

**AN ESTABLISHED COMPANY'S
STRATEGY FOR GROWTH
IN A MATURE MARKET**

by

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ABSTRACT

The company's industry, while mature, is experiencing significant change. This change is enabled by the introduction of open communication standards, the increased power and capacity of available technology, and increased price competition. Although change is affecting industry dynamics, at this time the industry remains attractive. As a smaller company in a relatively large market, Innovative must execute a business strategy that will give it a sustainable competitive advantage over the long term.

Innovative has a history of innovation, and has developed a strong product platform. The company's distribution channel is considered strong, but ongoing efforts to improve the channel continue. Several strategic choices are available to the ownership of Innovative, as they look to maximize their return on investment. These choices are analyzed both qualitatively and quantitatively using such methodologies as SWOT analysis, and a balanced scorecard analysis.

The recommendation from this analysis is to continue along with the existing strategy chosen by the company. Specific recommendations to the company include suggestions to deal with change management and priority of execution, with the intent to reduce the time required to realize maximum return on investment.

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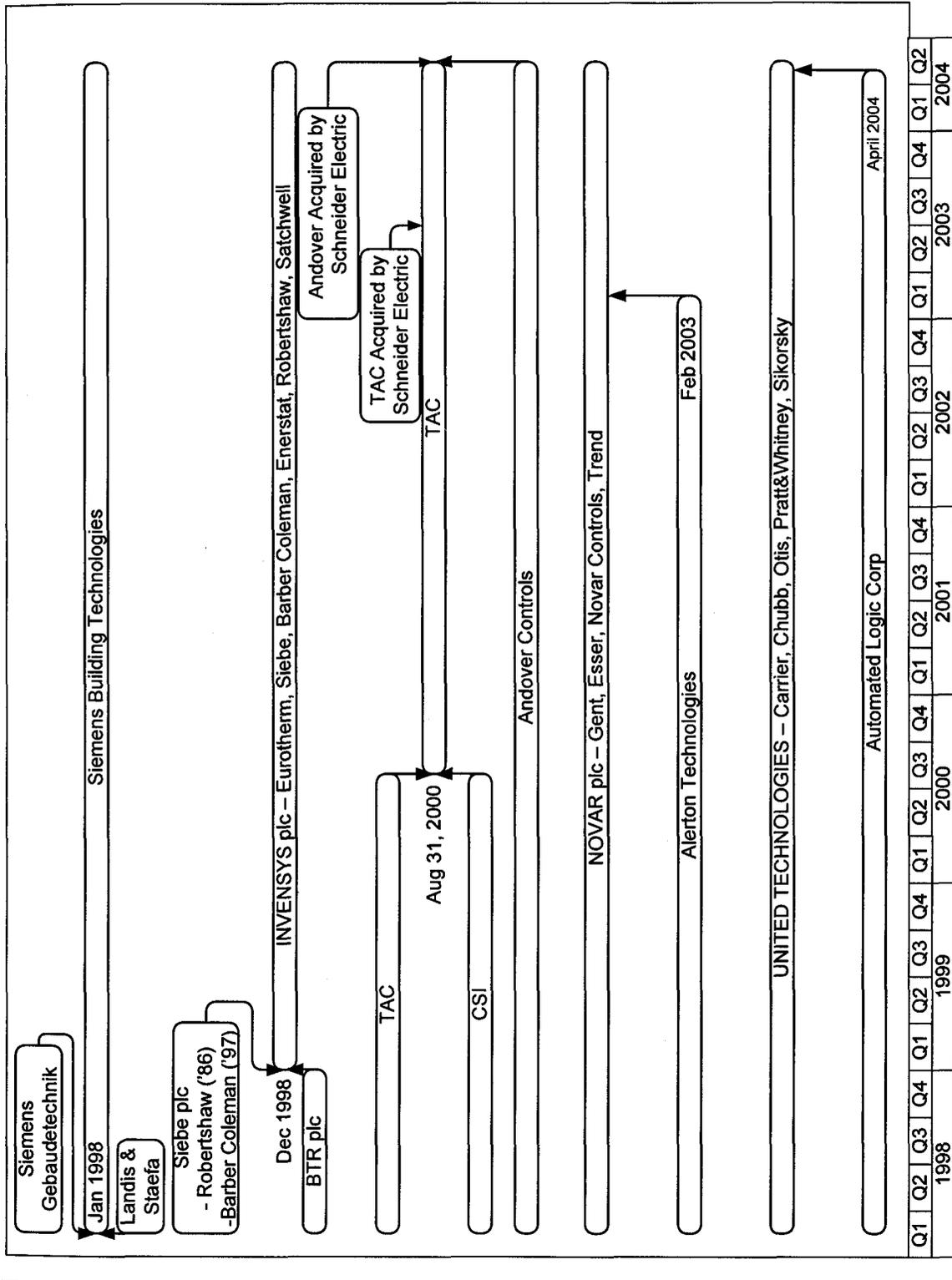
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1 INTRODUCTION AND COMPANY BACKGROUND

