capacity to meet their financial obligations.
- A relationship-based approach to lending that relies increasingly on qualitative information from customers, given the availability of audited financial statements, tax returns, or other verifiable information.

6 Reminder: The examples do not illustrate a complete view of all enterprise risk management practices in an organization. Each organization should consider and adapt the principles set forth in the Framework to its specific strategies, risks, and opportunities based on its size, scale, and complexity.

Key Benefits of Enterprise Risk Management in the Example

This example shows how a financial services company relies on its culture to increase the range of opportunities. It identifies opportunities to realign internal operations and customer interactions with its culture in order to promote its long-term financial success.

Principles Demonstrated

The following principles are primarily demonstrated in this example:

- Principle 3: Defines Desired Culture—The organization defines the desired behaviors that characterize the entity’s desired culture.
- Principle 4: Demonstrates Commitment to Core Values—The organization demonstrates a commitment to the entity’s core values.
- Principle 5: Attracts, Develops, and Retains Capable Individuals—The organization is committed to building human capital in alignment with the strategy and business objectives.

Aspects of the following principle are also demonstrated:

- Principle 6: Analyzes Business Context—The organization considers potential effects of business context on risk profile.

Facts and Circumstances⁷

Broad Bridge Bank was founded 120 years ago. This regional bank’s brand is based on a simple principle of serving the towns and business centers in the area: “We are at the heart of our community.” It currently has \$950 million in assets and approximately 30,000 customers. Customers range from retail to small commercial, industrial, and agricultural businesses that rely on the bank for working capital and related purposes.

The bank has twelve branches and introduced e-banking services nine years ago. The move to e-banking reduced some overhead costs and provided greater transparency of the behaviors and financial health of its customers. Bank managers have autonomy to tailor branch operations to their community needs, accept new customers, authorize lending decisions up to a certain value, and refinance existing financial arrangements with approved customers. Many bank managers pride themselves on knowing their customers well and offering personalized service. As one manager puts it, “the bank succeeds when our customers succeed.”

During a recent financial crisis, several things happened that affected the bank:

- Deposits and lending activities reduced dramatically as smaller businesses struggled to survive the economic downturn.
- Many small businesses that relied on their homes and other property as the main source of collateral were adversely impacted as property values plummeted, increasing risk to the bank. Collateral requirements of new and existing customers started to become more stringent as result.

⁷ Names of organizations and people in this example are fictional, and any resemblance to actual organizations and people is coincidental.

- Regulators began to scrutinize the bank’s lending practices and capabilities in assessing the creditworthiness of customers.

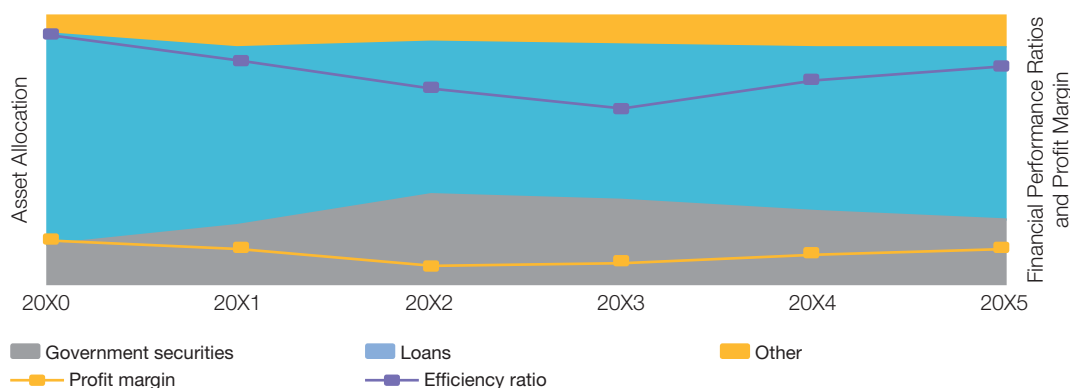
Broad Bridge Bank responded to these observations by moving away from qualitative assessments to more quantitative, verifiable sources of information and introducing more standardized assessment practices. The authority of bank managers to authorize new loans and other transactions was curtailed.

In addition to changes in banking practices, Broad Bridge Bank moved to offset rising costs and improve efficiencies by:

- Reducing staff and branch hours.
- Changing performance targets that emphasize transactions with higher fees or lower processing complexity and associated costs.
- Increasing on-line services to standardize processing workflow and reduce overhead costs.
- Reducing staff benefits and incentives.
- Reducing involvement in community activities, investments, and philanthropy.

Figure 4.1 illustrates the impact over several years of the bank’s decision to diversify the asset base to have a larger proportion of lower-yield, less-risky assets.

Figure 4.1: Broad Bank’s Asset Allocation and Financial Performance



Other relevant facts include the following:

- The board of Broad Bridge Bank, which meets quarterly, comprises seven independent directors with backgrounds in finance, banking, and law. Only three of the directors have lived or worked in the local area. The bank has chosen not to establish separate sub-committees and is governed by its board charter. The charter assigns governance and oversight responsibilities to the board in accordance with its mission, vision, and core values. Board directors are limited to a maximum of three terms, each lasting four years.
- The board recently appointed a new director, Betty Fund. She is a member of the community and local chamber of commerce, and was previously the financial director of a local business franchise. She was chosen to strengthen ties between the board and the local communities that the bank serves.
- In accordance with regulatory requirements, the board has appointed a chief risk officer (CRO), Tyler Mann, who reports directly to the board. Tyler has delegated authority to design and implement a suitable risk management framework.

Discussion

Before attending her first board meeting, Betty Fund asked Tyler Mann to prepare a report outlining the portfolio view of risk given the performance of the bank. The report highlighted the following:

- There is increasing disparity between the expectations of regulators, shareholders, the community, and bank customers.
- Competing priorities create confusion among leadership and lead to inconsistent decision-making.
- Lending practices and ratios are affecting the economic recovery of the local areas the bank services.
- Lender distress is increasing, as evidenced by late repayments and defaults.
- The number of complaints and adverse social media postings about staff interactions with bank customers is on the rise.
- Market share has started to diminish as customers move to new, competitive entrants in e-banking.
- Staff turnover has increased, and the bank has experienced difficulties in attracting new staff in targeted areas such as IT resources, compliance, and credit risk management.

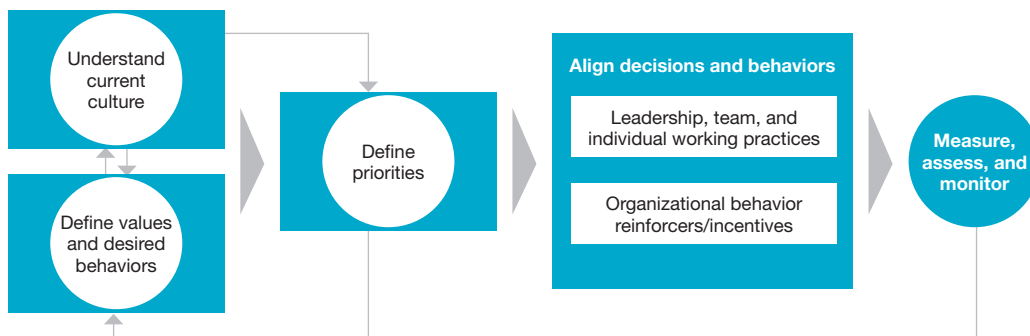
The report concluded that while efforts to secure the financial future of the bank have been successful in achieving the business objectives relating to financial safety and soundness, greater risk now existed in the achievement of business objectives relating to customer satisfaction, market share, branding, and innovation. As well, in the longer term, the risks to these other objectives were likely to eclipse the financial safeguards introduced by the bank and impact its pursuit of its mission and vision.

Defining Desired Behaviors

At the quarterly board meeting, Betty asked Tyler to present his findings from the report. Afterwards, the board concluded that the bank needed to renew its focus on its mission, vision, and core values, and asked the management team to put together a plan of action to present at the next board meeting.

The management team decided on an approach that would help them set their priorities. They began by defining desired behaviors in accordance with mission, vision, and core values. They also undertook an enterprise-wide assessment of the existing culture to identify where behaviors may have deviated or where changes were required. Their plan of action is illustrated in Figure 4.2. They also implemented mechanisms for monitoring future changes.

Figure 4.2: Broad Bank’s Plan of Action for Defining Culture and Desired Behaviors



Following the analysis, management defined its priorities for implementing changes. They began by alerting staff that they would be assessing current bank operations, including lending and sales practices, customer service, and back office operations. The goal was to identify potential risks and their root causes and propose management actions. In an email to the bank's staff, the chief executive officer reaffirmed his commitment to the core values of Broad Bridge Bank and assured staff that they would be free from retribution if they came forward with any concerns. A series of staff and team meetings were scheduled for the following weeks. Meetings were held in informal settings and were led by members of management, not by the group team leader. This format allowed staff to be more comfortable in raising their concerns.

Management used the following statements to gauge reactions and obtain insights from staff during the meetings:

- Our core values are clearly understood.
- Policies and procedures provide clear guidance for expected behavior.
- Decisions are made in line with our core values, even in the absence of a defined process or policy.
- My leader does not compromise compliance and good risk management practices in pursuit of sales targets.
- I have a clear understanding of what is expected of me.
- I am encouraged by my leaders to report issues and concerns.
- I can articulate how my role fits into the bank's objectives.

After this exercise, the management team reconvened to analyze what they had learned from the employees, which they summarized as follows:

- Staff were bearing the brunt of customer frustration in response to more stringent loan application processes, shorter branch hours, and reallocation of client portfolios from long-standing relationship managers.
 - Bank managers felt less empowered to make decisions and help customers most effectively. As one manager stated, "I used to help my customers build better businesses. Now I hand them a form to fill in."
 - Customers were posting complaints about the bank's customer service on social media, stating that Broad Bridge Bank had turned its back on its customers and its community.
- Several larger clients had been interviewed by the local press and admitted that the lack of support from Broad Bridge Bank was impairing their ability to grow their businesses and create jobs in the area.
 - Staff were aware of the bank's brand, but that had not been translated into policies or other tools to help with decision-making. Consequently, inconsistent decisions were being made concerning underwriting, budgeting, and other operational matters.
 - Staff were unsure how performance targets and incentives were determined given the competing objectives of being financially successful while meeting the needs of the community.

Key Observation

To analyze observations and assess the impact on performance, management groups the findings by objective, not by risk type, to better identify where risks are either occurring or changing in severity.

In response to what they learned, the management team prepared a plan to address how the core values of the organization should be strengthened and integrated into day-to-day operations. The plan reaffirmed management's commitment to the mission, vision, and core values of the bank as follows:

- **Mission:** Support the economic growth and foster financial prosperity of our community through the provision of banking and financial services.
- **Vision:** Be the most trusted business advisor and bank of choice for our community.
- **Core values:** We act with the utmost integrity and professionalism, providing the highest level of customer service and honoring our responsibilities we have to our customers, staff, and community.

The plan has four major sections that are in line with the strategic plan, business objectives, and core values:

1. Demonstrating leadership.
2. Providing excellent customer service.
3. Improving internal operations.
4. Building human capital.

Demonstrating Leadership

Management implemented training modules specific to the mission, vision, and core values, and through this scenario-based training they enabled personnel to better understand how individual expectations drive desired behaviors throughout the bank. For example, relationship managers were given a scenario of receiving a financing application from a long-standing customer who did not meet all of the revised quantitative information requirements. Training was provided on what other information could be relied on to meet the regulatory requirements and how to decide whether to approve the application that was in line with the bank's core values and risk appetite. Staff were also given guidance on how to work collaboratively with clients to strengthen applications where needed.

Management set for themselves the expectation that they would embed the values and desired behaviors in all future communications. The values and behaviors would be front and center in leading the organization to be aligned with strategy, risk, and performance. They also developed new board-level reporting metrics related to risk, performance, and culture, including:

- Community engagement indexes.
- Customer satisfaction and loyalty.
- Employee empowerment and commitment.

The intention was to join these to existing financial, market share, regulatory compliance, and efficiency metrics to form a more comprehensive balanced scorecard in assessing the bank's performance and risk profile.

Providing Excellent Customer Service

Having reviewed customer complaints and considered the experiences described by branch staff and call-center team members, the bank decided to reinstate the delegation of authority that had been in place before the financial crisis. This meant that those employees who interacted directly with customers would once again be making the

majority of day-to-day decisions, approving applications by new customers, and changing lending limits and refinancing terms. Of course, the expectation remained that all decisions must still align with the bank's risk appetite and performance targets.

Branch operations were also reviewed. Where appropriate, branch opening hours were extended to mirror the needs of small businesses and rural communities. An analysis of the walk-in traffic confirmed that the costs of keeping some branches open is offset by the increasing banking activity and directly correlated to customer satisfaction scores and brand perception within the community.

The bank also launched its "customer first" campaign to encourage relationship managers and bankers to spend more time with their customers and to better understand their businesses. Managers were encouraged to make site visits and develop a communication plan for all clients to ensure ongoing contact, anticipate future needs, and identify potential issues. One objective of the campaign was to get ahead of clients experiencing difficulties and come up with alternative financing options before defaults took place.

Improving Internal Operations

The bank also turned its attention to its internal operations. While it had progressively updated policies and procedures to meet new regulatory requirements, it had not reviewed the impact on its ability to adhere to its core values. The bank therefore undertook a modeling exercise to determine the relationship between its lending practices and subsequent economic growth. That is, it researched the impact of banking activities on sales, revenue growth, and job creation for local businesses. Based on what they learned, the bank revised its underwriting and credit risk management policies to clarify types of qualitative information they could rely on to support more consistent lending decisions by relationship managers and lending staff.

Additional training was offered to all staff to reinforce expected behaviors and compliance with policies and procedures. The bank also developed a program of ongoing training so that the growth and development of employees would continue to be integrated with the established values and behaviors.

Finally, a full-time community relations advisor was appointed to promote stakeholder interests. The role includes identifying opportunities for the bank to get involved in community initiatives and philanthropic investments. To that end, the advisor now works closely with the heads of retail and commercial banking as well as the customer care teams to promote more effective community engagement.

Building Human Capital

The bank integrated the values and desired behaviors into the human capital life cycle, which includes recruiting, performance management, and termination.

New employees are now required to complete the training modules (mentioned above) to promote the bank's values, and behaviors are communicated and understood from the onset. The bank reinforces its values and desired behaviors by circulating periodic

newsletters to highlight new policies and processes and remind employees of their personal responsibilities. Culture is reinforced through required annual training for all employees.

The values and desired behaviors have also been integrated into annual performance reviews, which are the basis for evaluating and compensating team members. Every role in the organization is measured against the common set of desired behaviors. Adherence to risk-related procedures is part of the review.

Broad Bridge Bank also decided to review its incentives program and consequently modified the compensation structure to focus on long-term sustainable performance in line with core values, rather than short-term performance. They made adjustments to include performance incentives to recognize positive risk management behaviors, and mechanisms that trigger bonus forfeiture in the case of reckless risk taking. By integrating risk metrics into the employee compensation program, management demonstrated its commitment to promoting desired behaviors of performance and risk. Connecting compensation and risk-adjusted performance helped create outcomes that aligned with the company's portfolio view of risk. The rewards and consequences demonstrated that risk management is everyone's responsibility.

Following each performance evaluation, management now establishes performance goals with employees for the upcoming year, embedding enterprise risk management practices and capabilities into the achievement of those goals. Accountability for risk management responsibilities is clearly defined and employees are required to fulfill risk-related objectives as part of their annual goals. Management has also established individual and unit-level performance measures, incentives, and rewards, embedding the values and desired behaviors into the process. Customer satisfaction measures have been included in an effort to maintain a customer-centric posture and incorporate customer expectations into the process.

Ongoing Review

Six months after the initial review and before the next analyst briefing with investors, Betty Fund requested an update from Tylor Mann on how the changes in culture had affected performance. While the culture had not completely changed, there were some measurable impacts:

- Walk-in traffic during extended opening hours remained high in remote branches as customers looked to complete their banking at the beginning or end of the day's trading hours.
- Profitability and efficiency ratios deteriorated slightly after the initial outlay of costs in implementing management changes but have since stabilized.
- Credit file reviews had uncovered less variability in lending decisions with greater understanding by lending staff on reviewing and approving applications and transactions.
- The number of customer complaints had not changed, but resolutions were being achieved 18% faster.
- The bank's social media platform was once again focused on its community initiatives and activities and was no longer being used by customers as a means to communicate their dissatisfaction.
- The community advisor reported strong correlation between the provision of banking services and growth of new jobs in local counties. Further, the advisor was working with relationship managers to capture more qualitative data for existing customers to support their future banking needs.

Key Observation

Review activities should account for the time horizon of the entity's strategy and business objectives as well as any associated assumptions.

Refocus on Culture to Meet Objectives

When Broad Bridge Bank identified that the actions they were taking to meet their financial objectives were impacting their customer service objectives, they recognized the need to update their core values and focus more on meeting customer service objectives. The bank's directors and chief risk officer reinforced the need to make decisions that considered the full spectrum of risks, not just the potential financial impact. With a refocus of the culture on all of the bank's goals, decisions are now being made that balance the customer, the community, and the financial returns. And by having a complete understanding of the risks to all of these goals, the bank is now better able to identify opportunities to attain each of them.

Taylor summarized the results of the changes by saying that while some of the actions taken by management had put additional pressure on the bank's financial results and efficiency ratios, the bank's reputation had already started to improve in the eyes of the community. Living the core values of the bank is now seen as integral to the long-term strategy and will be highlighted to analysts and investors alike.

5. Strategy and Objective-Setting in an Energy Company

Industry Context⁸

Energy sector entities include those that are involved in the exploration, production, or management of resources such as oil, gas, and coal, as well as others that service these industries. Entities are usually divided into three major components: upstream, midstream, and downstream:

- Upstream entities find and produce energy commodities such as crude oil and natural gas.
- Midstream entities process, store, market, and transport commodities.
- Downstream entities refine, distribute, and retail energy commodities.

Energy entities may be influenced by any or all of the following external factors:

- Political intervention, which is often driven by the perceived economic value (jobs) versus the social and environmental considerations of any project and often gives rise to significant regulation.
- Economic performance that can be strongly influenced by changing commodities prices, such as crude oil and natural gas, and be sensitive to changes in consumer demand.
- Social values, such as the call for clean energy (e.g., electricity) and the health and safety concerns emanating from energy exploration and distribution methods that may drive stakeholder activity.
- Technological advances in extraction, refinement, and distribution.
- Legal and environmental considerations related to extraction and distribution.

They may also be influenced by the following internal factors:

- The importance of access to capital to maintain the viability of the entity.
- The challenge of securing skilled labor for operations, sometimes in remote locations.
- Processes to maintain safe and efficient operations that comply with all laws and regulations.
- Technology that supports operations.

Key Benefits of Enterprise Risk Management in the Example

This example demonstrates how enterprise risk management, applied in the setting of strategy, helps to increase the range of opportunities and the allocation of future

⁸ Reminder: The examples do not illustrate a complete view of all enterprise risk management practices in an organization. Each organization should consider and adapt the principles set forth in the Framework to its specific strategies, risks, and opportunities based on its size, scale, and complexity.

resources, and improves overall performance by reducing variability in carrying out the chosen strategy.

Principles Demonstrated

The following principles are primarily demonstrated in this example:

- Principle 6: Analyzes Business Context—The organization considers potential effects of business context on risk profile.
- Principle 7: Defines Risk Appetite—The organization defines risk appetite in the context of creating, preserving, and realizing value.
- Principle 8: Evaluates Alternative Strategies—The organization evaluates alternative strategies and potential impact on risk profile.
- Principle 9: Formulates Business Objectives—The organization considers risk while establishing the business objectives at various levels that align and support strategy.

Facts and Circumstances⁹

A national downstream provider of oil and gas, Delta Company, has been operating for over fifty years and is publicly traded. It is regulated at the federal level, although local governments also have input on significant infrastructure developments. The company has a solid safety record, with only minor leaks in the distribution system in recent years. The company has a mission that refers to the acquisition and delivery of safe, reliable oil and natural gas in a sustainable, cost-effective manner.

Over the years, Delta has generated consistently strong earnings, and in the past five years it has been rated as “outperform” by many analysts based on its earnings history, dividend policy, and safety record. Delta’s management and board are eager to maintain this rating, and they recognize that larger capital requirements, especially those that may challenge the dividend policy, could trigger a downgrade in that rating.

The organization is keenly aware that it has little ability to influence demand for its products. The company is generally expected to supply products to meet any level of demand. With current expectations of growth in consumption, capital investment may be needed unless efforts to influence demand can be put in place. With this in mind, Delta is in the process of deciding whether to move from traditional gas meters to smart meters.¹⁰

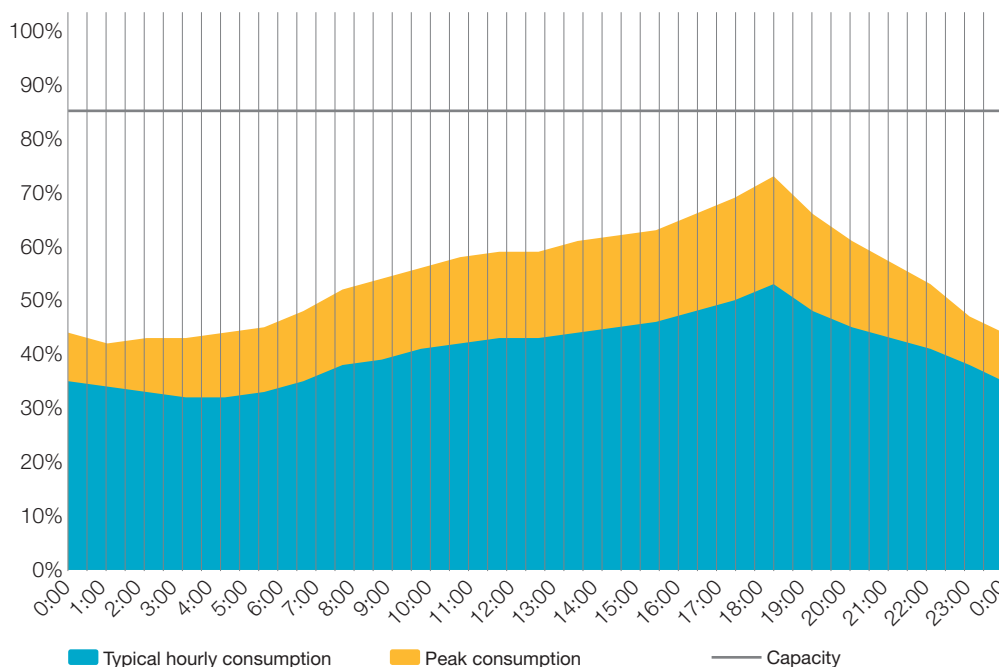
Gas Consumption

Current daily consumption of gas typically follows a pattern as illustrated in Figure 5.1, which shows that the demand generally hovers around 50% of the current distribution capacity. During heavy periods of demand this can rise to 70% of capacity. Delta does not wish to see demand exceed 85% of its capacity to deliver. As demand increases closer to the capacity, the company will have to consider adding costly infrastructure. In the current scenario, when there is heavy demand, the usage is trending closer to capacity.

9 Names of organizations and people in this example are fictional, and any resemblance to actual organizations and people is coincidental.

10 This example has been simplified to focus on one just important strategic initiative. A typical midstream company would likely have more than one initiative in development at any time.

Figure 5.1: Typical Hourly and Peak Natural Gas Consumption



Discussion

Linking Risk Appetite to Mission and Vision

Senior management, as part of their annual review of risk appetite, met on several occasions to discuss overall risk appetite. Individual views on what constitutes acceptable risk taking for the business were expressed, compared, and used as the basis of articulating the overall risk appetite. There was strong consensus that the company has always taken a conservative approach when dealing with significant change that could introduce new risks or elevate current risks to safety. This approach has always been considered prudent given the nature of the product, the overall mission, and the assessment of the maximum amount of risk Delta can absorb. However, Delta is willing to accept slightly greater risk when considering ways to improve customer service and overall financial performance.

Management has chosen to portray risk appetite through the lens of the key stakeholders: customers, employees, regulators, and suppliers. By understanding what matters to the stakeholders, the managers are better prepared to make decisions that align with those views and reduce unintended challenges.

As they embarked on this effort, the organization initially considered the impact on stakeholders of shifting to smart metering, comparing the pros and cons, outlined in Table 5.1.

Table 5.1: Assessing the Impact on Stakeholders

Stakeholder	Pros	Cons
Customers	Billings are more precise Less reliance on estimates between meter readings Potential cost savings for those able to shift consumption out of peak times	Concerns about health impacts related to radio frequency use Cost increases for those unable to shift consumption out of peak times
Employees	Opportunities to better understand customers and develop data-driven tools	Possible reduction in workforce with the elimination of manual meter reading
Regulators	None noted	Capital cost to implement may require approval process
Suppliers	Opportunity to sell new products	May encourage new entrants to the supplier pool

Based on what they found, the organization communicated its risk appetite as follows:

Delta Company will pursue innovation where it leads to improved customer service and efficiency in operations provided unless such innovation potentially elevates the safety concerns or creates significant disruption to business operations. Innovation that creates significant concerns about ongoing financial performance will be considered only where customer safety risks are unacceptably high.

This risk appetite is cascaded through the entity, becoming more focused for each department. (**Note:** As this example is focused on a decision that has an impact on strategy, examples illustrating risk appetite for a division or business unit are not shown here.)

Choosing a Strategy for Meters

The company had not upgraded its gas metering infrastructure in many years, relying on traditional diaphragm meters for its residential customer base. These meters are relatively inexpensive to produce and install and generally have a long life expectancy. However, they fail from time to time, causing customer supply to be cut off. Further, they must be read manually, and they only capture gas usage at the time of reading.

There are several factors the company needed to consider when developing a new strategy for meters. First, the current infrastructure did not allow the organization to manage consumer consumption patterns, so it did not have the information it needed to implement approaches that could change consumer behavior. For instance, implementing peak period billing provides an incentive for customers to shift discretionary gas usage to non-peak periods.

While the company had objectives relating to overall consumer consumption, it could not develop acceptable levels of variation to that objective under the existing information limitations. To address this concern, the company identified an opportunity to use smart metering technology, which would allow consumers to better manage their usage. Delta explored a “go, no-go” decision on moving toward this opportunity. Central to this decision was the infrastructure cost associated with upgrading to the smart meters, the cost efficiencies gained by not having to read meters manually, and the opportunity to capture consumption data that was not currently available to the company. Another key consideration was the safety concern of the radio frequencies emitted by smart meters. Further, with expected growth rates, Delta knew it might need to invest in added infrastructure to meet growing demand.

Analyzing Alternative Metering Strategies

The company focused on two options: 1) retain the current diaphragm meters, and 2) convert to new smart meters. In considering these two options, the company reviewed the following risk categories relating to its objective of managing natural gas demand:

- Capacity: the extent to which system capacity expansion would help satisfy increasing demand.
- Customer acceptance: the extent to which customers would embrace new technology.
- Customer behavior: the extent to which customer behavior would change once smart meters were installed.
- Economic: the extent to which smart meters would be economically viable.
- Regulator/Government: the extent to which new restrictions on the entity might be imposed or removed.
- Resources: the extent to which resources would be able to operate the new technology.
- Safety: the extent to which safety would be compromised.
- Supplier performance: the extent to which supplier performance would affect company performance.
- Technology: the extent to which designed technologies would function as intended.

Key Observation

Risks in the initial assessment consider all stakeholders.

In order to meet the objective of managing gas demand, management developed an initial profile for each of the two options following these broad risk categories. As this profile was being used for the initial consideration of the merits of moving to smart metering technology, the organization completed the exercise on a qualitative basis only. Should management decide to proceed with smart meters, they may further refine this profile using quantitative information when they install the meters.

Key Observation

Using the same objective for both scenarios increases comparability between the resulting risk profiles.

Each of the risk categories contained within the profile were reviewed by several departments in the company, most importantly by finance, human resources, marketing, media relations, operations, and strategy. Once management was comfortable that there was consensus on the risk ratings, they were able to develop a comprehensive risk profile for each option. Figure 5.2 shows the level of risk relative to varying levels of consumer consumption for both types of meters. The performance measure is shown as percentage demand of natural gas system capacity. Delta is able to operate for short durations above its capacity by accessing gas reserves from other neighboring utilities.

Figure 5.2: Relative Risk—Traditional Meters vs. Smart Meters

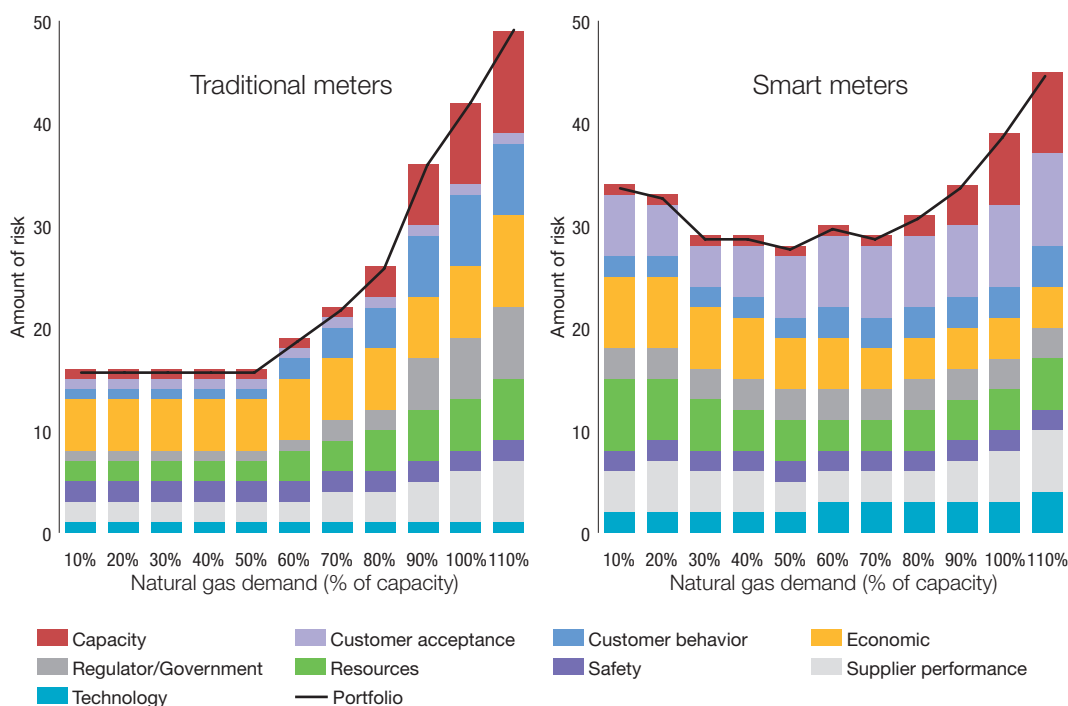
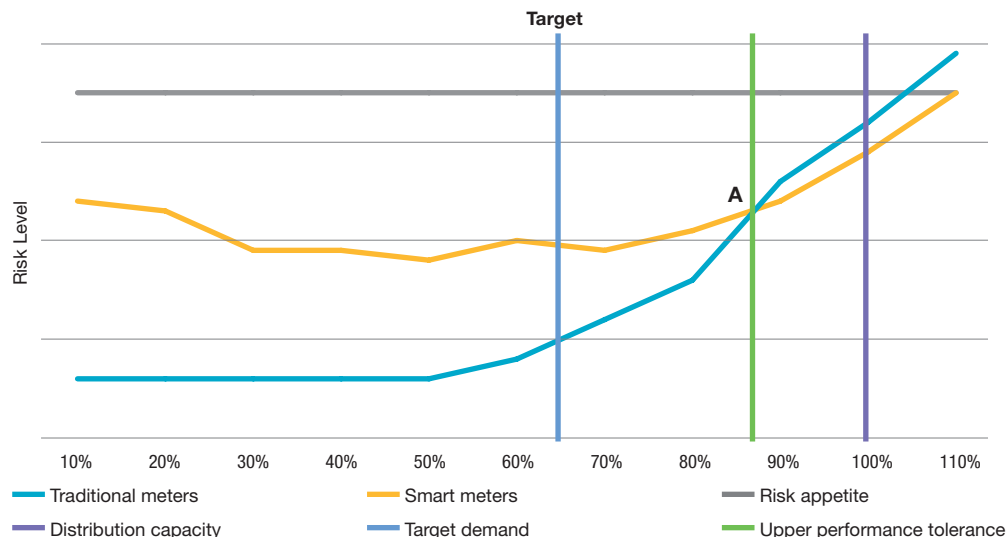


Figure 5.3 combines the information for traditional and smart meters in a graph comparing the risk profiles. It shows that the traditional meter has less risk at the current target level of demand, but as consumption increases, the overall amount of risk increases. Delta has little ability to change overall consumer demand, but smart metering provides a mechanism to change customer behavior, which impacts the demand. At the level of upper performance tolerance, the risk associated with the two types of meters is the same (Point A). The profiles show that as demand increases beyond the upper performance tolerance, the risk associated with the smart meter is lower than the traditional meter. Some of the risks that change at the upper demand levels for the traditional meter are customer behavior, regulator/government, supplier performance, and resources.

Figure 5.3: Comparing Risk Profiles—Managing Gas Demand



Management decided to recommend moving to the smart meter technology, based on the overall impact on capacity demand (performance). Consequently, they built a full business case to present to the board and, ultimately to the regulator, to approve the change to smart meters. After meeting with management, Delta's board agreed with the recommendation.

This approach also addressed a concern about capital investment needed to expand capacity. At current growth rates, Delta knew it would need to expand system capacity over the next ten years. Implementing smart meters created the ability to shift demand, which would defer this capital expansion. Management believed that with proper planning and oversight, the company could successfully implement such a strategy. Installing smart meters would allow the company to allocate capital resources based on the risk appetite developed. They were also aware that similar companies in other regions might be willing to share experiences in implementing these programs (because they weren't direct competitors). With all this in mind, the senior management team, with the help of human resources, began to identify individuals to hire or assist with the project.

Cascading Business Objectives

Delta developed many supporting objectives to meet this high-level objective of implementing smart meters. While not shown in this example, the company considered questions such as:

- Do we have sufficient financial capital necessary to achieve the objective?
- Do we have sufficient staff to carry out the tasks necessary to achieve the objective?
- What processes, systems, or supporting technologies may be impacted by setting this objective?
- What would happen if the company performs 20% or 30% *above* the goal being set for this business objective?
- What would happen if the company performs 20% or 30% *below* the goal being set for this business objective?

Figure 5.4 shows three entity-level objectives developed by management and cascaded into various divisions, relating to project management, information technology, and human capital. These divisional objectives helped to address a risk to the entity-level objective. In addition, the figure shows how the organization identified risks to these objectives at each level.

Having considered the potential risks for the various business objectives, Delta was confident they could achieve each of them.

Figure 5.4: Cascading Objectives—Delta

Project Management



Information Technology



Continued

Figure 5.4: Continued

Human Capital



Figure 5.5 follows the path of the first objective, “Identify a vendor suitable for implementing smart meters,” and shows that Delta has set acceptable variations in performance for these objectives.

Figure 5.5: The Path to Acceptable Variation



Key Observation

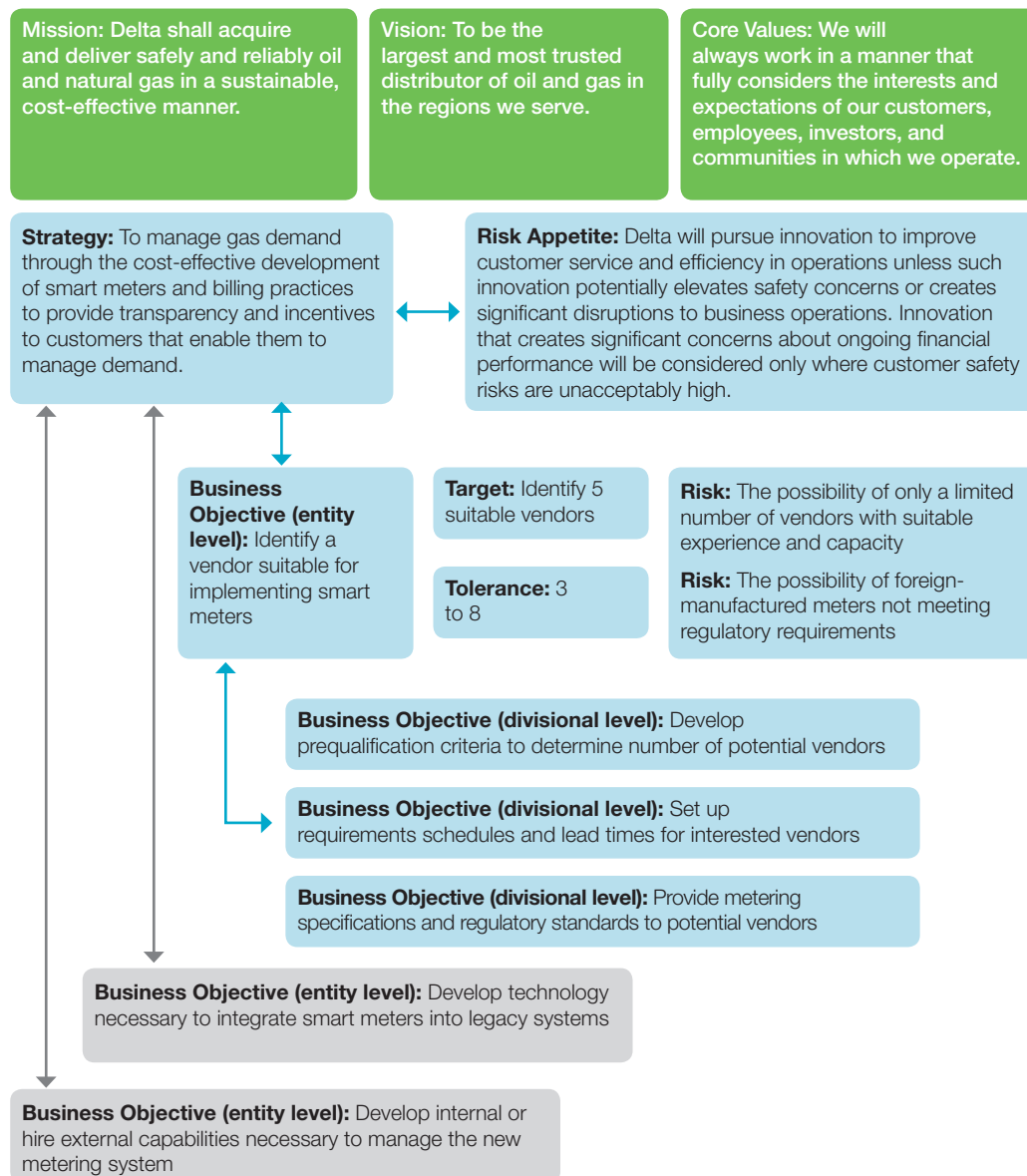
Once the objectives are set, the conversation shifts to acceptable variation in performance. Risk appetite is reflected in the setting of objectives and goals.

As Figure 5.5 illustrates, Delta initially set the range of acceptable variation for identifying qualified vendors at a minimum of three and a maximum of eight. But upon review, the senior managers became concerned that the specifications may be overly restrictive and could exclude some potential vendors. Management debated lowering the qualifications and potentially reducing quality and increasing operating costs against the benefit of creating greater competition for the contract. Following this discussion, the organization revisited the qualification require-

ments, reducing some specification levels to allow more vendors to prequalify.

Next, the organization combined the information into a simple depiction of the entity-level objectives, goals, and acceptable variation and how the objectives cascaded into the business. Figure 5.6 illustrates how this was done for the first business objective on project management. The other two objectives (in gray) would be completed in a similar manner.

Figure 5.6: Entity-level view of objectives, goals, and tolerance



Looking Forward

From the outset, Delta set out to improve its ability to pursue new opportunities, to enhance its allocation of resources, and to improve overall performance by reducing variability in carrying out the chosen strategy. Management gained confidence that they could foresee the risks associated with adopting new smart meters versus retaining the older-style meters. Those risks were considered in terms of maintaining consistency with the overall mission and how the decision might be viewed by its stakeholders—all cast through the lens of risk appetite. Equally important, management came to understand that it could reduce variability in demand by changing the overall metering approach and deploying current resources more efficiently instead of focusing more resources on existing processes.

Key Observation

The business objectives developed form the basis of the risk assessment considering the risks to the achievement of each objective.

6. Strategy and Objective-Setting in a Not-for-Profit Entity

Industry Context¹¹

The not-for-profit sector consists of a wide variety of entities dedicated to furthering a particular cause or advocating a particular point of view. These entities are typically divided into two groups: community-serving and member-serving. Community-serving entities usually focus on delivering human services programs or projects, aid and development programs, medical research, education, and health services. Their reach may be local, regional, or international. Member-serving entities include mutual societies, cooperatives, trade unions, credit unions, industry and professional associations, sports clubs, and advocacy groups.

Not-for-profit entities may be influenced by the following external factors:

- Political stability, required to gain access to infrastructure and local administration, such as permits.
- Government support to provide grants for the types of work that these organizations perform.
- An understanding of what drives disposable income and corporate profits, both of which are important for this sector as much of the funding is donor generated and there is significant competition for funds.
- The emotional aspect of giving, which affects what causes donors respond to.
- Advances in technology that allow organizations to deliver services more efficiently.
- Regulations on the delivery of aid from both the country the organization is headquartered in as well as where aid is provided (e.g., medical volunteers must comply with any licensing regulations governing their profession).

They may also be influenced by the following internal factors:

- Capital needs for equipment and machinery.
- The right mix of permanent staff and skilled and non-skilled volunteers.
- Effective processes for training to enable efficient and effective response.
- The effectiveness and efficiency of response dependent on access to current technologies.

Key Benefits of Enterprise Risk Management in the Example

This example demonstrates how enterprise risk management, applied in the setting of strategy, helps to improve resource deployment.