Innovative is a developer and manufacturer of intelligent hardware products for non-residential buildings, and is recognized in the building controls industry as a dynamic, forward thinking organization. Innovative is a smaller company within a relatively large market, having less than 10% market share of the approximately \$1 Billion dollar worldwide building controls industry market. This industry is mature, highly competitive and dynamic. Three primary forces are driving change. These forces are increased price competition, technology improvements, and communication standards. Most projects are won through a closed-bid process, which creates ongoing, downward pressure on overall system cost. The industry follows trends in technical innovation as a method of differentiation between competitors, but also uses technology as a means of providing information to facility managers more efficiently. The introduction of open communication protocols in the 1990's, combined with the acceptance of controls contractors, has created the opportunity for smaller manufacturers to differentiate themselves from the larger ones. Larger manufacturers initially resisted adopting open protocols because these protocols reduced a manufacturer's control over the project once it was complete (using open protocols, other contractors could quote on future work and integrate into a project relatively easily). As shown in **Figure 1**, several mergers and acquisitions have been occurring within the industry during the past ten years.

In the past, companies had developed their own proprietary communication protocols, but now smaller companies are able to purchase pre-compiled implementations of the communication protocol and launch product to market in a shorter period.¹ In the long-term, these communication standards will likely lead to aggressive price competition because the

development of proprietary protocols was one of the larger barriers to market entry for smaller companies.



¹ (Loytec-Americas, 2004)

Figure 1 Recent Mergers and Acquisitions in the Building Controls Industry

This project will combine both an analysis of the building controls industry and of Innovative. Strategic alternatives for Innovative will be developed that are in alignment with the company's corporate objectives.

1.1 Scope of this Analysis

The scope of the industry analysis is global, and the entire industry will be segmented geographically in an effort to develop an appropriate growth strategy for the company. Diversification opportunities are within the scope of this project.

1.2 Objective of this Analysis

The objective of this analysis is to present Innovative's executive committee with a clear strategic plan to provide sustainable rapid-growth of revenue and profitability, in as short a time-span possible. This paper will present a concise, coherent overview of the building controls industry, and of Innovative. The analysis of the company, along with insight into current industry trends, will present a series of strategic alternatives. These strategic alternatives will then be measured against corporate objectives, and the paper will conclude with a specific action plan for Innovative.

1.3 Applied Methodology and Content

The remainder of this paper proceeds as follows: Chapter 1 provides an overview of Innovative, its history, current business model, organizational structure, and generic strategy. Chapter 2 provides an external analysis of the building controls industry, a description of the market, a brief overview of the current competitors including their strengths and weaknesses, a brief, generic customer analysis, and a discussion of typical distribution models. Chapter 2 also

provides an overview of the factors affecting competition in this market. Chapter 3 provides an internal analysis of Innovative, reviewing the current strategic marketing efforts, the strategic fit of the company's activities versus its strategy, and finally, a value chain analysis. Chapter 4 analyzes the current situation at Innovative, in light of the existing market realities, and presents several strategic alternatives for accelerated growth. Chapter 4 defines the criteria to compare these alternatives and evaluates them accordingly. Chapter 5 provides a recommendation to Innovative, presenting the best-fit alternative, along with a brief action plan for moving forward.

1.4 Company Background

Most non-residential buildings have heating, ventilating and air conditioning systems, commonly known as HVAC systems, which are installed by mechanical contracting companies. These HVAC mechanical systems are automated by control systems ranging from simple stand-alone controllers in small commercial buildings, to relatively large and complex wide area networks (WANs) in large facilities such as airports, universities, and hospitals. This constitutes Innovative's market.

Over time, building systems evolved and a broad selection of systems manufacturers entered the industry. The Building Control systems that were developed by these manufacturers used communication networks that were unique to each manufacturer, and were commonly known as proprietary systems. Building operators became "trapped" when the controls systems they installed in their facilities could not "talk" to any other manufacturer's systems. Consequently, it was costly to switch systems and a change typically required the retrofit of the entire building control system, which would often be prohibitively expensive. Therefore, facility managers sought "interoperability" between these different systems. Interoperability is the ability to combine product from different building controls manufacturer's, into a cohesive automation and control system. Out of this desire to integrate, open communication standards were born.

The purpose of open protocols is to standardize communications between the building control devices, so that systems from different manufacturers can communicate more readily. They afford facility owners maximum flexibility and cost-effectiveness by allowing control products made by a variety of manufacturers to be integrated into a single, uniform system.

Innovative was incorporated in 1980 and has been developing high quality building controls systems ever since. Innovative differentiates itself from its primary competitors by developing controls hardware that integrates HVAC, Lighting and Access systems using open protocols. The company distributes its products through a network of value-added resellers that will be referred to as *distributors*.

While many competitors claim to deliver advanced building control solutions, Innovative differentiates itself from its competition by providing these solutions using open protocols. For the building owner, Innovative and its distributors deliver seamless HVAC, Lighting and Access products, single-source responsibility and service, and lower installed and operating costs. For its distributors, Innovative delivers an integrated systems solution, standardized training and installation procedures, and a flexible, cost-effective solution for most vertical segments in the global marketplace. Innovative is aggressively expanding its business worldwide and currently enjoys distributor relationships in all major world markets. Innovative's project list includes many high profile sites around the world.

Two primary issues face Innovative. The first issue is that with the establishment of the open protocols, most controller hardware can communicate on the same controls network. It is becoming increasingly difficult for companies to differentiate based on hardware and it is anticipated that hardware will become commoditized in the near future. Commoditization could lead to a market where many suppliers compete on price alone.

The second issue facing Innovative is that the company has developed an integrated solution for HVAC, Lighting and Access controls. All of Innovative's existing distributors have

core strength in HVAC controls. While Innovative believes that the ability to provide a completely integrated solution to building owners is ahead of its time, many of the company's distributors require business tools and guidance, to sell an integrated solution. The distributors will have to hire new sales staff and develop relationships with other decision makers in their local Lighting and Access controls markets to be successful. The company will have to begin an aggressive training and promotion program, to equip its distributors with the tools and skill set to distribute these products successfully. Innovative will have to educate its distributors and project influencers, such as consulting engineers and building owners, with respect to the value and importance of the integrated solution.

1.5 Company Business Model

Innovative's distributors are typically controls contractors who design automation systems for buildings using Innovative's products. These contractors bid on projects using specifications provided by consulting engineers. If the contractor wins the project, then they will provide application engineering, installation, commissioning and service using Innovative's products.