11 Reminder: The examples do not illustrate a complete view of all enterprise risk management practices in an organization. Each organization should consider and adapt the principles set forth in the Framework to its specific strategies, risks, and opportunities based on its size, scale, and complexity.

Principles Demonstrated

The following principles are primarily demonstrated in this example:

- Principle 6: Analyzes Business Context—The organization considers potential effects of business context on risk profile.
- Principle 7: Defines Risk Appetite—The organization defines risk appetite in the context of creating, preserving, and realizing value.
- Principle 8: Evaluates Alternative Strategies—The organization evaluates alternative strategies and potential impact on risk profile.
- Principle 9: Formulates Business Objectives—The organization considers risk while establishing the business objectives at various levels that align and support strategy.

Facts and Circumstances¹²

Echo Relief is an international not-for-profit entity operating in fifty countries in both permanent and temporary locations. Its focus is providing food, shelter, healthcare, and education to needy and displaced persons around the globe. In responding directly to these humanitarian needs, Echo relies on volunteers. In fact, approximately 90% of the personnel are volunteers and 50% of those return to work on multiple projects. The majority of volunteers are retired military personnel, doctors, dentists, nurses, emergency medical technicians with trauma experience, teachers, and people with prior disaster relief or aid experience. New volunteers are always paired with a “buddy” who has previous experience with the organization.

Echo Relief receives funding primarily from individual and corporate donors with a smaller portion coming from government grants for specific projects. Most donors designate donations to be used “where needed most,” which provides flexibility to applying resources. Echo uses 14% of donated funds on administrative costs, and the remaining 86% goes to programs and projects (80% is generally considered as efficient for a not-for-profit entity). The percentage assigned to programs and projects can be a differentiator when competing with other entities for donors, some of which are large international entities and religious organizations.

The mission statement is “Echo Relief helps meet the needs of people who are victims of war, poverty, natural disasters, disease, and famine.” To perform on this mission, Echo provides relief for ongoing needs relating to disease and famine, and offers immediate response for disasters. In a recent strategy review, senior leadership focused on whether they wanted to concentrate their resources on the short-term response projects or the long-term community transformation projects.

Discussion

Linking Risk Appetite to Stakeholder Goals

As a part of regular performance reviews, Echo Relief found that it was making inconsistent decisions about deploying its resources to different projects. In some cases projects were accepted that stretched both volunteer and monetary resources. Consequently, the

¹² Names of organizations and people in this example are fictional, and any resemblance to actual organizations and people is coincidental.

board of directors decided that management should develop a risk appetite statement. Echo has several stakeholders and the board wanted to include perspectives from permanent staff, volunteers, and donors in articulating the overall risk appetite. The discussion centered on three core areas of concern:

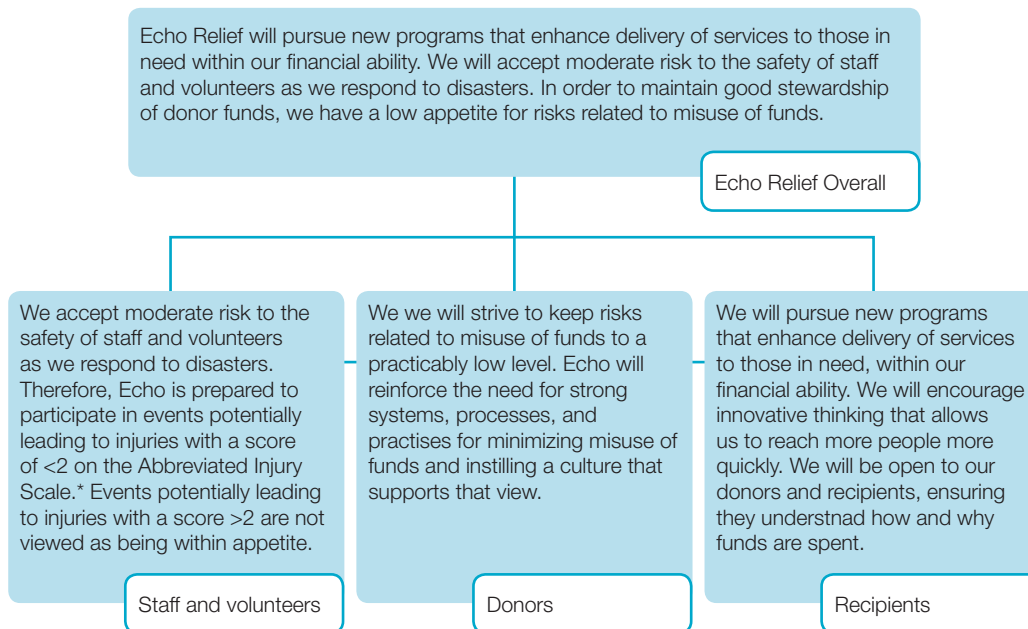
- Staff and volunteer safety: because Echo Relief is mandate driven and the projects accepted are often in fragile and conflict-affected areas, they are willing to take on a moderate amount of risk relating to the safety of staff and volunteers.
- Misuse of funds: the need to be good stewards of donor funds requires a low appetite for risks relating to misuse of funds.
- Financing new programs: given the donor history, with a large portion of funding coming from the general public with no restrictions, Echo Relief has a higher appetite to take on risk relating to financing new programs. It does not need to run targeted funding campaigns and is able to fund new, innovative programs.

After the discussion on risk appetite, Echo Relief wrote the following risk appetite statement for the entity overall:

Echo Relief will pursue new programs that enhance delivery of services to those in need within our financial ability. We will accept moderate risk to the safety of staff and volunteers as we respond to disasters. In order to maintain good stewardship of donor funds, we have a low appetite for risks related to misuse of funds.

In order to cascade the understanding of the statement, management portrayed risk appetite in greater detail by aligning statements with the stakeholders noted above. For instance, the part of the risk appetite statement relating to staff and volunteers added clarity on decisions impacting those individuals. These statements were cast as shown in Figure 6.1.

Figure 6.1: Risk Appetite Cascaded to Multiple Levels



*The Abbreviated Injury Scale is a system created by the Association for the Advancement of Automotive Medicine to classify and describe the severity of injuries.

Choosing a Strategy for Delivering Aid

In recent years, Echo Relief has seen an increasing global need for the type of aid they deliver. This increase was identified through a trend analysis of the number and types of projects that have been undertaken (and not undertaken) in the last five years. In many cases the demand far surpasses the supply of available aid. Different parts of the world suffer from conflict, poverty, and natural disasters, requiring aid to be delivered through various channels. In the case of disaster relief, the usual response is to set up a temporary operation that requires less capital, but that can be hampered by the lack of infrastructure needed to deliver supplies and materials. In the case of ongoing relief in response to systemic poverty and widespread famine, Echo invests directly in communities through schools, hospitals, nutrition programs, and water sustainability projects that often require larger capital outlays.

As part of its annual strategy assessment, Echo Relief decided to revisit the strategies for delivering aid, primarily to determine which had the greatest impact on the communities they were serving. Senior leadership focused on two strategies: emergency relief and disaster recovery. (Previously, Echo provided emergency relief, but realized they had a larger impact when they arrived after the initial relief efforts and focused on helping communities rebuild and respond.)

Analyzing Emergency Relief and Disaster Recovery Strategies

The initial discussion of the two strategies revealed a third option, which was to perform both strategies simultaneously. Senior leadership wanted to understand how the risk profile would change in that case. The three alternatives were developed to assist Echo Relief meet its stated objective “to provide recovery assistance to as many vulnerable or displaced people as possible.” In considering these alternatives, the entity focused on the following risks as a part of the risk profile:

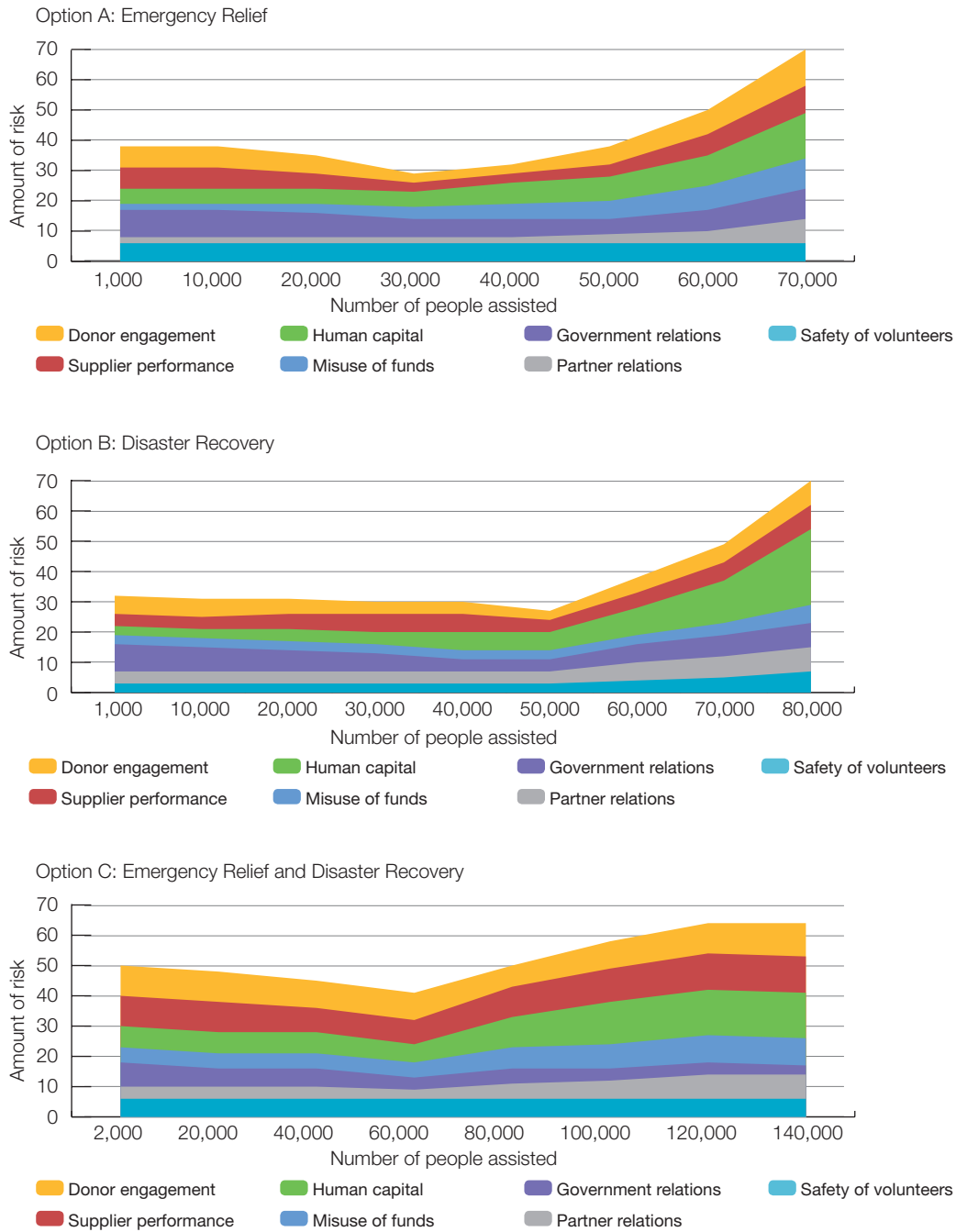
- Safety of volunteers: the possibility of harm to staff and volunteers.
- Partner relations: the possibility of no partners with acceptable locations to deliver aid.
- Government relations: the possibility of governments either from the headquarters country or the country receiving aid not allowing the aid to be provided.
- Misuse of funds: the possibility of funds being used for unacceptable purposes.
- Human capital: the possibility of not having skilled volunteers.
- Supplier performance: the possibility of suppliers being unable to deliver supplies to the recovery area.
- Donor engagement: the possibility of donors not donating to the project.

Using these broad risk categories, senior leadership developed an initial profile for each option to consider the merits of investing in one of the two strategies, or the two together. The exercise was completed qualitatively using a scale from 1 to 10, not by developing a specific quantitative model. Each of the risks noted were reviewed by several functions in the organization, most importantly by security, donor engagement, governmental liaison, partner relations, operations, finance, and human resources. Once leadership was comfortable that there was consensus on the risk ratings, they were able to develop a comprehensive risk profile for each option, showing the level of risk relative to the number of people assisted. Figure 6.2 shows the risk profile for each strategy.

Key Observation

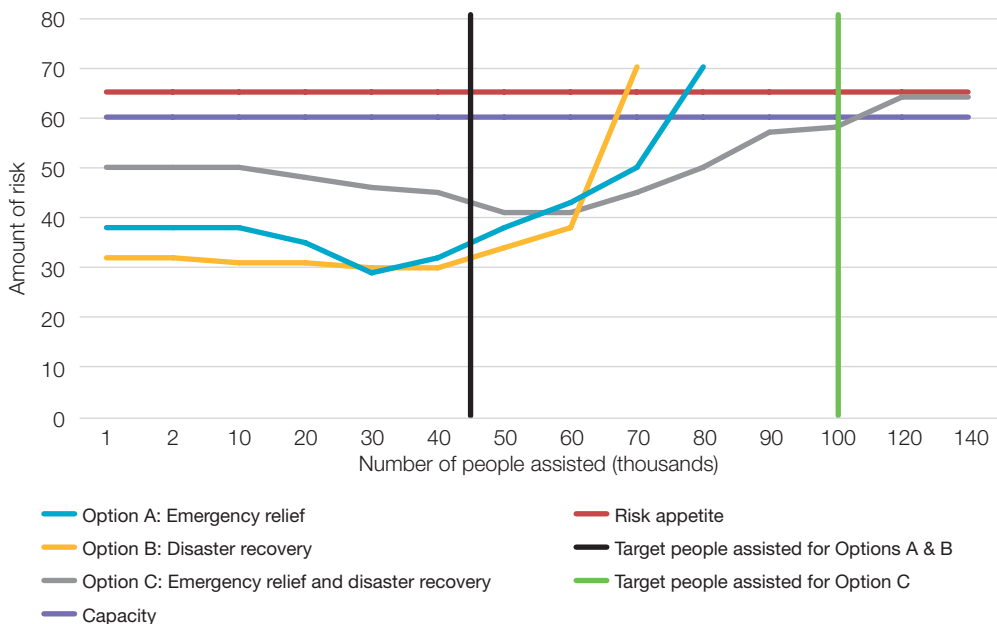
When developing a risk profile, the element of time should not be included as a factor.

Figure 6.2: Relative Risk—Emergency Relief and Disaster Recovery



When the three risk profiles are combined on one graph, as in Figure 6.3, their respective risk curves can be compared.

Figure 6.3 Assessing Risk—Emergency Relief and Disaster Recovery



In this example, Echo Relief’s risk appetite is above its capacity. During discussions, the senior leadership said they were willing to respond to any situation where people needed help, even if the funding or personnel is not immediately available, provided that there is a reasonable expectation that funding can be attained after the fact.

They also noted that the target performance goal is different for Options A and B compared to Option C. If either Option A or Option B were selected, the target would be set at 40,000, and Echo would likely breach risk appetite once assistance increased into the range of 70,000 to 80,000 people. They noted that with Option C they had the ability to assist more than twice the people because they would be maintaining the same number of headquarters staff regardless of the number of projects. Therefore, the ratio of overhead costs to projects would go down for every additional project added.

The risk profiles prompted a discussion about performance. Option B (disaster recovery) has less risk than the other two strategies, until the number of people helped increases to approximately 60,000. If Echo were to select Option B, they could move performance from 40,000 to 60,000 people helped with little increase in the risk taken. If they were to choose Option C, they could potentially help even more people. Note that the risk profiles do not show a tolerance for acceptable variation in performance; at the time a disaster occurs, Echo Relief would determine the lowest number of people aided that would make the response worthwhile.

Echo Relief ultimately chose a strategy based on the number of people who they could assist within their risk appetite: Option C. However, the leadership team recognized the need to monitor funds and personnel as aid delivery begins to approach 120,000 people at any given time to make sure they had the ability to continue operations.



Cascading Business Objectives

Key Observation

When developing business objectives, be sure to consider all the risks identified as part of the strategy.

After deciding to pursue both strategic alternatives simultaneously, Echo Relief developed entity-level business objectives to meet this goal, and these were then cascaded throughout the entity. Then, each division developed division-level objectives in response to risk to the entity-level objectives.

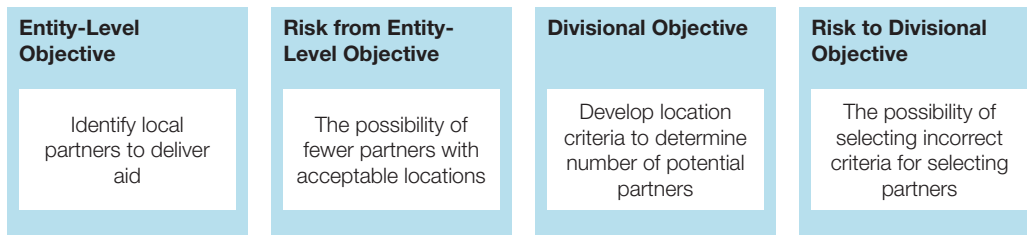
Some of the questions that Echo Relief considered as a part of setting the business objectives were:

- At what point do we evacuate volunteers and staff due to safety concerns?
- Do we have the appropriate partners on the ground to deliver the aid?
- What if the government does not allow us access to the damaged areas?
- What is the best allocation of funds to achieve objectives?
- Does the organization have enough available and capable volunteers to deliver the aid?
- What are the implications to the organization from a supplier perspective if there are 10% to 20% more than the target number of people who need assistance?
- How do we obtain enough donor-generated funds to continue operations?

Having considered these matters in the setting of the business objectives, Echo Relief determined they could reasonably expect to successfully achieve them. Figure 6.4 illustrates how entity-level objectives cascade to division-level objectives for four divisions of the organization (partner relations, marketing, supply chain and human capital). The organization identified risk from the entity-level objective, and then developed divisional objectives that addressed the entity-level risk. From there, the organization identified risks to the divisional objectives.