Within the company's product distribution model, distributors work in specific geographical centers where Innovative has typically provided them with the exclusive rights to redistribute its products. Some larger markets have master dealers who resell Innovative's products to sub-dealers. This is done to ensure that the local market has adequate representation, while at the same time minimizing conflict that is often associated with multiple non-exclusive dealers located in the same market area.

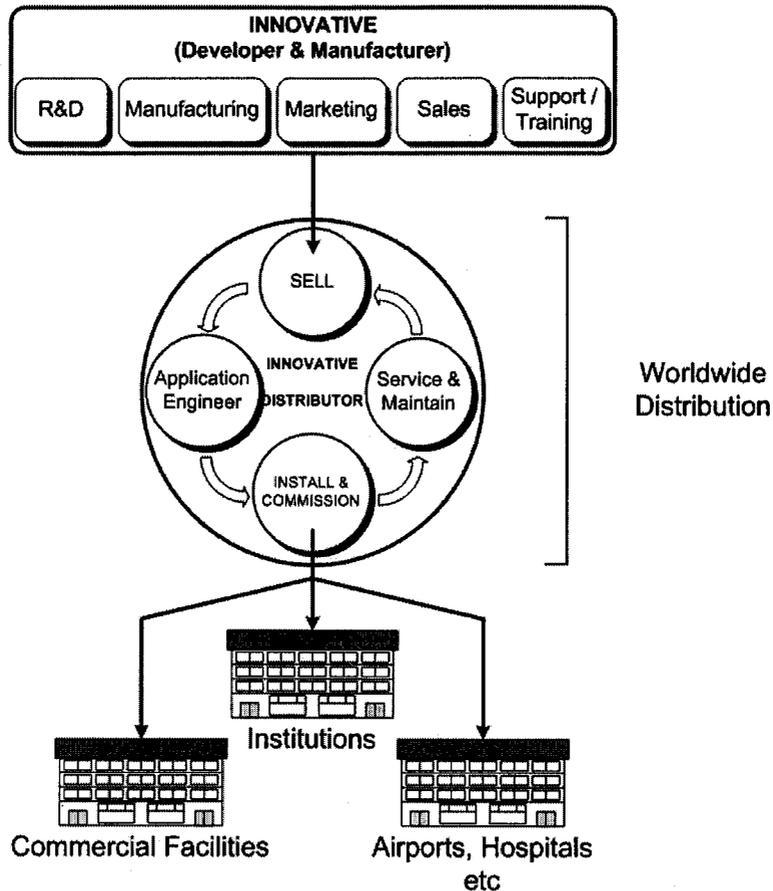


Figure 2 Innovative's Product Distribution Model

1.6 Organizational Structure

Figure 3 depicts Innovative's current organizational structure. What this chart cannot depict is that in many ways the company is organized in a matrix format. For example, in product development, a project development team includes individuals from multiple functional areas, and these individuals are responsible to both their functional manager and to the project manager. While this adds some complexity to the reporting structure, it also increases overall project performance.

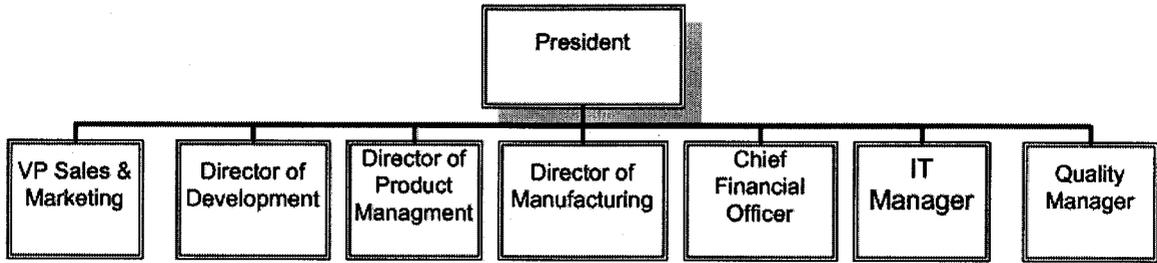


Figure 3 Organization Chart of Innovative

2 BUILDING CONTROLS INDUSTRY ANALYSIS

2.1 Overview of the Building Controls Industry

For this analysis, the building controls industry will be defined as the hardware and software installed in non-residential projects for providing facility management solutions. Hardware is typically broken out in the following categories: network controllers, building controllers and application controllers. Network controllers provide supervisory control to building and application controllers. Network controllers also route information between different network physical layers, such as between a simple RS-485 network (slow speed) and an Ethernet network (high speed). Building controllers provide control to large mechanical systems, including Air Handling Units, Boilers and Chiller plants. Many building controllers can also act as network controllers. Application controllers are mounted at terminal units that serve individual occupant spaces, such as VAV (Variable Air Valve) systems, heat pumps, unit heaters etc.

Software provides the user-interface to the automation network. This software is typically Windows-based, but there is an increasing demand for web-based packages. Web-based software packages use client-server architectures, and have a central web-server that remote client workstation's access using standard internet browsers such as Microsoft® Internet Explorer or Netscape® Navigator. Innovative does not develop software for its distributors. Innovative's distributors must use third-party software as the Operator Workstations for their installations

2.2 Market Demand

2.2.1 Size of the Building Controls Industry

It is widely recognized that the demand for building controls systems generates approximately \$1 billion dollars in worldwide sales.² This represents approximately 11% of the final engineered and installed solution (see **Figure 4**).³ The remaining 89% is achieved through value-added services of engineering, installation, commissioning, and other peripheral hardware such as valves and actuators. The pie chart in **Figure 5** show the approximate distribution of building controls sales worldwide⁴.

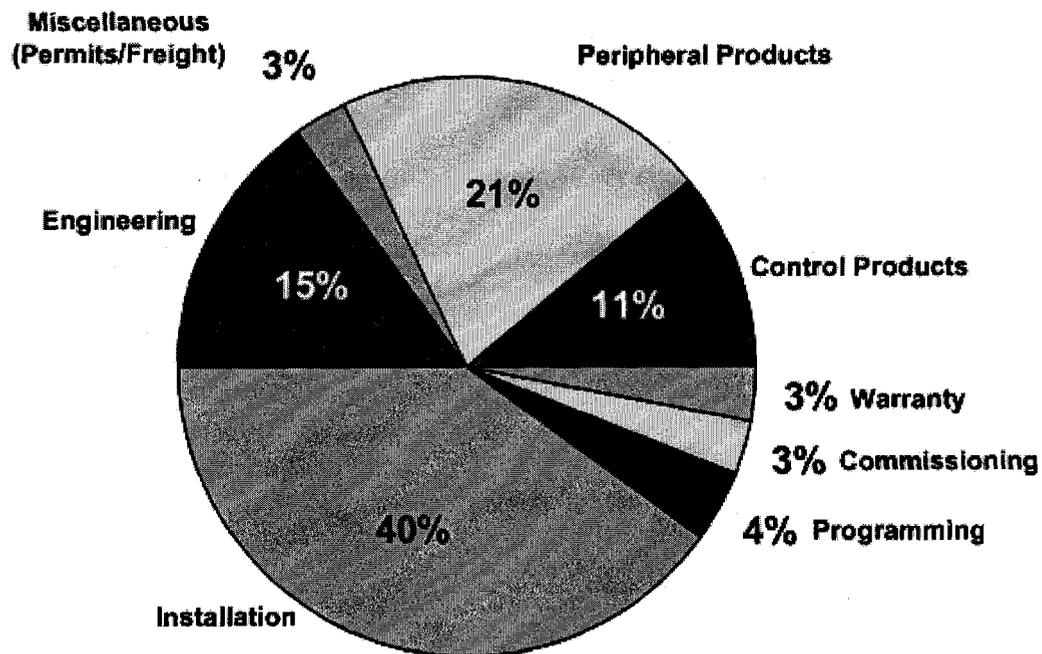
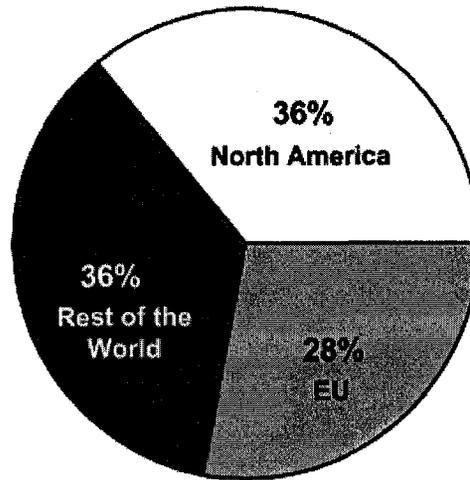