Figure 6.4: Cascading Objectives—Echo Relief

Partner Relations



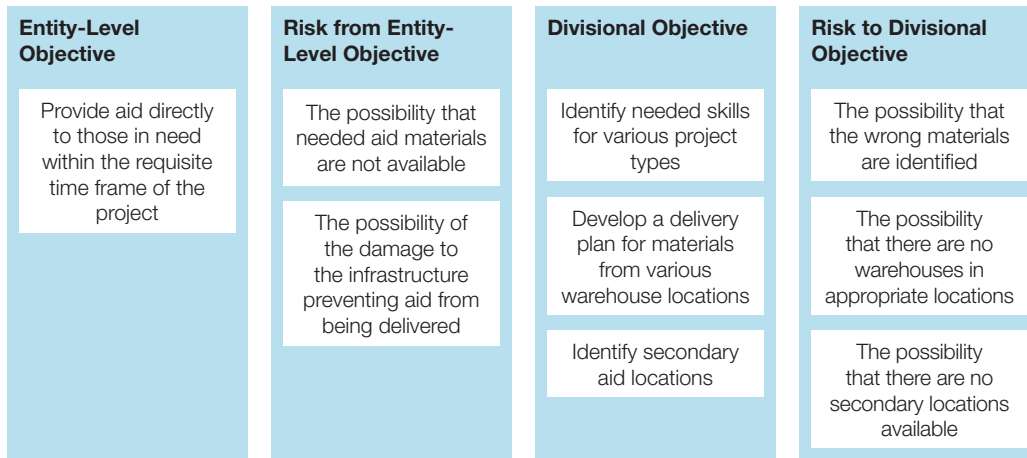
Marketing



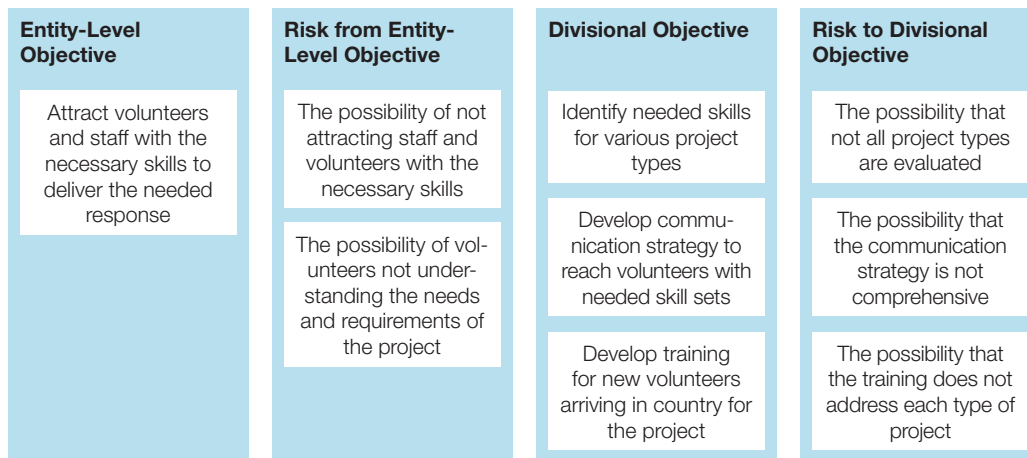
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Figure 6.4: Continued

Supply Chain

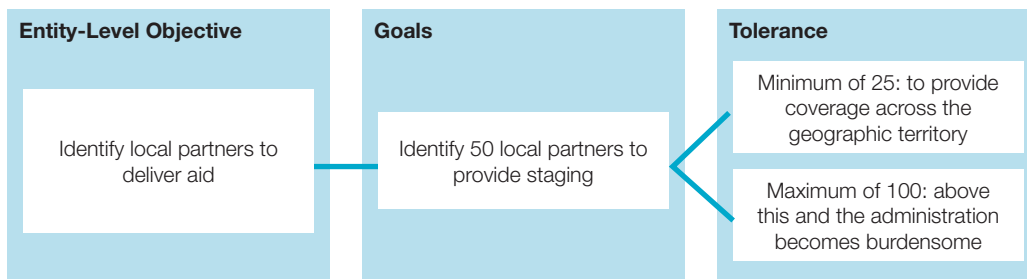


Human Capital



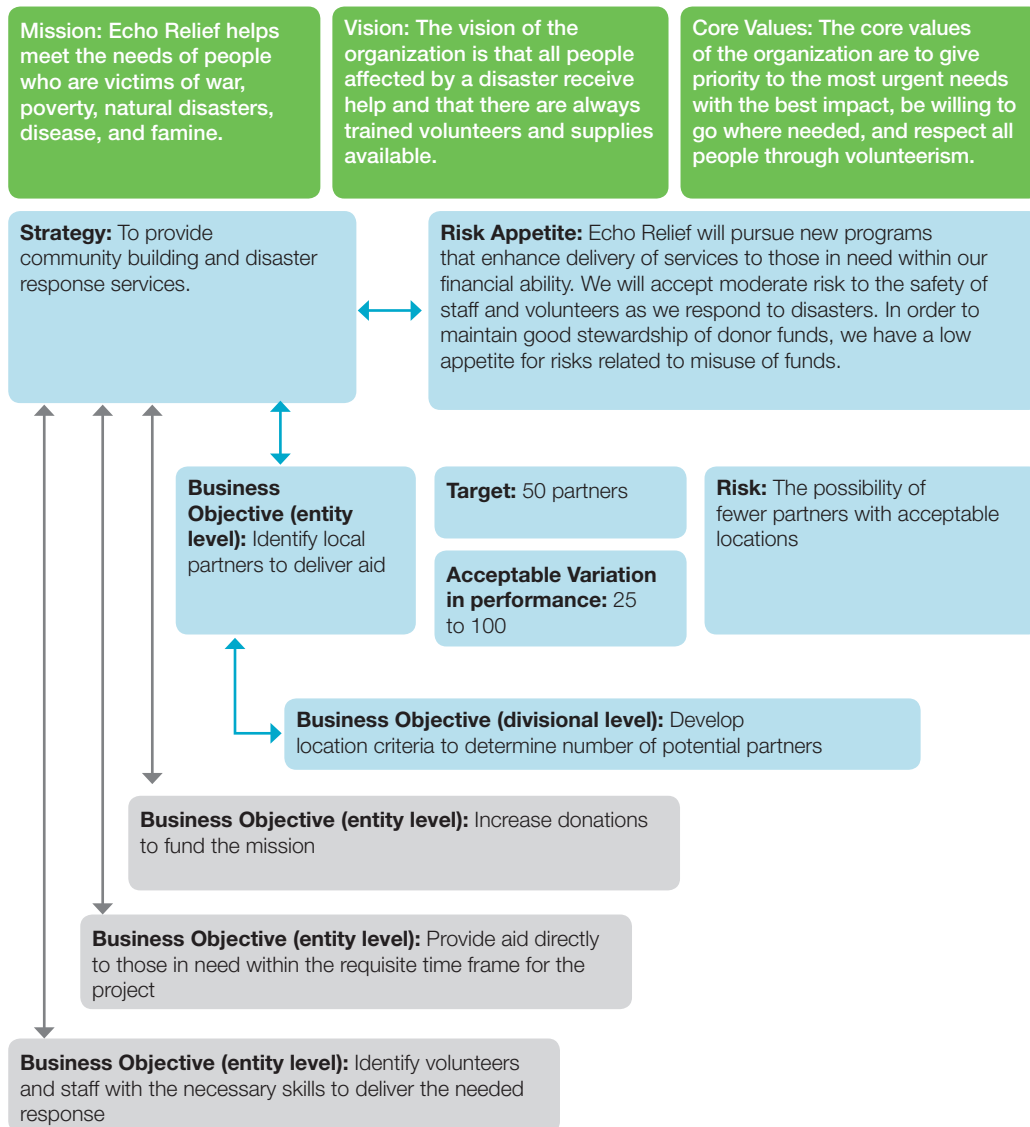
For the first objective, to identify local partners to deliver aid, Echo Relief set a target of having accredited partners in or near their fifty country locations predetermined so when a disaster occurs, or a community development project is approved, they would know who they can work with (see Figure 6.5). Considering risk appetite in developing this tolerance, senior leadership developed a view that below twenty-five, the organization would not be able to create a sufficient number of programs to deliver needed services, and therefore would be outside of risk appetite. Conversely, should that number of accredited partners rise above 100, efforts would be spread across too many partners to deliver the intended services.

Figure 6.5: Setting Acceptable Variation in Performance



Next, the organization combined the information into a simple depiction of the entity-level objectives, goals, and acceptable variation and how the objectives cascaded into the business. Figure 6.6 illustrates how this was done for the first business objective on identifying local partners. The other three objectives (in gray) would be completed in a similar manner.

Figure 6.6: Combining Information



Refreshing Strategy to Deploy Resources Effectively

In applying the principles relating to strategy and business objectives, Echo Relief refreshed their strategy based on their mission and vision. They considered the risk associated with the refreshed strategy and developed business objectives taking those risks into account. Through the process of cascading business objectives from the entity-level to the divisional level, the organization identified risks to the strategy at each level, and developed further strategies to address those risks. Refreshing the strategy allowed Echo Relief to deploy resources more efficiently and to enhance the value it could provide to the regions it serves.

7. Performance in a Consumer Products Company

Industry Context¹³

The consumer products sector includes a wide variety of companies ranging from mass retailers and specialty stores to manufacturers and distributors of packaged goods, such as food and beverages. Consumer products companies often seek profitable growth by expanding business scale and scope while simultaneously rationalizing operations.

Consumer products entities may be influenced by any or all the following external factors:

- Political interventions, often driven by consumer safety, and social and environmental considerations.
- Commodity prices that affect the cost of manufacturing and distribution.
- Disposable income of consumers, which is a by-product of factors such as unemployment, wage levels, and inflation.
- Consumer preferences that change rapidly, particularly in the food and beverage industry (e.g., the trend toward healthier, sustainable food products).
- Digital consumer engagement that is reshaping the way companies interact with their customer base.
- Regulations pertaining to climate change, resource scarcity, and consumer protection.

They may also be influenced by the following internal factors:

- Access to capital to support investments in technology and research and development, as well as to support mergers and acquisitions.
- Skilled workers needed for research and development for innovative products.
- The need to invest in more sustainable, efficient, and effective processes.
- Technological advances and investments in data analytics to extract consumer insight and improve cyber security as more transactions occur on-line.

Key Benefits of Enterprise Risk Management in the Example

This example shows the benefit of enterprise risk management to identify and manage entity-wide risks.

13 Reminder: The examples do not illustrate a complete view of all enterprise risk management practices in an organization. Each organization should consider and adapt the principles set forth in the Framework to its specific strategies, risks, and opportunities based on its size, scale, and complexity.

Principles Demonstrated

The following principles are primarily demonstrated in this example:

- Principle 10: Identifies Risk—The organization identifies risk that impacts the performance of strategy and business objectives.
- Principle 11: Assesses Severity of Risk—The organization assesses the severity of risk.
- Principle 12: Prioritizes Risks—The organization prioritizes risks as a basis for selecting responses to risks.
- Principle 13: Implements Risk Responses—The organization identifies and selects risk responses.
- Principle 14: Develops Portfolio View—The organization develops and evaluates a portfolio view of risk.

Aspects of the following principles are also demonstrated in part in this example:

- Principle 20: Reports on Risk, Culture, and Performance—The organization reports on risk, culture, and performance at multiple levels and across the entity.

Facts and Circumstances¹⁴

Friendly Fruit Juice Company, founded in 1996, is a regional family-owned manufacturer and supplier of fruit juices with approximately 500 employees. Friendly Fruit Juice strives to be the leading beverage supplier of healthier and tastier juices in the region, and its mission statement makes this clear:

Our mission is to create and maintain a sustainable company that embraces product innovation to satisfy customer needs for a healthier and tastier juice while maintaining community trust.

During its early years, Friendly Fruit Juice considered risk whenever a significant issue arose. Often, Jamie Doyle, the chief executive officer (CEO), would create small teams to identify the causes of the issue and potential solutions. However, as the company grew, Jamie realized the importance of having more timely and insightful information for the business. The organization began to shift its focus from these one-off meetings to integrating enterprise risk management capabilities into daily business operations, mainly with a goal of identifying and managing entity-wide risks. As enterprise risk management has become more embedded in strategic decision-making, management has increasingly focused on considering various strategies, and chosen one that best fits the company's core mission.

Friendly Fruit Juice takes the time in the monthly senior management meetings to discuss risk as it relates to the overall performance of the business. Jamie also spends much more time updating the board of directors on these conversations and engaging them to capture their own views.

Note: This example focuses on one business objective only. In practice, the company would have multiple objectives, and these activities would be performed over those objectives, and the effect on the multiple objectives would be analyzed.

¹⁴ Names of organizations and people in this example are fictional, and any resemblance to actual organizations and people is coincidental.

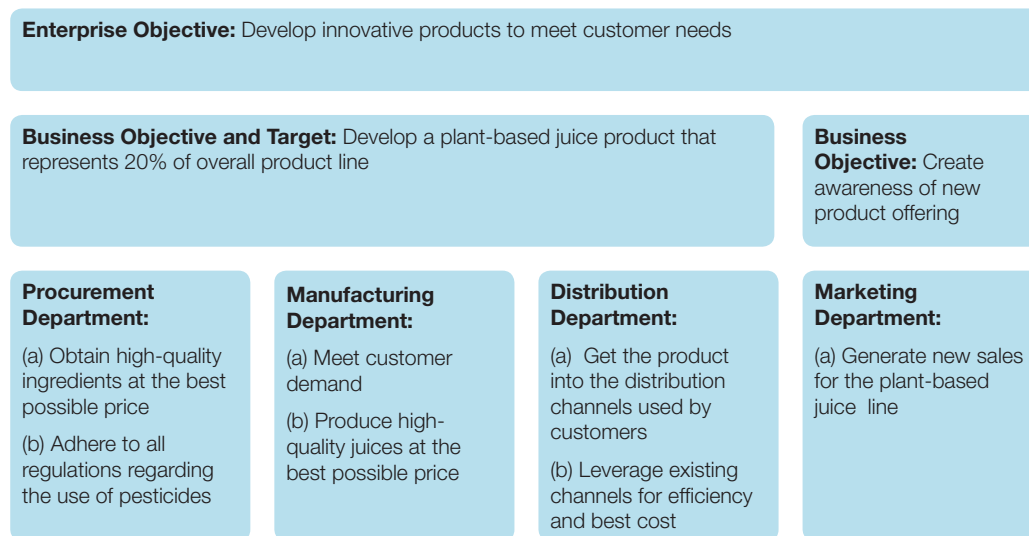
Discussion

Every week the marketing department reviews various mainstream and social media postings to identify changes in customer sentiment and identify any public issues with the reputation and brand. Recently, the marketing director, Angarika Kapur, identified an escalating trend in comments about the company’s juice line, with many consumers requesting plant-based juices. The director identified this change in the environment as potentially affecting the company’s ability to meet one of its stated objectives: “develop innovative products to meet customer needs.”

At the next monthly senior management meeting, Angarika raised this issue, and the group discussed the consumer feedback as an opportunity for Friendly Fruit Juice to develop a new line. They presented their proposal to Jamie for consideration in the planning process. After looking at how well this opportunity aligned with the mission and vision, and considering the potential risks that could arise by selecting such a course of action, the company decided to develop a line of plant-based drinks.¹⁵

Based on their historical record of delivering new products to market, Friendly Fruit Juice set an objective to have the plant-based drink represent 20% of their product line by the end of the first year of production. This objective cascaded into the organization as shown in Figure 7.1, which focuses on identifying risks across four main aspects of the business: procurement, manufacturing, distribution, and marketing.

Figure 7.1: Cascading Objectives—Friendly Fruit Juice



Each department discussed the risks associated with the objectives at their level and then selected their own approach, based on the initial views of the new goal.

- The Procurement Department, under the direction of Marley Harper, had an initial view that many risks would be similar to those relating to procurement of fruit juice, and selected an approach based on round-table discussions.
- The Manufacturing Department, under the direction of Simone Jorgensen, also had an initial view that many risks would be similar to those relating to fruit juice production. She initially conducted an internal meeting with her department, and they soon realized that adding a new product line introduced greater complexity to scheduling.

¹⁵ This example does not attempt to show how various strategies are evaluated and selected; this aspect of the example has been condensed.

Consequently, they developed more detailed modeling to better understand the risks of introducing this new product line.

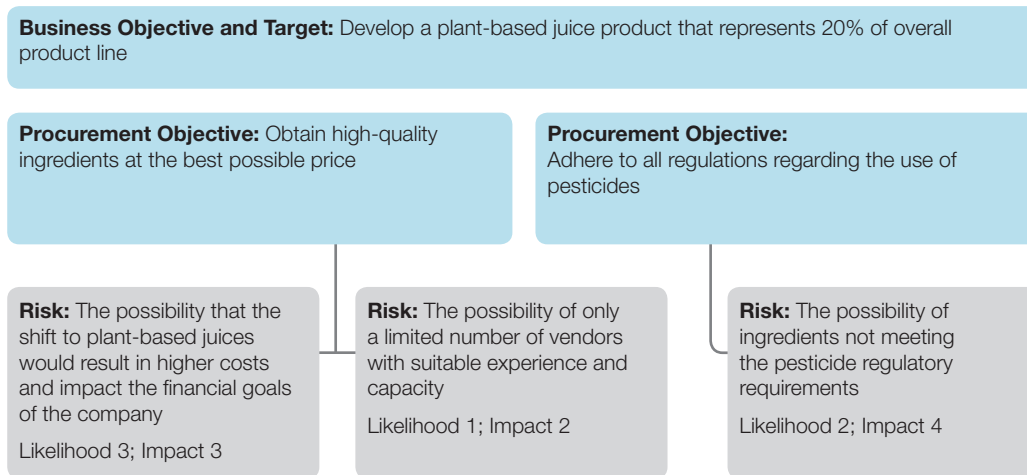
- The Distribution Department, under the direction of Fabien Pisarski, wanted to take a different approach from the start. They undertook a process analysis to better understand what risks could impact their distribution channels.
- The Marketing Department, under the direction of Angarika Kapur, felt that they needed more external information. They used a variety of publicly available data to capture risks, and they ran a series of focus group sessions with potential users to understand the risks impacting their ability to generate sales.

Procurement

The Procurement Department was responsible for identifying the raw materials for the new plant-based juice line. Marley Harper’s team’s primary objectives focused on obtaining high-quality ingredients at the best possible price and adhering to all regulations regarding pesticide usage. They also considered the company’s values and sourced ingredients from local growers whenever possible (although this was not a direct objective). They discussed the current business environment and how it would affect the new juice line. Friendly Fruit Juice sourced 90% of its fruit from five growers, four of which were located within 100 miles of the processing plant. Although Friendly Fruit Juice Company sourced ingredients primarily from local vendors, it had agreements with vendors from other regions to allow for the variability of weather conditions, which significantly affect supply and prices. Of the five local growers, three also were growing vegetables that could be used for the new line. All five all had strong records of strictly adhering to government requirements on pesticide use.

The team identified risks relating to the objectives of the department, shown in Figure 7.2. They also discussed some of the responses that were in place across the department to manage these risks, and then they assessed each risk on a scale of 1 to 5 for likelihood and impact (a scale developed and recommended by the management team).

Figure 7.2: Identifying Procurement Risks to Objectives



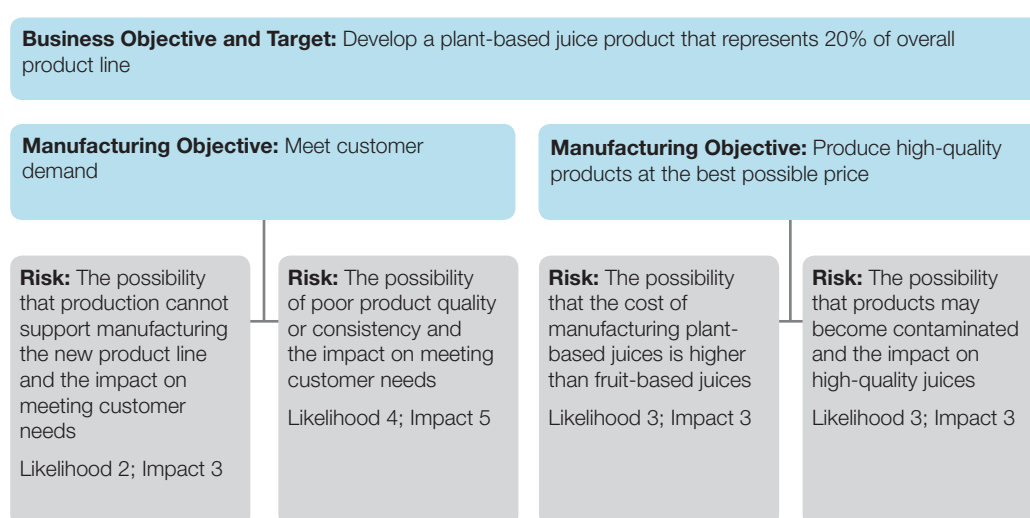
The procurement team reviewed the risk ratings, focusing on the possibility that the shift to plant-based juices would result in higher costs and impact the financial goals of Friendly Juice Company in light of the company's risk appetite statement, "Friendly Fruit Juice Company is willing to take on risk in pursuit of value as we strive to be innovative in the development of products to meet our customers' needs and remain competitive in the beverage industry." The procurement team concluded that this shift in production could impact the achievement of the financial goals, but that the overall risk to the objective was still within the company's risk appetite.

Manufacturing

The Manufacturing Department also added the new line as a point of discussion during its daily production run meetings. Simone Jorgensen's team had two primary objectives: meet customer demand and produce high-quality juices at the best possible price. The managers and directors of the department discussed the performance target of having the plant-based product line account for 20% of sales by the end of the first year. In their review of what would be required to break down plants into juice, they determined that no changes to the existing machinery would be needed. They also discussed the potential of demand being greater than anticipated and how that might affect production, noting that they had two manufacturing plants in their distribution area to allow for the raw materials to be sourced locally, and both plants were located within a twenty-four-hour drive, which would allow for additional capacity should there be a problem with any of the machinery used in production. On this second point, they attained greater confidence through modeling product flow from procurement through the full manufacturing process, including the time needed to change production runs from fruit-based to plant-based production, and vice versa.

The Manufacturing Department identified four risks associated with the objectives of the manufacturing department relating to the new plant-based juice line, as shown in Figure 7.3.

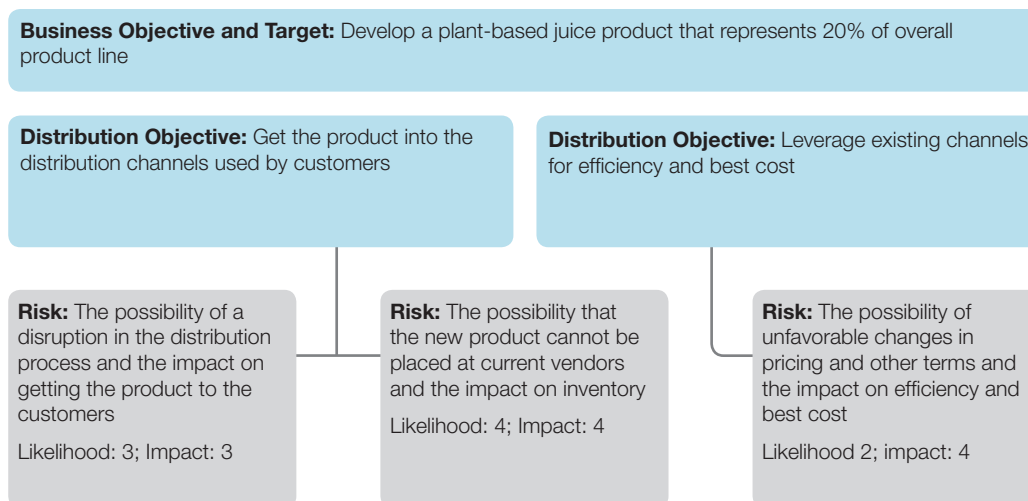
Figure 7.3: Identifying Manufacturing Risks to Objectives



Distribution

The Distribution Department identified two main objectives relating to the new juice line: get the product into the distribution channels used by target clients and leverage existing channels for efficiency and best cost. Friendly Fruit Juice followed a selective distribution model and focused their distribution channels on specialty retailers for distribution of their current product line. The distribution for the new line was anticipated to be similar, with the addition of a few new vendors. Fabien Pisarski’s team did a process analysis and then discussed the risks that they were currently managing for the fruit-based line and how the new line might change those risks or add new ones. The discussion centered on the ability to meet their two primary objectives, as shown in the Figure 7.4. The distribution team then assessed the risks on the scale for likelihood and impact, as shown.