Figure 4 Typical Breakdown of Project Costs for Building Controls Distributor

² (BCS Partners, 2002, p2)

³ (Information retrieved through an interview with several of Innovative's distributors.)

⁴ (i&i limited, 2001, p.5)



Worldwide Demand for Building Controls

Figure 5 Graph Showing World Demand

2.2.2 Market Segments

The building controls industry provides product and services for a broad range of non-residential buildings. Typical vertical markets that are served by this industry include:

- Office Buildings
- Commercial Buildings
- Industrial Buildings
- Educational Buildings
- Healthcare Buildings
- Other (including airports, recreational facilities etc)

2.3 Competitor Analysis

This section of the paper provides an overview of the competitive landscape within the building controls industry.⁵ The building controls industry consists of three tiers of manufacturers. Tier 1 companies have significant market share relative to the industry, typically more than 10% of total market revenues, Tier 2 companies have more than 1% market share, and Tier 3 companies have less than 1% market share. Tier 1 companies are analysed first, followed by Tier 2 companies. Tier 3 companies will not be covered specifically, but a review of some

smaller, rapidly growing Tier 3 companies is provided. This section then finishes with a review of companies that only compete with a software solution and lack a controller component in their product offering.

There are approximately 20 different manufacturers of building controls products. The three largest companies have approximately 50% market share, and are dominant in most markets throughout the world. Innovative's market share is less than 10% globally, placing it in Tier 2 of the global building controls industry. The three largest building controls manufacturers are:

- Johnson Controls
- Siemens Building Technology (SBT)
- Honeywell Automation and Control Systems

2.3.1 Tier 1 Manufacturers (Johnson, Siemens, and Honeywell)

Due to their market size and installed base, Johnson Controls, Siemens Building Technologies and Honeywell Automation and Control Systems have resisted embedding open protocols into their products. These manufacturers offer limited open protocol gateways in their operator workstations, and use those gateways to map open protocol objects into their systems. These companies have also decided not to display their products at the HVAC industry's largest trade show, the ASHRAE AHR Expo, for a number of years. Instead, they have been concentrating their trade show efforts at events that highlight security solutions, such as the International Security Conference (ISC), and the American Society for Industrial Security (ASIS) trade shows among others. This demonstrates the importance that these manufacturers place on providing complete systems solutions. It also indicates that they believe the key influencers for building integration may be coming from a facilities Security department.

⁵ (BCS Partners, 2002, p50)

The Tier 1 companies' automation products are highly integrated and are marketed to high-end facilities. While still offering 'commodity' level thermostat controls, these manufacturers have advanced Security, HVAC and Lighting integration capabilities that seem more advanced than the systems the Tier 2 companies can provide. For instance, Honeywell is demonstrating a physical property asset tracking system, which is integrated into their Building Management System (BMS) software. This system will automatically trigger a CCTV camera to digitally display and store images when the asset moves past one of the detectors. Much of this integration has come through acquisition of other companies' products, which typically results in an awkward or disjointed system configuration.