Figure 7.4: Identifying Distribution Risks to Objectives

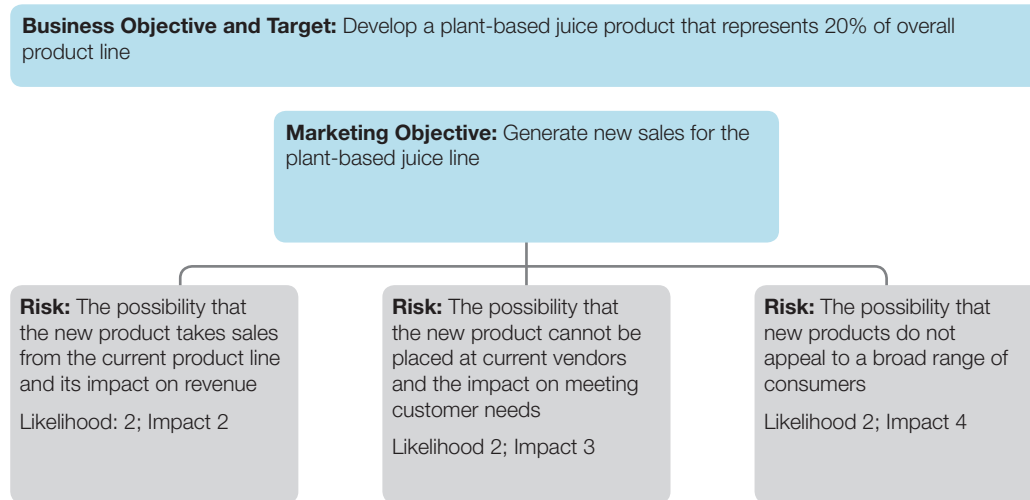


Fabien also brought her knowledge of the risks to the monthly senior management meeting.

Marketing

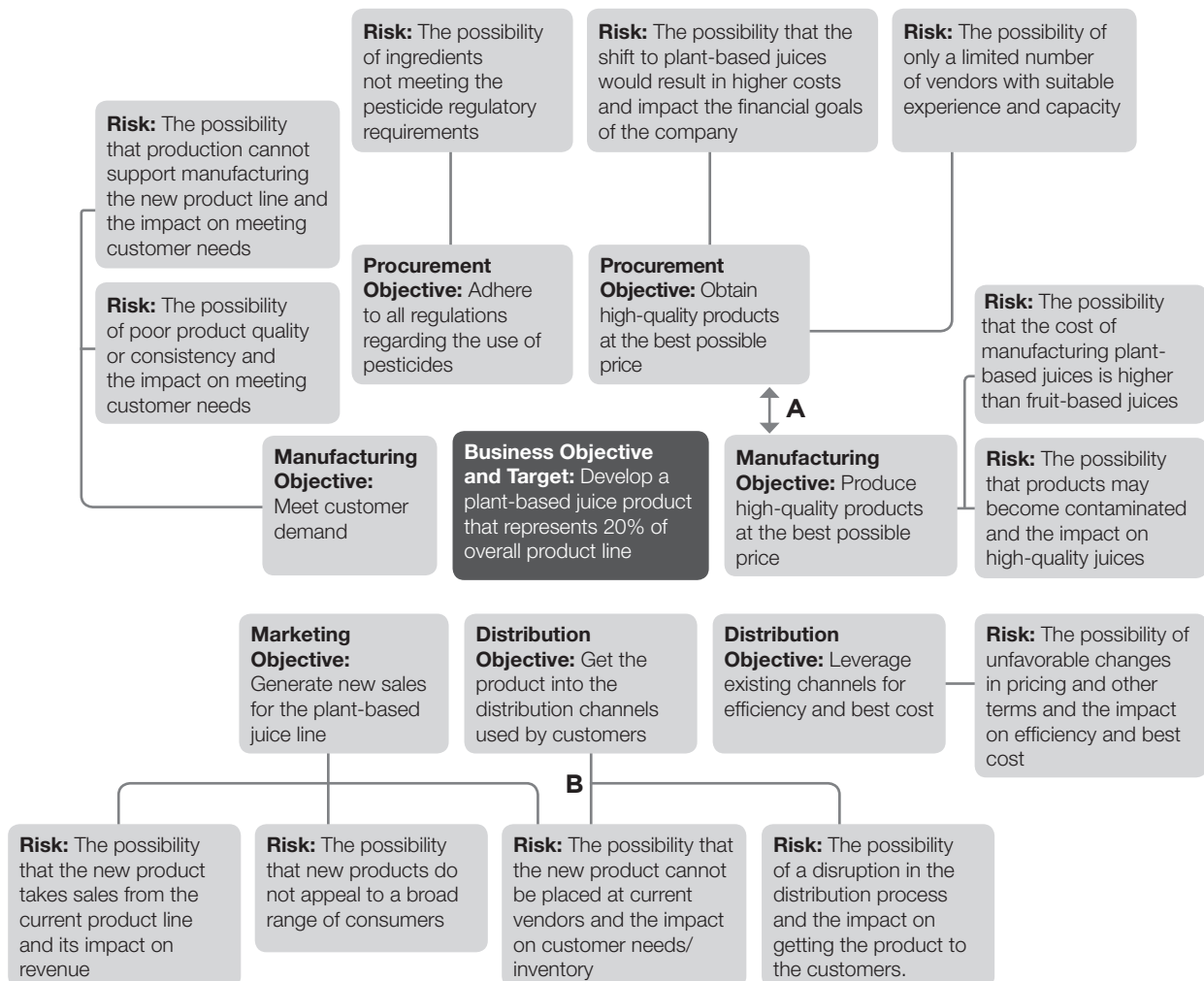
The primary objective of the Marketing Department was to generate new sales for the plant-based juice line. Friendly Juice Company has focused on specialty retailers for distribution of their current product line. After the decision was made to develop the plant-based juice line, Angarika Kapur’s team reviewed information captured from a variety of publicly available data and the focus group sessions with potential users to understand the risk in developing a marketing plan. Once the product launched, the marketing team met weekly to review the prior week’s sales. As a part of these discussions, Angarika led a discussion on what could prevent the company from meeting the objective of the new product accounting for 20% of the sales mix by the end of the first year. Figure 7.5 illustrates the risks identified.

Figure 7.5: Identifying Marketing Risks to Objectives



When combined, the relationship between objectives and risks becomes apparent, as shown in Figure 7.6.

Figure 7.6: Identifying Overall Risks to Objectives



This view also noted some interesting relationships beyond just risks to objectives:

- As there is a dependency between two objectives (one relating to procurement and one relating to manufacturing), the pricing risks to one of those objectives may impact the ability to achieve the other and the overall business objective. (This is depicted as “A” on Figure 7.6.) There is also a third objective relating to distribution which has a cost aspect and could also impact the ability to achieve the overall business objective.
- One similar risk was noted by two different groups: marketing and distribution. Each group also assesses this same risk differently. (This is depicted a “B” on Figure 7.6.)

Assessing and Prioritizing Risks

Key Observation

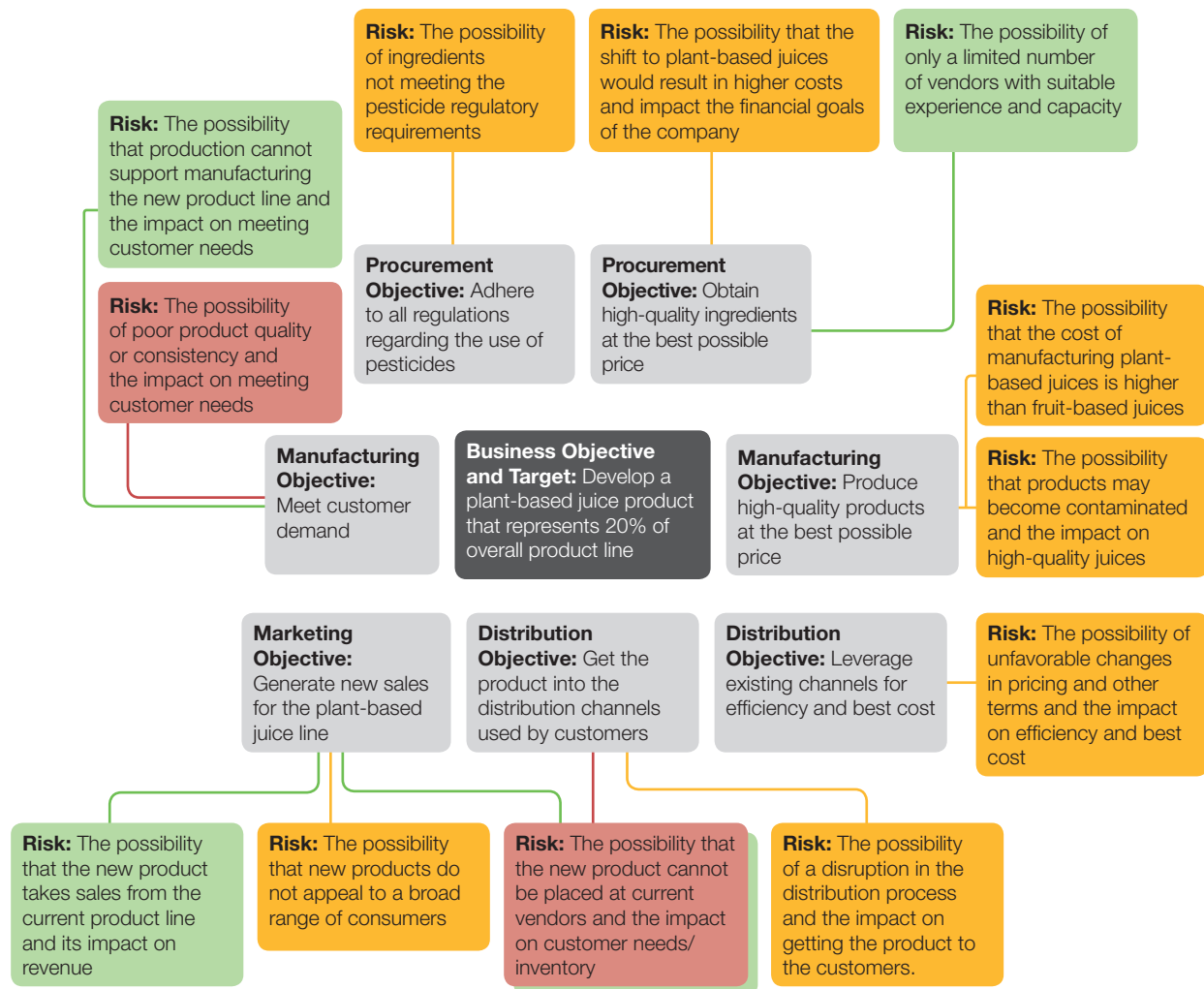
Risk should be considered through the lens of objectives so that resources can be used efficiently.

Once all the departments identified and assessed the risks associated with the relevant objectives, Marley, Simone, Fabien, and Angarika aggregated the information at the enterprise level. That information helped them to understand how the likelihood and impact of the risks may change at different levels of the company.

To assess the severity of risk on enterprise objectives, they used information from a review of business plans and budgets; prior risk assessments; financial, board, and annual reports; customer surveys; and social media postings. In addition, they used the company’s historical risk occurrence and publicly available information from other small beverage companies to determine the likelihood of the risk occurring.

As an interim step in examining the information, the team consolidated their respective risk assessments. They recognized that the consolidation presented more of a risk-centric view rather than an analysis of the effect of the risks on the objectives. The consolidation is shown in Figure 7.7 with the severity of each risk color-coded: red = high; yellow = medium; green = low.

Figure 7.7: Consolidation of Risks—Friendly Fruit Juice



Marley, Simone, Fabien, and Angarika wanted to use the risk information obtained from the different departments to understand the effect on the enterprise objectives and determine after prioritization what risk responses they should employ. To that end, they discussed whether each business objective was at risk. Three of the seven objectives required little discussion and they determined the status of those objectives were the same as the related risks (either green or yellow).

Key Observation

When assessing the objectives, the risk with the highest severity may not directly transfer to the objective. The effect on objectives should be discussed.

Procurement

When they discussed the risks to the objective “Obtain high-quality ingredients at the best possible price,” there was general consensus that finding the right mix of ingredients would be critical to achieving a tasty beverage. That meant more ingredients may be required, which would represent a greater risk to the achievement of the objective. Further, the dependency on multiple departments increased the concern over achieving this objective. Therefore, the team decided to rate the objective as medium (yellow). The second objective “Adhere to all regulations regarding the use of pesticides” was rated as medium, consistent with the respective risks.

Manufacturing

When they discussed the objective “Meet customer demand,” they considered whether the risk that had been measured as high (red) would translate to the objective being a higher risk. The senior management team determined that the new quality assurance process recently put into place across the department had not been fully considered when assessing the risk, and therefore the severity of the risks impacting the achievement of the objective was lower. The second objective of “Produce high-quality products at the best possible price” was rated as medium, consistent with the respective risks.

Distribution

The conversation about the objective “Get the product into the distribution channels used by customers” sparked much discussion about how it should be measured. Given that the risks to this objective were assessed as medium (yellow) and high (red), Marley, Simone, Fabien, and Angarika wrestled with several questions:

- Should we combine the risk ratings for these two risks and use that for the objective?
- Does one risk warrant more attention at the enterprise level than the other?
- Considering both risks, what is the overall impact on the performance for that objective?

They also considered that the risk was assessed differently by different teams. The initial assessments were viewed as reasonable for the respective areas. Ultimately they determined this objective was at higher risk given the contract environment with current vendors. Many contracts had been recently negotiated and the marketing department expressed concern with the negotiating process for several of the vendors. The second objective of “Leverage existing channels for efficiency and best cost” was rated as moderate, consistent with the respective risks.

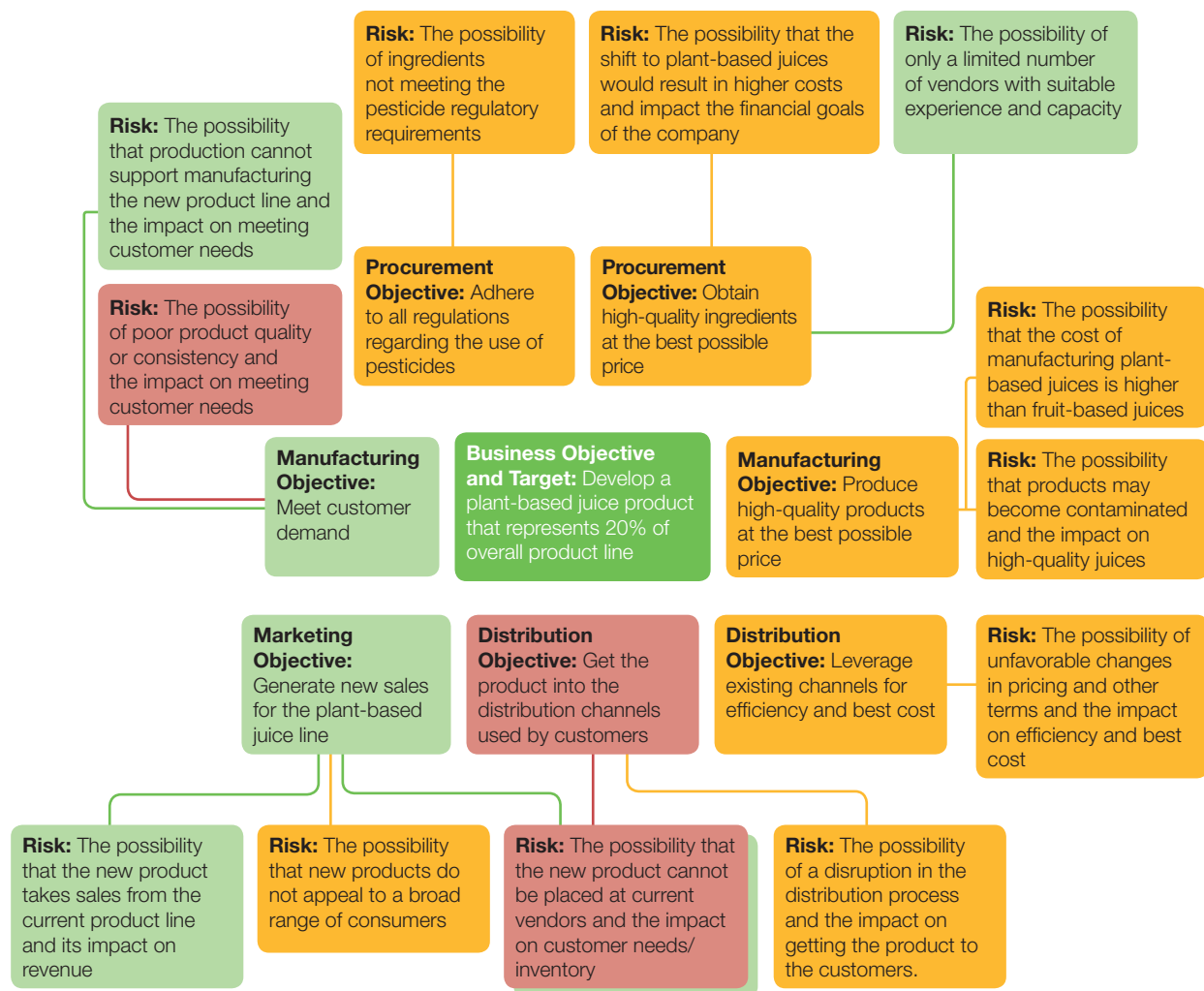
Marketing

Finally, the conversation about the objective “Generate new sales for the plant-based juice line” had a more diverse risk assessment. While there was overlap with other objectives and there remained a lingering concern that a new plant-based line would have targeted success, the management team remained confident that, overall, there was a lower level of risk to the department objective.

Overall Analysis

After the discussion, it was determined that the company still had a reasonable expectation of meeting the business objective and target of “Develop a plant-based juice product meet customer needs that represents 20% of the overall product line.” The outcome of all of the discussions of the objectives and the risks is shown in Figure 7.8.

Figure 7.8: Extended Consolidation of Risks—Friendly Fruit Juice



By approaching the discussion of risks through the different objectives they may impact, the team was able to determine which objectives were at greatest risk of not being achieved and the effect on the overall performance of Friendly Fruit Juices Company. Specifically, this approach enabled the team to identify:

- Risks that could significantly impact a single objective
- Risks that could have an impact multiple objectives and be considered as significant as a result
- Objectives that have a greater number of risks
- Dependencies between different risks and objectives that could influence their rating

Further discussion noted that additional considerations - beyond risk severity - were needed when determining which risks and objectives required management's focus. The establishment of prioritization criteria was intended to help management select and implement appropriate risk responses and the deployment of limited resources based on the risk ratings and the status of the objective. Marley, Simone, Fabien, and Angarika considered two added criteria: adaptability and complexity.

Key Observation

When prioritizing risk, organizations with multiple objectives and interconnected risks will face a more complicated process. Additional considerations of complexity, adaptability, velocity, persistence, and recovery should be considered.

- Adaptability was considered from the view that with the company was embarking into a new product line. Some objectives tied to launching the new product line were impacted by the same risks relating to its current product line, such as those relating to pricing and distribution. However, other objectives could be impacted by new risks that management would need to address for the first time, such as the ability to appeal to a broader range of customers and possible issues with product consistency and quality. Their confidence in managing new risks to objectives was less than it was for risks with well-proven responses, and there may be some refinement needed when managing these risks. Risks that required greater adaptability or change management efforts were prioritized above those that did not.
- Complexity was viewed through the perspective of whether some risks would impact other risks, or whether underperformance on one objective would impeded the achievement of another objective. While several objectives were viewed as having potential overlap, three objectives were identified as having important cost pricing dependencies. These objectives related to procurement, manufacturing, and distribution and the relevant risks were prioritized as a result.

With this added information, Marley, Simone, Fabien, and Angarika agreed that while the company needed to address all objectives, two in particular required a more focused attention.

1. The manufacturing objective “Produce high-quality products at the best possible price” was considered by management as needing added focus as there were several medium-rate risks tied to that objective and there were noted dependencies with the procurement objective “Obtain high-quality ingredients at the best possible price”.
2. The distribution objective “Get the product into the distribution channels used by customers” is one of two objectives that is associated with a red risk and the only objective to be assigned a red status. While there was one other higher rated risk impacting the manufacturing objective “Meet customer demand”, the overall assessed risk to the manufacturing objective was deemed lower, suggesting that risks to this objective did not require the same level of attention as the risks to “Get the product into the distribution channels used by customers”.

In selecting the appropriate responses for the related risks (and hence objectives) that were identified as the highest priority, the management team considered the following factors:

- Business context: Risk responses were selected and tailored based on the current business context for the company. Friendly Fruit Juice Company enjoyed a strong brand following based on the quality of the products used. The existing product lines used organic, locally sourced materials where available.
- Costs and benefits: The strategy of producing a high-quality beverage using organic, locally sourced materials without additives could result in additional cost. Leonard Kruit, the chief financial officer, produced an analysis showing the increased cost of materials against the potential sales and revenue figures.

- Obligations and expectations: Compliance and regulatory requirements, stakeholder expectations, and other obligations were considered. A primary stakeholder for the company is the consumer. Considering the prioritization criteria, senior management decided to add two new suppliers to their vendor list to provide the plant-based materials needed for their new line.
- Risks emanating from the response: New risks that may arise from selecting particular responses were also discussed. Given the response of adding two new suppliers for the plant-based materials, the team considered the potential risks to the current supply chain and any impacts on the contracts with current suppliers.
- Opportunities emanating from the response: The team considered what new opportunities may develop from selecting particular responses. One of the two new vendors was a locally operated farm that maintained a market on site for its goods and a booth at one of the premier farmers' markets in the area. Friendly Fruit Juice determined that this could be an opportunity for joint marketing and adding locations where their goods could be sold.

Review of Risks Impacting Manufacturing Objective

Of the risks relating to the functional unit objective "Produce high-quality products at the best possible price," focus was given to "The possibility that the cost of manufacturing plant-based juices is higher than fruit-based juices." Marley, Simone, Fabien, and Angarika considered each of the following potential responses.

- Accept: While there is a potential impact on the reputation, brand, and trust if there were an issue with the quality, the management team was not willing to produce quality products without considering the cost of manufacturing. The team determined it would not accept this risk.
- Avoid: The plant-based juice line aligned with the mission and risk appetite, and therefore the company determined to move forward with the strategy. Therefore, they did not select the risk response "avoid."
- Pursue: The team reviewed the performance targets for the new line and determined that they did not want to pursue increased risk for increased performance.
- Share: Various outsourcing options were considered and determined to be unsuitable.
- Reduce: The team determined that the company should reduce the severity of the risk. Some of the actions included:
 - Developing a detailed understanding of the new manufacturing process and where costs were most impacted in that process
 - Develop real-time indicators that help in identifying when those areas of greatest impact on cost are exceeding acceptable levels of performance, thereby allowing for management intervention much earlier
 - Designing a new quality assurance procedure for the production of the new line to avoid costly product waste.

Once these actions are put in place, the team believes that the risk will reduce in severity to an amount consistent with the overall levels desired by the company.

Review of Risks Impacting Distribution Channel Objective

Of the risks relating to the functional unit objective “Get the product into the distribution channels used by customers,” one stood out as having a higher severity: “The possibility that the new product cannot be placed at current vendors and its impact on inventory.” The team considered each of the following potential responses.

- **Accept:** The severity of this risk would place performance outside of tolerance, and therefore senior management will not accept it.
- **Avoid:** The plant-based juice line aligned with the mission and risk appetite, and therefore the company decided to move forward with the strategy. Therefore, they did not select the risk response “avoid.”
- **Pursue:** The team determined that there was an opportunity to pursue new vendors and joint market the plant-based line with vendors who also maintained farmers’ market stands.
- **Reduce:** The team determined that the company could reduce the severity of the risk. While they considered various options on how management could do that, they felt that the risk response would be more effective if they were able to partner with another party.
- **Share:** One possible action included negotiating new agreements with current distributors. Friendly Fruit Juice entered into an agreement with a reseller to take any unsold plant-based juices who would in turn convert these juices into generics for resale.

Once these actions are put in place, Marley, Simone, Fabien, and Angarika believe that the risk will reduce in severity to an amount consistent with the overall levels desired by the company.

Management’s Consideration

The discussions of the monthly senior management meeting were captured to update the portfolio view of risk, which was presented to the board. The focus of this presentation was the performance goals associated with the business objectives that are either over- or underperforming, the current portfolio view of risk, emerging risks, interconnectedness of the risks, and what has changed since the previous quarter. The presentation covered both quantitative information, such as the combined potential financial impact of certain related risks, and qualitative information, such as descriptions developed by Marley, Simone, Fabien, and Angarika describing how additional or modified responses were expected to reduce the severity of risk.

After every quarterly presentation to the board, the results are incorporated into dashboards, and staff meetings are held to communicate the results and the monitoring and mitigation activities to be implemented. The dashboard is organized by objectives and includes a view from each level of Friendly Fruit Juice Company.

An Objective Perspective

As noted initially, Friendly Fruit Juice Company's foray into developing a stronger enterprise risk management approach was driven by its goal to better identify and manage company-wide risks. Through improved identification, assessment, prioritization, and response activities, Friendly Fruit Juice recognized it could achieve its objectives. They came to understand that the amount of risk to objectives cannot be simply calculated by averaging likelihood and impact. Rather, to meaningfully analyze their ability to meet their objectives, the organization needed to look at their risks from an overall perspective and understand how the performance of one objective might affect the achievement of another. This perspective provided Marley, Simone, Fabien, and Angarika with greater clarity on which objectives required the most attention and what responses offered a more efficient use of their respective resources.

8. Performance in a Technology Company

Industry Context¹⁶

The technology sector consists of companies involved in the production or delivery of technological products and services, such as computers, semiconductors, software, IT infrastructure and services, telecommunications, and home entertainment.

Technology entities may be influenced by any or all of the following external factors:

- Political and government regulatory approaches to spectrum usage, cloud computing, data privacy, sustainability, and infrastructure.
- Competition from cloud-based products and services that impact the margins of traditional hardware businesses and affect people with lower disposable incomes in developed countries, who are less likely to buy high-end consumer products.
- Consumer demand for end-to-end solutions that make the customer experience seamless and secure, such as cyber security products and services, and technologies that improve overall productivity and efficiency.
- Rapid technological changes, growing technological complexity, and the shortening of product life cycles.
- Regulatory and legal requirements arising out of political and government changes and legislation.
- Climate change and sustainability demands that push companies to provide incentives to reduce, reuse, and recycle devices.

They may also be influenced by the following internal factors:

- Capital demands to sustain merger and acquisitions activities and increased liability in pensions, minimum health benefit requirements, and legacy staff and low-skilled labor.
- The need for skilled employees, which increases the urgency to retain current talented staff and outsource entry-level jobs.
- Processes required to obtain third-party assistance to deploy and integrate new services and technologies.
- Innovation in technology that drives efficiency and relevancy of companies in the market.

Key Benefits of Enterprise Risk Management in the Example

This example shows the benefit of enterprise risk management to identify and manage entity-wide risks.

¹⁶ Reminder: The examples do not illustrate a complete view of all enterprise risk management practices in an organization. Each organization should consider and adapt the principles set forth in the Framework to its specific strategies, risks, and opportunities based on its size, scale, and complexity.

Principles Demonstrated

The following principles are primarily demonstrated in this example:

- Principle 10: Identifies Risk—The organization identifies risk that impacts the performance of strategy and business objectives.
- Principle 11: Assesses Severity of Risk—The organization assesses the severity of risk.
- Principle 12: Prioritizes Risks—The organization prioritizes risks as a basis for selecting responses to risks.
- Principle 13: Implements Risk Responses—The organization identifies and selects risk responses.
- Principle 14: Develops Portfolio View—The organization develops and evaluates a portfolio view of risk.

Aspects of the following principles are also demonstrated in part in this example:

- Principle 8: Evaluates Alternative Strategies—The organization evaluates alternative strategies and potential impact on risk profile.
- Principle 20: Reports on Risk, Culture, and Performance—The organization reports on risk, culture, and performance at multiple levels and across the entity.

Facts and Circumstances¹⁷

Gulf Technology Company is a national firm that operates in three different sectors: technology services, software, and hardware. It is a publicly traded company and has been serving individual consumers, businesses, and governmental agencies for over twenty years. Recently, Gulf Technology has experienced rapid growth through mergers and acquisitions. The company strives to be an industry leader in a business environment facing intense competition, rapid technological changes in products and services, and growing pressure on margins and overall profitability.

Gulf Technology believes that its growth and success in the technology sector can be attributed to the shared values and innovative spirit of its team. The governance structure comprises the board of directors and its committees, and multilevel management teams across the three departments. The company clearly defines the roles and responsibilities of everyone at every level for achieving its mission to lead the industry in the invention, development, and manufacture of the most advanced technologies for services, software, and hardware.

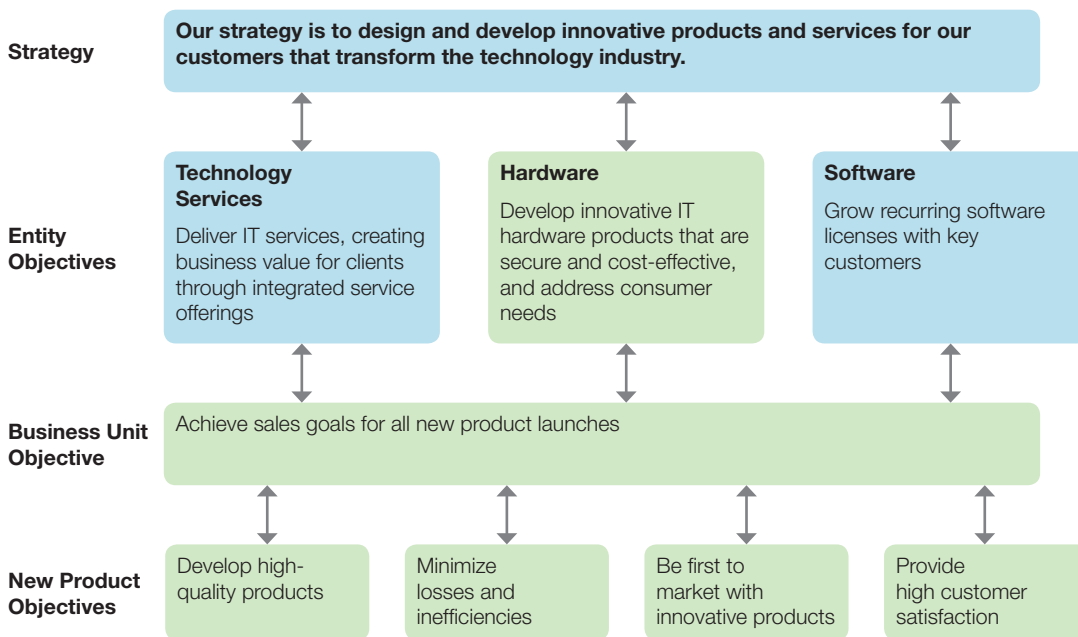
Senior-level management has worked to instill a culture in which people—regardless of level—manage risk as an intrinsic part of their job. This culture supports open communication about risk, encourages employees to express concerns, and maintains processes for elevating concerns to the appropriate level. Rather than being risk averse, employees strive to understand the risks of any activity they undertake and to manage and pursue them accordingly.

One division of the hardware business line received the approval and budget from senior management to design and develop a new product. The business objective for this division is to achieve sales goals for all new product launches. Supporting this objective are four new product objectives: 1) develop high-quality products, 2) minimize losses and

¹⁷ Names of organizations and people in this example are fictional, and any resemblance to actual organizations and people is coincidental.

inefficiencies, 3) be first to market with innovative products, and 4) provide high customer satisfaction with its products. All of these business objectives support one of the Gulf Technology’s overall objectives: develop innovative IT hardware products that are secure and cost-effective, and address consumer needs (see Figure 8.1.)

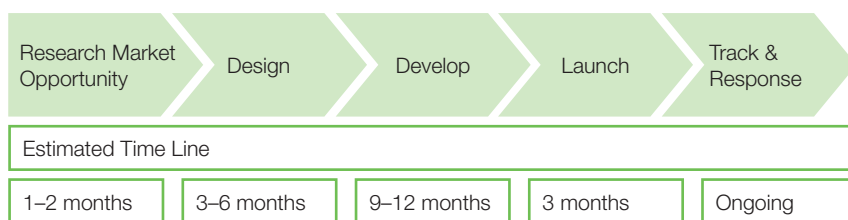
Figure 8.1: Overview of Strategy and Objectives for Gulf Technology



Discussion

To succeed with the product development and launch, Gulf Technology formed a working group for the life cycle of new product development, as Figure 8.2 shows. The group comprises representatives from marketing, finance, development, and supply chain, plus individual designers (front-end, industrial, etc.), and a product manager who leads it. The group meets weekly to discuss the status of the product during each phase of development. Any member of the working group can raise for discussion any risk about the project or product without any fear of retribution. Management encourages this transparency to support risk-informed decisions and improve the overall quality of products developed and delivered to consumers.

Figure 8.2: New Product Life Cycle



This example follows the evolution of the risk profile for one product through the phases of development to track and respond. (For the purposes of this example, the earlier phases are not included.)

Develop Phase

During a meeting in the develop phase, the marketing manager brought forward new information about changes in consumer preferences for a particular feature of the product. This discussion occurred because of a recently implemented practice to identify key insights and potential risks during all new product development projects.

Historically, the management of Gulf Technology performed annual company-wide risk identification by conducting surveys, interviews, and workshops. However, this annual practice proved ineffective for supplying timely information in the fast-paced technology industry. Greater agility was needed to adjust to rapid technological changes, changing consumer preferences, and competitors (both large and small) introducing new and improved products.

Now, all new product working groups use cognitive computing capabilities to conduct real-time risk identification to supplement the annual company-wide practice. The advanced data analytics allow vast amounts of unstructured and structured data to be gathered and analyzed through data mining, natural language process, and machine learning. Data-mining technology is used to analyze comments from various sources, including end-user blogs and forums on which customers discuss current products. Another source is website recording technologies that can replay individual customer experiences and track behavior patterns. This data analysis gives management more useful and relevant information.

By using these cognitive computing capabilities to identify risks, the product manager, Stella Sharpe, realized the product as currently designed would not meet the changing customer expectations. She led a discussion with the marketing manager and development lead to better understand how changing a feature could impact the project objectives and time line. Some of the risks identified included:

- The possibility of a delayed product launch and the impact on the objective of being first to market with innovative products.
- The possibility of poor customer experience and the impact on achieving high customer satisfaction on existing products.

To support the risk assessment, Stella Sharpe used impact and likelihood factors developed by the company and used by all employees. Gulf Technology uses six criteria (financial and non-financial) based on internal data from tracking customer complaints, negative media coverage, and external events from the publicly available information on the impact of risks on peer organizations. The six criteria are reputation, market, operations, legal/regulatory, cost, and value. By consistently using these assessment criteria and measures across the company, management can view interdependencies between risks and can aggregate risks from other business units to higher levels of the company.

In the develop phase, the most relevant criteria were determined to be reputation, market, and cost. It became clear to Stella and others that the potential impact to Gulf Technology's reputation was high if the company was not first to market and if they failed to achieve high customer satisfaction. It also became clear that the product development time line may lengthen to modify the product. Stella was cautious of being overconfident during the assessment, so she encouraged everyone in the working group to participate in further discussion to minimize any bias.

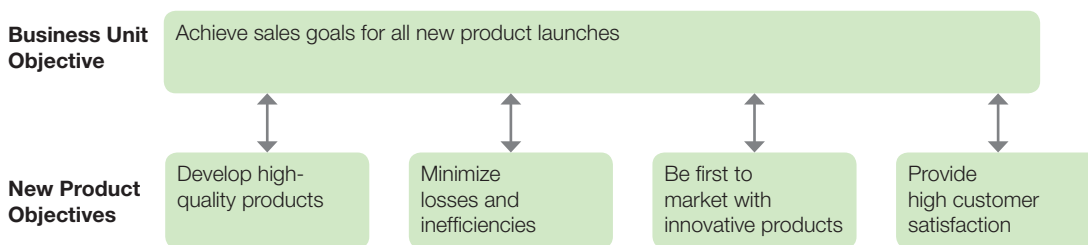
Figure 8.3 shows the objectives considered for the new product. During the discussion, Stella recognized there were two competing objectives: 1) being first to market with innovative products and 2) providing high customer satisfaction. She then considered how risk

Key Observation

When developing an overall risk profile, the element of time can be factored in by developing a series of profiles throughout the product life cycle.

impacts performance at a higher, division-level objective—“achieve sales goals for all new product launches”—by using a risk profile.

Figure 8.3: Business Unit and New Product Objectives



The risk profile helped management determine what level of risk was acceptable for a given level of performance. This initial profile is shown in Figure 8.4. The x-axis represents the number of units sold (performance), and the y-axis represents the number, composition, and severity of risks associated with achieving this objective—“achieve sales goal for all new product launches.” To develop this risk profile, Stella used a combination of quantitative and qualitative approaches and relied on Gulf’s expertise to determine the height and shape of the curve. Quantitative approaches included data modeling (reviewing historical product launches for similar products and corresponding data, including revenue and losses). Qualitative approaches included reviewing customer complaints and conducting interviews and workshops with key stakeholders. The target represents the forecast for new product sales.

When the team gathered to discuss what they had learned about the relevance of the product to customer satisfaction, the project leader determined that they should accept more risk by modifying the product design and potentially delaying the product release. By accepting the additional risk to achieve the sales goals for this new product, the risk curve steepened and shifted up, edging close to Gulf Technology’s risk appetite. This is illustrated by comparing the risk profile for the business unit objective of achieving sales goals for new products in the design phase (Figure 8.4) and the develop phase (Figure 8.5).

Figure 8.4: Design Phase Risk Profile

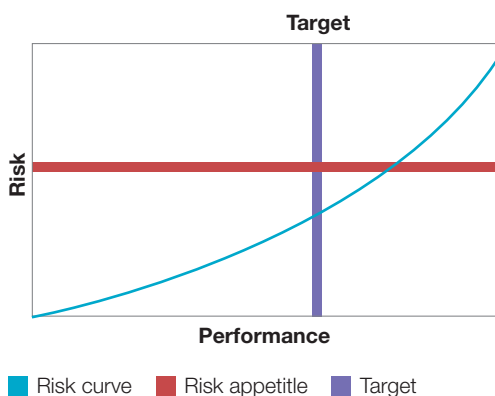
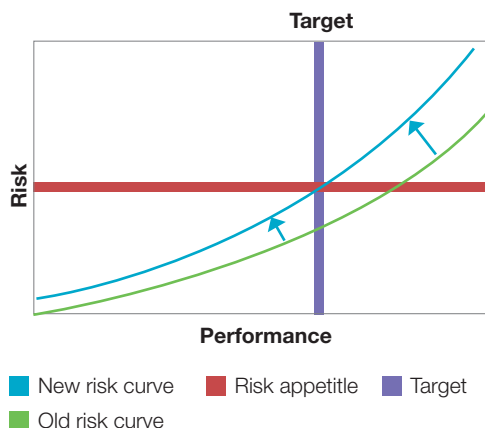


Figure 8.5: Develop Phase Risk Profile



Product Launch Phase

The development and building of the new product progressed toward the launch date. One month before the release date, the development team reported to the working group that they needed a minimum of three additional weeks to complete the testing of a component of the product. At the same time, Stella Sharpe learned that the company's main competitor was aiming to release a similar product close to Gulf Technology's planned launch date.

With competing product objectives of releasing a new product on schedule and having a fully tested product to obtain high customer satisfaction, Stella prioritized the objectives and associated risks to make a more effective and risk-informed decision, using several criteria:

- **Adaptability:** the company's ability to respond if they launched a sub-par product or were late to market in releasing a fully tested product.
- **Complexity:** the risks of product obsolescence and low sales to the company's objective of being market leader in technology and customer satisfaction.
- **Velocity:** the risk of not being first to market, which could impact the company faster than releasing a sub-par product that disappoints consumers.
- **Persistence:** the risk of adverse media coverage continuing and the consequent impact on sales goals following a product release that does not meet consumer expectations.

With input from the working group, and based on the criteria of adaptability and complexity, Stella decided to release the product on schedule rather than delay the launch. She determined that the impact to overall sales would be significant if the product launch were delayed due to additional testing and became the second product on the market.

Prioritizing risks also helped management decide how to best respond to them, given finite resources. Following the practice of most companies, Gulf Technology looked to apply one of the following risk responses to each risk: accept, avoid, reduce, pursue, and share.

- **Accept:** Gulf Technology would launch the product with the untested feature and determine later how to service the product as issues arose.
- **Avoid:** They would remove the untested feature from the product.
- **Reduce:** They would delay the launch date and allow the development team to perform the additional testing.
- **Pursue:** They would launch the product as expected, actually giving prominence to an unproven technology.
- **Share:** They would replace the untested feature with a tested feature from a previous product.