Johnson Controls markets to every aspect of the building, from initial construction to service and maintenance. They have vertically integrated all aspects of building controls into their service package. They offer management and consulting services in the following areas: construction management, energy management, project financing, facility services, security and access and system integration.

2.3.2 Tier 2 Manufacturers

2.3.2.1 Automated Logic Corporation

Automated Logic Corporation (ALC) is well positioned within the market and is recognized as one of the most innovative companies in the industry, especially as it relates to user-interface (operator workstation) products. ALC has been promoting web-based software solutions for the past several years. The company advertises heavily in trade magazines and they have good brand awareness in the market. While their image is seen as leading edge, their actual controller technology has been lagging behind the industry for several years.

ALC's web-server has had significant performance problems and the company has been working to resolve these problems with many software updates. ALC advertises its new products

well ahead of actual product availability. Their PDA interface was marketed years ahead of the actual release date. ALC is known within the industry for their exceptional system graphics, which are produced exclusively at ALC's headquarters. All graphics are created as part of the hardware product cost. ALC's product has received good feedback, in that the system works out of the box with minimal configuration required. One of the primary disadvantages of the ALC product is that in-field modification of their system graphics is very difficult.

2.3.2.2 Alerton

Alerton Controls is one of the leading open protocol product manufacturers. Alerton competes primarily on price. They advertise heavily and have good brand awareness in the US. The company has a new advertising program that positions them as having a focus on customer support and relationships. Alerton wants to be perceived in the industry as the knowledge and service leader when it comes to open protocol integration. Perhaps because of this aggressive advertising program, Alerton has the strongest distribution channel among the Tier 2 manufacturers.

It is important to note that Alerton is undergoing significant corporate reorganization. Alerton was acquired by a large British company in the fall of 2003, NOVAR plc, and several corporate managers have been let go. Innovative has had great success with ex-Alerton distributors who have picked up the Innovative product line.

Alerton's products are low-cost, and they are designed with a minimalist perspective. This is both good and bad. Their products are able to fit into smaller controls enclosures, but more wiring is required to terminate those products. Alerton's most significant product release lately has been the VLX. It has expansion I/O capability and it is a significant addition to their product line. For years, Alerton only supported application-level controllers and routed everything through network managers. Alerton's field panels are unable to store alarms or trends

at this time. Alerton currently lacks any form of systems integration strategy (no lighting or access controls products). They have recently released an OEM product for lighting controls, by providing a gateway product that communicates between their system and the Lithonia lighting system.

2.3.2.3 Novar (North America)

Novar is focused on the retail and small commercial building segment of the market. Historically, they have had large market share in providing controls and monitoring services to the big box stores. They have recently introduced a new strategy targeting the small commercial sector with simplified controls in HVAC, Access and Lighting. Their product offering focuses on simplified configuration, low-cost, web compatibility, remote alarming via paging email, and maintenance through their touch-screen operator interface.

It is important to note that Novar (NA) was purchased by Novar plc (UK) several years ago, and that Novar plc purchased Alerton in 2003. Novar plc has made the decision to combine these two distribution channels and is pressuring large Alerton dealers to begin distributing the Novar (NA) line for smaller projects. Other companies within the building controls industry have attempted to merge distribution channels and it has proven difficult. The combined market share of the independent Novar (NA) and Alerton channels would make Novar plc a Tier 1 company, but merging the two distribution channels may result in a dilution of their potential summed market share.

2.3.2.4 Trane Controls

Trane is unique among the Tier 2 companies because it is primarily a mechanical equipment manufacturer. As a strategic initiative, Trane has developed its own line of building controls. These controllers are 'bundled' together with the equipment and the package is sold as a single unit. The bundling concept makes it somewhat difficult for traditional building controls

manufacturers to compete because the combined system cost is typically less than the unbundled price, and it is difficult for the traditional controls contractor to get the TRANE system unbundled during the bid-process.

2.3.2.5 Delta Controls

Delta Controls has had good success in the