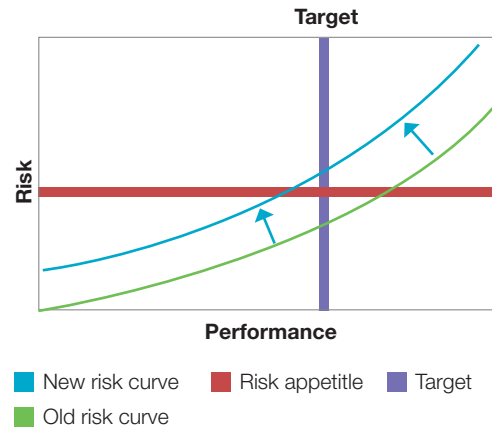
Additionally, Gulf management evaluated internal and external pressures, risk priority, risk appetite, and the costs and benefits associated with the risk response. The goal was to apply the appropriate response to bring the risk in line with risk appetite.

In considering the cost and benefits of either accepting or avoiding the risk, Stella determined that being first to market with a product that contained only those features that had been fully tested would have more benefit than leaving a potentially problematic feature in the product. She avoided the risk by removing the untested feature. The risk profile from the develop phase showed her how removing the untested feature would impact the objective of being first to market compared with the objective of obtaining high customer satisfaction, and ultimately the business unit objective of achieving sales goals for new products.

When the untested feature is removed, the curve on the risk profile flattens and shifts down within the company’s risk appetite for the objective of being first to market (Figure 8.6). However, when considering the risks impacting the objective of providing high customer satisfaction, and ultimately the business unit objective of achieving sales goals for new products, the risk curve steepens because a feature that consumers want is no longer part of the product, which creates additional risks (Figure 8.7).

Figure 8.6: First-to-Market Risk Profile

Figure 8.7: High Customer Satisfaction Risk Profile



Track-and-Respond Phase

The working group successfully launched the new product on schedule. Once the product was in the market, Stella Sharpe tracked several metrics including sales (e.g., product sales, gross profit percentages), marketing (e.g., web traffic, number of leads generated), and product (e.g., inventory management, customer service requests). These metrics alerted management to key indicators of both risk and performance.

One benefit of tracking performance metrics is the ability to quickly redeploy resources as needed. Historically, prior to product launches, the company devoted significant effort to getting the product designed, developed, tested, and marketed. Once a product was launched, substantial time was spent positioning and reacting to changes in the business context. As a result, Gulf generally could not manage under- and overperformance (e.g., product sales) and tended to be more reactive.

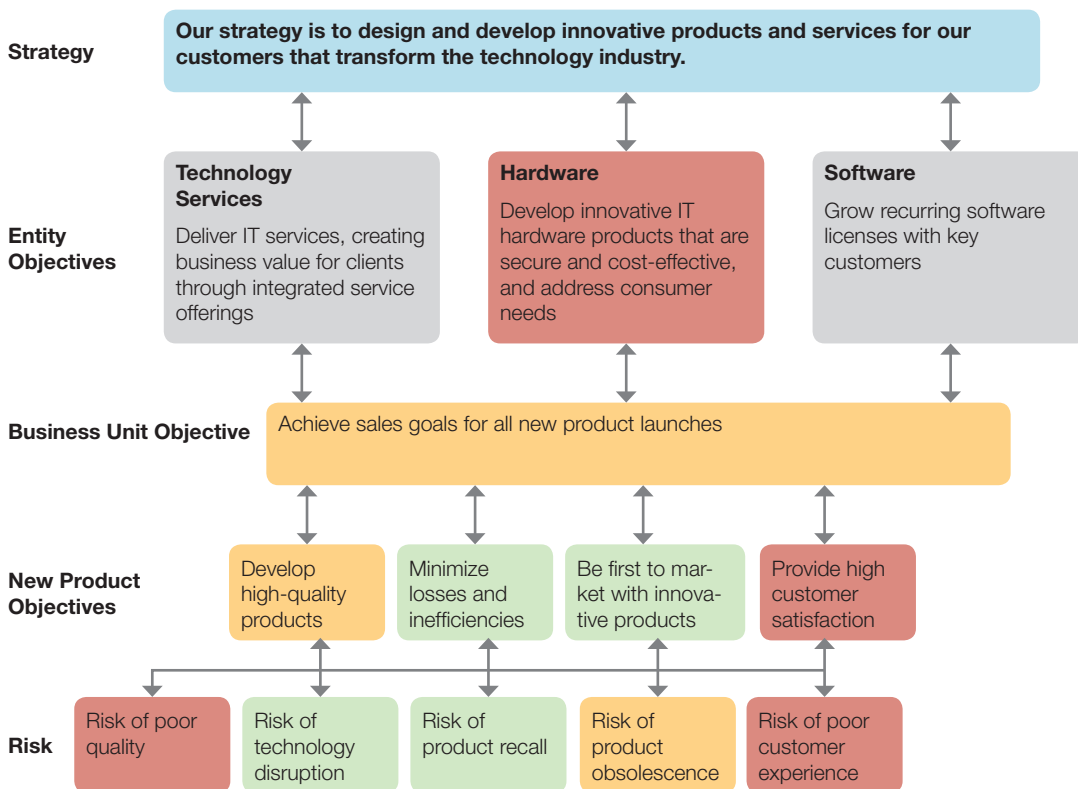
Several years ago, Gulf shifted to a focus on managing both under- and overperformance of all new products to ensure they had sufficient capacity and resources to meet demand. For example, one of the company’s call centers could handle customer service requests of 10% of products sold. So when Stella received real-time information that sales had spiked significantly in a short period of time (by using the key indicators that tracked performance), she knew that the information would be fed into the risk identification system, alerting the call center to staff additional employees in anticipation of an increase in customer calls. This system allowed Gulf to reallocate resources quickly based on changes in consumer demand.

Stella continued to track key indicators, and three months after the product launch she reported that sales were lagging and customer complaints about the missing feature were on the rise. In response, the working group reviewed the entire product development life cycle. Their goal was to understand what risks impacted the new product development, at what stage they occurred, and how they affected the new product and business division objectives.

With the results of this “postmortem,” Stella was able to analyze how the risks associated with high customer satisfaction actually increased in severity throughout the new product life cycle compared to the risks associated with being first to market with an innovative product. Although she had prioritized the objective of being first to market during product development, it became evident that customers would have accepted a short-term delay in the launch if the end product had had all of the features they were expecting. Specifically, a two- to three-week delay in the launch was determined to be acceptable to customers, but not a delay of more than one month. In fact, Gulf Technology determined that customers were more sensitive to a product with all of the anticipated features and were more likely to switch to a competitor’s product if their expectations were not met. Stella used the analysis to adjust the approach for other new product launch phases.

Additionally, this information from the postmortem fed into the company-level portfolio view of risks. Specifically, it showed that the risks to the objective of high customer satisfaction (risk of poor customer experience and poor quality) maintained their severity as they rolled up to the division- and company-level objectives. Those dissatisfied customers who switched to a competitor product affected Gulf Technology’s ability to meet its objective of achieving sales goals for all new product launches. All this information helped senior management better understand risks they may encounter in the future. Figure 8.8 illustrates the portfolio view of risks.

Figure 8.8: Portfolio View of Risk



The Changing Risk Landscape

The risk profile helped senior management better understand how the risks from a business division could impact the company as a whole and how that risk profile shifted during each phase of the life cycle. This valuable information helped them learn from the experience to improve future development and launches, as it provided a better view of what phases and type of risks may cause a greater impact to objectives. Lastly, as Gulf Technology continues to conduct postmortems on product launches over time, senior management may consider revising its overall strategy for launching new products.

9. Review and Revision in an Industrial Products Company

Industry Context¹⁸

Industrial products companies provide goods and services in the chemical, engineering and construction, forestry, paper and packaging, industrial manufacturing, metals, and transportation sectors.

Industrial products entities may be influenced by any or all of the following external factors:

- Trade policies of countries where a company operates, acquires materials, transports goods, or sells products.
- Shifts in economic global power that creates both barriers and opportunities.
- Social unrest that may create risk and even disrupt the supply chain or distribution networks.
- Technology advancements that provide opportunities for companies to alter how they address consumer needs and desires.
- Changes across a wide range of laws, particularly when they operate in several countries, and the need to comply with these evolving requirements.
- Environmental oversight that can influence operational practices.

They may also be influenced by the following internal factors:

- Availability and mix of capital to develop infrastructure and respond to the need for innovation and technology advances.
- Challenges of entering different industries, geographies, or increasing staffing through organic growth, mergers, or acquisitions.
- Availability of skilled labor that may impact the ability to maintain and expand operations.
- Reliance on processes that adhere to their quality and safety standards.
- Innovative technologies like 3D printing and robotics.

Key Benefits of Enterprise Risk Management in the Example

This example demonstrates how enterprise risk management enhances the company's ability to make decisions that increase positive outcomes, increases range of opportunities, and reduces negative surprises.

18 Reminder: The examples do not illustrate a complete view of all enterprise risk management practices in an organization. Each organization should consider and adapt the principles set forth in the Framework to its specific strategies, risks, and opportunities based on its size, scale, and complexity.

Principles Demonstrated

The following principles are primarily demonstrated in this example:

- Principle 14: Develops Portfolio View—The organization develops and evaluates a portfolio view of risk.
- Principle 15: Assesses Substantial Change—The organization identifies and assesses changes that may substantially affect strategy and business objectives.
- Principle 16: Reviews Risk and Performance—The organization reviews entity performance and considers risk.
- Principle 17: Pursues Improvement in Enterprise Risk Management—The organization pursues improvement of enterprise risk management.

Aspects of the following principles are also demonstrated in part in this example:

- Principle 6: Analyzes Business Context—The organization considers potential effects of business context on risk profile.

Facts and Circumstances¹⁹

Mostley Machinery Company is a large international manufacturing company that builds assembly machines that can produce a range of products. Mostley Machinery's customers typically use the machines for specific parts of their own assembly process; in fact, Mostley Machinery does not manufacture machines intended to build a product from start to finish. For example, they sell a variety of riveting machines that are used as part of an assembly line. Over 250 companies, ranging from small regional manufacturers to large, global manufacturers, purchase these riveting machines every year.

Mostley Machinery company is guided by four entity-level objectives:

- Build and maintain customer trust.
- Provide a diverse range of quality products to our customers.
- Operate in a safe and efficient manner.
- Provide stable, long-term value to our shareholders.

Mostley Machinery Company is located in central Europe and trades on a local stock exchange. The company has seen higher than average growth in recent years, largely due to the expansion of some Asian manufacturing companies it supplies to. It is organized by product lines, of which there are fifteen. There are also four support functions: strategy and finance, human resources, information technology, and safety and compliance. The fifteen product lines report to the chief operating officer. Other members of the senior leadership team include the chief executive officer, chief financial officer, director of human resources, director of information technology, and director of marketing.

During recent analyst calls, Myron Zblinski, the chief financial officer (CFO), noted growing concern over Mostley Machinery's ability to sustain traditional levels of growth. Some pundits believed that the industry was more likely to experience disruption as new manufacturing techniques evolved, new materials became more common, and other entrants were able to penetrate the market. The analyst community historically viewed the company as one that provided stable growth with a somewhat risk-averse or risk-neutral approach. But now there was a growing sense that the company had started to take on

¹⁹ Names of organizations and people in this example are fictional, and any resemblance to actual organizations and people is coincidental.

higher risk ventures in pursuit of higher growth while reducing the focus on the lower-risk parts of the business that made it initially successful. It remained unclear whether this was a conscious decision to pursue higher margin products or whether the company had simply drifted from its original focus. This situation had, unfortunately, led some analysts to indicate that they may shift their recommendation from “buy” to “hold.” In response, the senior management team recognized that they needed to better communicate the company’s view on risk overall and its strategy for addressing changes that impact the company.

Discussion

The information that senior management used to understand the company’s performance came from many sources. In the past, they typically relied on their own internal reviews, but the recent concerns of the analysts prompted them to take a fresh look at things. They needed to determine if the current enterprise risk management capabilities were meeting the company’s needs. Specifically, they set out to determine if:

- The company was identifying and responding to changes in customer preferences, supply chain, materials, etc.
- Risk was impacting performance in ways that were currently undetected.
- Changes in enterprise risk management practices could enhance the company’s ability to create or preserve value.

Responding to Changes in the Business

The senior management team of Mostley Machinery set out to answer the first question: how does the company currently identify and respond to changes and the effect of those changes on the company’s overall view of risk (i.e., its portfolio view of risk). The answer was that response is determined in discussions that Myron Zblinski had previously built into the business processes. These discussions include analysis of changes in product mix, changes in business lines, geographical changes, and internal changes, when appropriate.

Every quarter, the senior management team, under Myron’s purview, summarized these discussions. Having the strategy team involved in this process allowed individuals to see the links between the changes identified and the entity’s strategy. They could then contribute their ideas and insight as the strategy evolved.

In one of these discussions on external factors, two specific changes in the industry were noted, and the meeting participants considered the potential impact of each on the company’s overall risk profile. The changes were:

- Technology advancements, particularly 3D printing, the growing use of robotics, and the evolution of digital technology.
- Social unrest and its potential to impact the company’s increasing reliance on global supply chains.

Through this exercise the company identified some areas of greater exposure should the trends continue. For example, one of the product lines focused on providing replacement parts for their machinery, and the growing prevalence of 3D printing meant that

Key Observation

In a small business setting, senior leadership can equip the organization to respond to risks and identify opportunities by discussing the impact of internal and external changes on the company’s portfolio view of risk.

third parties would soon be able to replicate cheaper parts and create new competition. Additionally, since many of the company’s customers are themselves manufacturers, the discussion team recognized that those customers could begin printing their own parts.

The team considered what steps the company could take to mitigate this risk, which led to them discussing opportunities to differentiate themselves from competitors and create added value. They came up with a two-part proposal: First, the company should actively pursue 3D printing to internally produce replacement parts potentially at reduced cost by using AutoCAD. Second, rather than retaining the AutoCAD files for company use and waiting for customers or other third parties to develop their own specifications to produce parts, Mostley Machinery could provide customers with the stereolithography files with the purchase of one of its pieces of equipment. This practice could then be marketed as a competitive differentiator. This idea was recorded and provided to the strategy and finance team to consider in an upcoming planning cycle.

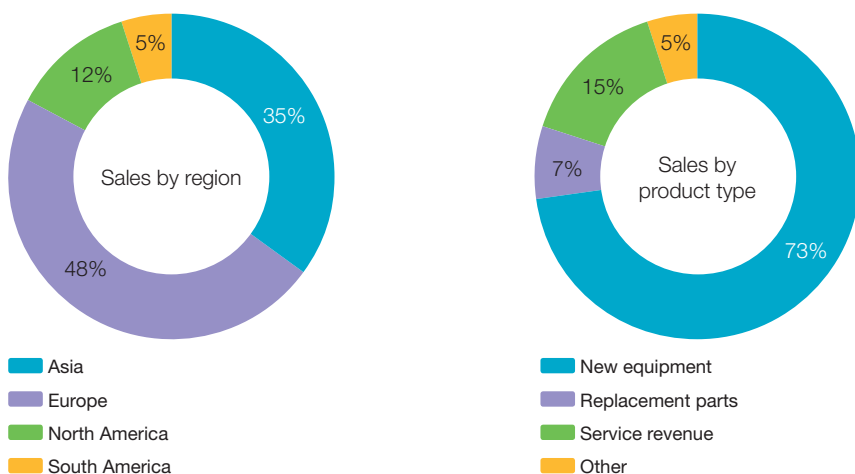
Key Observation

Considering the effect of developments in the external environment on the portfolio view of risk gives the organization the ability to respond to certain risks before they materialize and to identify areas where these developments create strategic opportunities.

Assessing Performance and Considering Risk

The second issue was whether risk was impacting performance in ways that were undetected. The company had a series of goals aligned to each of its objectives. Each of the goals included a quantifiable aspect, so that the company could track performance, which was reported as part of the quarterly business performance review. Senior leadership reviewed the metrics for each goal quarterly. On review, two metrics stood out: sales by region and sales by product type, illustrated in Figure 9.1.

Figure 9.1: Sales Metrics for Mostley Machinery



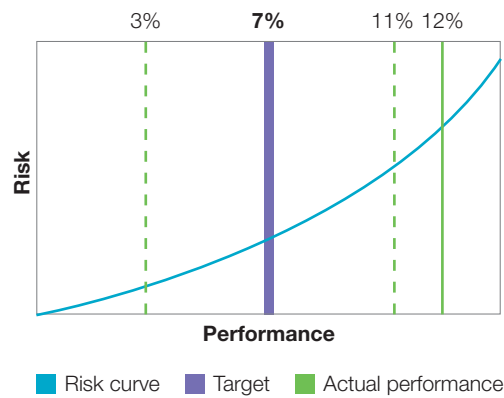
As noted in Figure 9.1, the company was selling 35% of its equipment to the Asian market. This percentage had risen in each of the last five years, before which sales to Asia represented less than 10% of the total. This increase was not planned, but it has driven the majority of the company’s overall growth in this period, and it exposed the company to a higher amount of risk than the company could sustain, as the Asian market was viewed by management as more cyclical than the European market.

The team also reviewed the revenue from replacement parts. The goal was to maintain the percentage of revenue from sales of replacement parts to overall sales at 7%. The

company wanted to be sure that it remained—above all—a provider of equipment, as that generated much higher profit margin than the sale of replacement parts. At the same time, the company wanted to retain its replacement parts customers, rather than losing them to their competitors for those parts, or worse, for new equipment.

Taking all this information into account and reviewing historical data to understand seasonal and other trends, the company defined a lower boundary for the tolerance of 3% and an upward boundary of 11% (see Figure 9.2). Senior management determined that having replacement parts revenue below 3% suggested that parts were being over-engineered with a higher cost to produce. Above 11%, there was likely either a reliability problem with current parts or customers were keeping the machine past the intended useful life, choosing to repair rather than replace machines.

Figure 9.2: Risk Profile for Percentage of Sale of Replacement Parts to Total Sales



In one quarter, the actual performance was 12% (shown as the solid green line in Figure 9.2). This shift in the percentage of revenue from replacement parts presented a confusing trend for senior management. They viewed it as being a higher risk to future revenues because, as noted above, customers could easily shift to lower-cost aftermarket versions or use 3D printing to create their own parts.

In researching the reasons for the 12% replacement sales, senior management identified that three years ago, Mostley Machinery had streamlined its operations to pursue the goal of operating efficiently. Management was now starting to see the longer-term implications of that change. An estimated 70% of the customers were replacing a part purchased (either on their own or as part of new machinery) within two to three years, rather than the targeted ten-year useful life. These failure times were occurring just before the warranty period ended. This increased failure rate was resulting in higher sales revenue from replacement parts but also incurring higher warranty repair costs for Mostley Machinery.

With this insight, leadership considered whether they should adjust the target and/or tolerance for replacement parts, or whether the company was assuming too much risk by having a lower useful life for key parts. Ultimately, they decided that the decrease in useful life for parts could threaten the company's reputation for quality and their customers' trust. They determined that in streamlining the process, they had accepted a higher amount of risk of product quality. Therefore, they initiated a project to determine the cause of the shorter useful life and to modify the process to bring the average useful life for the parts back to three years.

Key Observation

By defining a performance target and tolerance, and by monitoring performance against target and tolerance, an organization can identify when it may be taking too much or too little risk in certain areas and adjust as needed to achieve the desired level of performance.

Considering Current Practices

For the past several years, Mostley Machinery has taken steps to understand the current and desired enterprise risk management capabilities. For instance, the chief executive officer (CEO) and the internal auditor now attend business performance reviews with the operating divisions to look at progress against performance goals and how the business is incorporating an understanding of the risks as they operate in pursuit of their goals. This

has helped the CEO to understand performance of the business and the internal auditor to develop an annual audit plan.

However, the senior team also needed to refresh their understanding of where enterprise risk management capabilities were integrated into the business. They initially looked at scoring the company using a typical maturity model, but that was too high level and didn't provide enough insight into the day-to-day operations. Instead, each member of the senior leadership team was asked to compile a summary of the key enterprise risk management activities that had been woven into day-to-day operations. These summaries included the following:

- The chief financial officer (CFO) noted that risk management was formally part of the budget planning sessions. The budgeting process asked two questions: Have we allocated funds to support initiatives to enhance the managing of risk where needed? What efforts are we funding that provide minimal impact on amount of risk taken by the company?
- The chief operating officer (COO) noted that risk was a topic for discussion at every operations meeting in addition to the regular discussions on new staff, training, production targets, and quality assurance results. The plan was to move risk from being a separate agenda item to being a factor of every topic, but that change would likely take twelve to eighteen months.
- The chief information officer (CIO) noted that risk assessments were being used in the review and development of new technology on a company-wide basis, where common technology was used by multiple departments. These assessments had helped to identify potential problems in past projects.
- The vice president of human resources noted that risk management was being woven into performance reviews.

While there were many positive practices noted in these conversations, it became apparent that there were opportunities for improvement. For instance:

- Changing revenue patterns over time had not been a focus, as the company typically compared only the current quarter to the prior quarter, or the current year to the prior quarter. This meant that slowly evolving trends were not necessarily identified.
- None of the senior leadership team was able to articulate why the amount of risk taken by the company was appropriate. Few could state with confidence whether it was too high or too low. Most relied more on personal judgment and experience to determine the appropriate amount of risk.
- While the CEO and internal auditor attended performance meetings, there was no sharing of information across these meetings. There were concerns that some risks potentially impacting more than one group might still be looked at in isolation. For instance, at the same time the CFO was asking for spending on research and development to be reduced, the COO was seeing a growing need to increase efforts on new product development.
- The company had a spot bonus program for rewarding individuals for specific efforts. The vice president of human resources noted that of the spot bonuses awarded in the past twelve months, 40% related to culture (doing the right thing for the client), 40% related to efforts to help meet an internal deadline, and 20% related to long-time service. None of them related to instances of individuals helping shape the risk profile of the company through their decisions. All senior leadership team members were encouraged to consider spot rewards for such instances.

Changing Practices

Management realized that it was important to develop capabilities that:

- Support people in making decisions across the company that reflected a common understanding of acceptable risk taking.
- Consider how performance evolves over a longer period than just one year to the next.
- Enhance communications to the board on emerging risks that could disrupt the business.
- Enhance communications with the analyst community. Most notably, they needed to develop a way to better communicate how risk factored into decisions.

To begin making these changes, the senior leadership team met to formulate a view of the overall risk appetite. First they considered the extent to which the overall strategy and entity-level objectives aligned with this mission, vision, and core values. They reviewed the company's recent annual reports, internal management reports, and press releases to identify trends in communication that could be used to infer where leadership was most interested in minimizing risk or taking risk. They also reviewed internal memos from the CEO and other business unit leaders to identify where they were asking employees to focus.

Each executive was asked to develop a view of the type and amount of risk acceptable for the strategies related to their area of the business. Once this was done, the senior leadership members met with their staff to get feedback on how such a statement might be useful in practice and what needed to be made clearer. The senior leadership then met as a group to discuss, revise, and ultimately finalize the statements.

Figure 9.3 lists a few risk appetite statements that the company developed by entity-level objective to use in decision-making.

Figure 9.3: Risk Appetite Statements

Entity-Level Objectives				
	Build and maintain customer trust	Provide a diverse range of quality products to our customers	Operate in a safe and efficient manner	Provide stable, long-term value to our shareholders
Risk Appetite Statement	We have low tolerance for risks that create situations or actions that could negatively impact customer trust. We recognize that while we strive to avoid such situations, sometimes they arise. We will always treat our customers with respect.	We will seek ways to offer a diverse suite of products that offer equipment of superior quality and reliability. We understand that such goals may come with a cost. We will prudently accept risks that increase our costs where those decisions are needed to maintain quality.	We will pursue improvements in our processes that increase the reliability or reduce the cost of our products. However, we will always operate in a way that does not create undue risk to our employees, customers, or the community.	Shareholders provide the capital we need to operate. In return they expect an appropriate return. We will seek to provide expected returns by making risk-informed decisions on financial performance. We will seek to do so over the long-term, and will not make decisions that drive short-term performance and create significant risk to long-term performance.

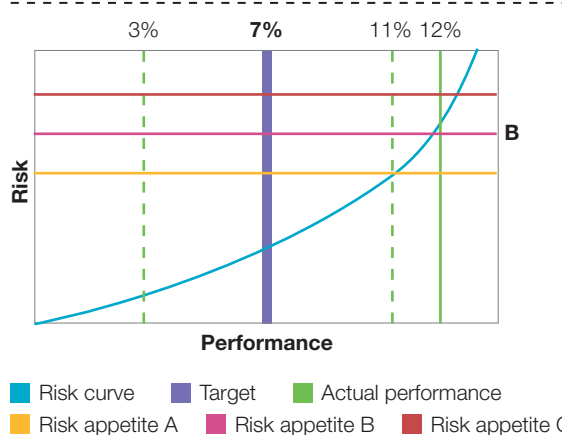
Once the executive risk committee finalized the statements, they invited the board of directors to review and comment on them. The statements were then sent to all executives and managers, who were encouraged to refer to them when making decisions that involved assuming a certain level of risk. They were also instructed to elevate the decision to the next level if they felt uncertain whether the risk they were taking aligned with the company's risk appetite.

One method the company used to assess the success of their efforts was revisiting the sales trend analysis previously completed and the percentage of sales represented by replacement parts. As part of that assessment the senior team reflected on the risk appetite expressions, noting that the company:

- Has a low tolerance for risks that create situations or actions that could negatively impact customer trust.
- Will seek to produce equipment of superior quality and reliability, understanding that such goals may come with a cost.
- Has stakeholders who expect strong financial performance and will not accept risks that unnecessarily erode financial performance.

The result of the assessment was a new risk profile, which was presented to senior management, showing three possible levels of risk appetite (see Figure 9.4). In this case, since the company had a history of performance and an understanding of risk to that performance, risk appetite was being set by management in the context of actual performance (i.e., “We know our performance and tolerance, and now we are figuring out where appetite should be”). After considerable discussion and debate, the senior management team agreed that risk appetite was best depicted as line B. With this decision made, it became clear that the actual level of performance indicated exceeded the overall risk appetite and, therefore, remedial actions were needed.

Figure 9.4: Revised Risk Profile for Percentage of Sale of Replacement Parts to Total Sales



Developing a Common, Company-wide View of Risk

To develop an enterprise view of risk, staff for all product lines and functions identified risks within their part of the company. These included everything from those risks related to specific suppliers not delivering on time to internal systems failure. But to be sure that this effort did not detract from the important risk management efforts happening within each of the programs, senior leadership appointed a point person from each product line and function (the working group) to develop a portfolio view of risk. Each product line and function regularly provided the designated person with updated risk information, an effective system that required minimal effort from the managers.

The senior leadership team supplemented this information with their own insight on the top risks facing the company and discussed it further, as needed. Over time, they refined the reporting to provide the needed information from the portfolio view to each stakeholder group, including the board, senior leadership, and risk owners.

Figure 9.5 illustrates the completed portfolio view of risk. Note that the approach is not a linear compilation, but reflects considerable management judgment. For instance, management has noted in the specific risks to

Key Observation

Small businesses may have a less-formal process for regularly reviewing and discussing risk. This may include a management meeting every quarter with key leaders, where risks and interdependencies are discussed.

business objectives that only one was in the moderately high range: “Be a fast follower of product innovation.” That objective is, however, significant to the overall entity-level objectives and as a result the related entity-level objective was also assessed as having a moderate amount of related risk.

With the combination of captured risk information and management’s own judgment, Mostley Machinery had a dashboard that provided the insight required, focusing on the impact of risk on performance. The dashboard illustrated in Figure 9.5 indicates the level of risk to both entity and business unit objective performance targets. The color scheme is also tailored to reflect the risk appetite.

- Red represents the level of risk that the company is unwilling to accept in the pursuit of value.
- Yellow indicates that the risk is just within the level the company is willing to accept in the pursuit of value, but the assessed level is higher than desired.
- Green indicates that the risk is fully within the level the company is willing to accept in the pursuit of value.

Figure 9.5: Completed Portfolio View of Risk

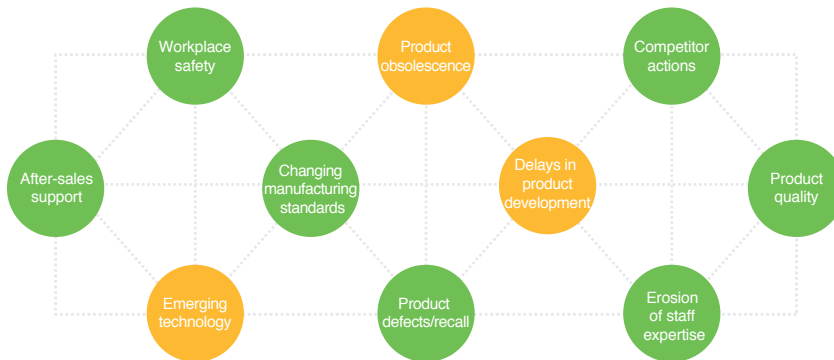
ENTITY OBJECTIVES



BUSINESS OBJECTIVES



RISKS RELATING TO...



Completing the Conversation

Having taken on these efforts to understand how enterprise risk management capabilities and practices were woven into the business, and where they could make changes, the CFO gained a better appreciation of the analyst observations. Steps were taken to address the appearance of higher-risk activities displacing lower-risk activities with proven performance. The change in focus on increasing the useful life of parts demonstrated how risk management can increase positive outcomes. The focus on using 3D printing and the distribution of related files helped increase the range of opportunities. Further, the focus on company-wide risk and viewing it through the lens of risk appetite (and carefully considering stakeholder views) will help to reduce negative surprises. Most notably, the plan addressed the concerns that the company had adopted a higher risk strategy or inadvertently become more aggressive in its decision-making.

10. Risk Information in a Healthcare Company

Industry Context²⁰

Healthcare providers deliver medical services to patients ranging from routine care to specialized critical care such as surgery, psychiatry, obstetrics and gynecology, and oncology. Healthcare providers may fit into one of a variety of business models: non-governmental, governmental, not-for-profit, for profit, religious, or academic.

Healthcare may be influenced by the following external factors:

- Intervention in policy and decision-making stemming from special interests rather than business-driven approaches.
- Reimbursement rates that are affected by the general economy and public policy.
- Consumers using non-traditional sources of healthcare, including telemedicine, small clinics in retail stores, and physician assistants and nurse practitioners to.
- Changing technology and the availability of confidential patient information.
- Strict regulatory requirements along all aspects of the provider delivery model.
- Changing landscape of global healthcare crises, including pandemics.

Healthcare may also be influenced by the following internal factors:

- Capital demands to sustain merger and acquisition activities that are needed to maintain and expand facilities or invest in updated equipment.
- Competition for staff at all levels due to increasing demand from all types of health-care providers.
- Staff operating in silos, which affects information sharing.
- Dependency on technology in all aspects of the delivery model, from decisions on patient care to reimbursements for services delivered.

Key Benefits of Enterprise Risk Management in the Example

This example shows how enterprise risk management practices reduce performance variability. It also shows how enterprise risk management information practices help a company improve resource deployment.

²⁰ Reminder: The examples do not illustrate a complete view of all enterprise risk management practices in an organization. Each organization should consider and adapt the principles set forth in the Framework to its specific strategies, risks, and opportunities based on its size, scale, and complexity.

Principles Demonstrated

The following principles are primarily demonstrated in this example:

- Principle 18: Leverages Information Systems—The organization leverages the entity's information and technology systems to support enterprise risk management.
- Principle 19: Communicates Risk Information—The organization uses communication channels to support enterprise risk management.
- Principle 20: Reports on Risk, Culture, and Performance—The organization reports on risk, culture, and performance at multiple levels and across the entity.

Facts and Circumstances²¹

Highland Hospitals provides services in traditional hospital settings. It operates thirty affiliate hospitals in five different states across the US as a not-for-profit business. It specifically supports people in low-income areas needing routine and critical care. The target demographic is people who have few choices in healthcare providers because they live in rural communities. Most revenue is generated through reimbursements from government-provided insurance.

Highland Hospitals has formalized its mission statement:

Our mission is to provide the highest quality patient care to all communities in which we serve. We do this through employing dedicated professionals to deliver top care and professional staff to provide support throughout the organization. We value all patients equally. We will operate in a financially responsible manner ensuring our long-term sustainability as a provider of care for our communities.

Senior management recently gathered to set objectives that would support this mission. They established two that they felt best reflected Highland Hospitals' pursuit of mission:

- Provide quality care to patients in communities served.
- Hire and retain high-quality physicians, nurses, and support staff.

Over the past several months, Highland Hospitals has become the target of increasing negative media coverage about surgery and appointment wait lists and overcrowding in its emergency rooms. Despite assurances from the CEO, Emma Carballo, that healthcare services would not be hampered and all efforts were being made to address the situation, the company has been slow to respond to the growing call to action. The result has been increased fatigue and frustration from the medical team, and in particular the nursing staff. So far, the situation has not affected retention rates, but management has had difficulty hiring more nurses, especially in some of the more remote communities it serves.

Discussion

Emma called the director of nursing, Antonio Garcia, to talk to him about the recent media coverage and impact on the nursing staff. She told him that the leadership team was contemplating a number of large-scale initiatives, but even if approved by the board, those would likely take several years before comprehensively addressing the growing wait lists and impact to staff. Emma asked Antonio to develop an interim plan of action to continue to attract and retain nursing staff.

²¹ Names of organizations and people in this example are fictional, and any resemblance to actual organizations and people is coincidental.

Antonio began by reviewing the available internal data on hiring and retaining nurses to understand the greatest impacts. These indicators with analysis are shown in Figure 10.1.

Figure 10.1: Performance Indicators Affecting the Workforce

Key Indicator		Analysis
Ratio of insurance claims reimbursed to claims submitted in dollars		As the reimbursed amounts decline, due to changes in private or government reimbursable rates, there is less money available for compensation and benefits. Highland Hospitals revised the target accordingly in 20X3.
Target candidate applications		Highland Hospitals sets a target for candidate applications, and a declining percentage of candidates submitting applications indicates a potential risk of not having enough nurses in the future. Highland continues to move further away from meeting its target each year.
Nurses eligible for retirement		Quantifying the percentage of nurses who become eligible for retirement provides Highland Hospitals with insight on the ability to staff hospitals and provide adequate oversight and mentoring. Here, too, Highland continues to move further from meeting its target each year.
Morale		The score is derived from a survey that converts answers into a scale, as shown. Low morale could result in additional attrition. Highland has revised the target downwards as they no longer feel that they can attain a 90% target.

Antonio then compared his internal numbers to information made available by the National Nursing Association. The association’s latest annual report outlined current trends and explored the challenges in recruiting new nurses. The report confirmed Antonio’s suspicion that there is an overall shortage of nurses across the country, with some rural areas more affected than areas with larger populations. The assumptions behind the nursing shortage were many, including:

- Aging population with a greater number of older adults who are expected to have at least one chronic condition requiring ongoing medical care, adding to the demands of the existing patient pool.
- Corresponding number of nurses and nursing educators who are approaching retirement age.
- Propensity for graduating nurses to work within the same geographic area from which they graduated from their medical studies.
- Most nursing educational facilities and schools being in urban areas or affiliated with larger universities and hospitals.
- Ongoing challenges in having nurses with foreign designations and licenses being recognized or accredited in a timely and cost-efficient manner.



After looking at both the external data and internal indicators, Antonio recognized that he needed to take a different approach to mitigate the risk of having nursing shortages that would further contribute to Highland Hospitals' existing operational challenges. The nursing program had always been managed with consideration to two primary objectives: providing quality care and hiring and retaining high-quality staff. These objectives are codependent: without quality staff, it is difficult for Highland Hospitals to deliver the highest quality care, and so Antonio decided to focus on hiring and retaining high-quality staff.

Antonio knew he needed help in thinking through the components that contribute to hiring and retaining high-quality staff, which includes identifying candidates and agreeing on competitive benefits. He started by engaging the human capital officer, Eva Andreotti. They broke the process into two parts—attracting and retaining nurses—and began to think through what information Antonio needed.

As noted, Highland Hospitals had already identified that they were receiving fewer nursing applications than their target numbers. Antonio and Eva hypothesized that there were fewer nursing students in local schools than there used to be, which affected the number of applications. To develop a measure that would give them insight into potential applicants at an earlier point in their process, Antonio and Eva set out to determine how many nursing students were being admitted to the local nursing schools. They emailed the director of admissions at each of the major schools, hoping to validate their hypothesis or learn other reasons students were selecting different options.

Additionally, they looked at the compensation and benefits that Highland Hospitals offers staff, both having an impact on retaining current staff and attracting new hires. They began by identifying what their competitors were offering, including doctors' offices, home healthcare services, and skilled nursing facilities. They also identified that corporations, contract nursing, and urgent care centers could be competitors, but noted that the nurses from the target schools do not tend to go to those organizations. The specific information they wanted included the following:

- Salary components (base pay, bonuses, and paid leave).
- Flexibility of workplace arrangements including availability of extra shifts.
- Career progression and access to continuing education.
- Human resource policies including sick leave and workplace safety.

Antonio and Eva then tackled the job of understanding the culture of the nursing staff. Culture affects why nurses want to stay at a hospital, and the data showed that once nurses chose Highlands they tended to stay. This understanding was critical as they looked to identify nurse hires. What behaviors, they wanted to know, drive that culture, and what encourages nurses to continue working at Highland Hospitals? To find out, they sent a survey to the nursing staff encouraging them to share their views anonymously. The survey asked nurses:

- When do you feel the most appreciated?
- Do you feel the management team is transparent?
- What three words would you use to describe our culture?
- What would you change to improve our culture?

The survey revealed that one significant driver of low morale was fatigue. The reasons cited were many: a general shortage of nurses across the system; a shortage specific to certain units because of a gap in experience with attending nurses; the need to spend significant time training new nurses who lacked clinical experience; and the imbalance between extremely busy times and very slow times, for which there had been no analysis of data that could help normalize the resource capacity.

While the survey data was being compiled, Antonio and Eva received their first responses from the nursing schools. The director of admissions at one of the largest schools indicated that they had not seen a change or decline in admissions given the number of government scholarships that had been recently made available particularly for students from more remote, rural areas. He went on to explain that while he was not at liberty to divulge where and why nursing students accepted employment offers, he could confirm the recent press coverage of Highland Hospitals was the topic of conversation for many students who had expressed reservations in applying for positions there.

Using the information that Eva and he had gathered, Antonio started to develop a plan of action to present to the board. The plan included the following suggestions:

- Launch a digital recruitment campaign to encourage applications at the nursing schools.
- Introduce a variety of non-monetary benefits including increased flexibility for accepting additional shifts, flexible scheduling such as weekends only to accommodate families, alternative schedules such as fewer long schedules or shorter schedules, and subsidized daycare through agreements with daycare providers.
- Introduce offers for additional financial and study support for continuing education to allow nurses to specialize in areas with forecasted skills shortages.
- Establish a mentorship program to address the experience gap. Such a program would provide valuable information to the leadership of the nursing staff across the hospital system. From the start of the clinical portion of nursing school through internships, new nurses would be matched with a mentor to accelerate their professional development.
- Implement a new approach for data analytics that enables more accurate staff resourcing needs. The approach would use a variety of data feeds, assumptions, and historical analysis to anticipate incoming patient levels and types of care. These include:
 - Police reports and traffic condition alerts to prioritize the hospitals to which ambulances are directed in real time and alert hospital staff of incoming patient volumes.
 - Meteorology reports to track weather patterns such as heat waves that are likely to see a spike in patient admissions.
 - Updates from centres for infectious diseases regarding the status of epidemic outbreaks such as flu, chicken pox, and whooping cough.
 - Research papers on longer-term trends in lifestyle choices such as smoking, alcohol consumption, and exercise habits that may lead to healthcare implications and require specialist nursing care and skills.
 - Periodic demographic data outlining the distribution of population by age, gender, and education levels for populations surrounding each of the hospitals.
- Refine the key indicators to include more forward-looking metrics to better gauge future resourcing challenges. Existing metrics on turnover were supplemented to include:
 - Scope and persistence of social media coverage relating to employment conditions and patient care.
 - Average amount of overtime worked by nurses during periods of high-volume admissions.
 - Number of nursing staff undertaking further professional education.

- Launch an initiative to review the time nurses spend on administrative tasks and whether those tasks could be automated or delegated to administrative staff. The initiative would work with the IT teams to track the time each nurse spends administering healthcare compared to updating records and charts or completing other tasks.

Having developed a proposed plan of action, Antonio and Eva then engaged with both the risk and finance teams. The risk team provided the latest risk report to the board outlining those objectives that were most at risk of not being achieved and considering the financial, patient, and operational impacts should those risks materialize. The finance team worked with Antonio and Eva to determine whether the current year's budget could absorb the additional costs or whether those costs would need to be distributed over a longer time period.

Together, they prepared an integrated plan of action for the CEO that outlined:

- Anticipated impact of the risks associated with resourcing shortages including:
 - Loss of revenue from declining patient numbers.
 - Increased costs associated with longer wait times.
 - Adverse impact on the company's brand and reputation.
 - Additional regulatory and political scrutiny.
- Level of confidence in the ability of Highland Hospitals to adhere to its risk appetite and manage stakeholder expectations in the absence of a plan of action.
- Forecasted cost of implementing short- and longer-term proposed changes.
- Changes in the risk profile assuming the additional management actions taken to mitigate the risk and its revised prioritization.

The report concluded that without further action, the hospital would incur significant variations in performance and face increasing scrutiny from its shareholders and regulators of both the quality of care and the efficiency of its general operations. The costs associated with implementing additional management actions were presented in response to the increasing priority associated with the objective of attracting and retaining competent nursing staff.

Leveraging Structured and Unstructured Data from Internal and External Sources

Antonio recognized that he needed information from both structured and unstructured sources. That would provide him with the insight to manage the nursing staff efficiently and hire "best fit" nurses to increase quality delivery and reduce performance variability in providing care. It also allowed Highlands Hospital to monitor performance against its objectives and to make more timely decisions when performance was being impacted. The combination of better information and more timely action will help to reduce the variability in the hospital's outcomes.

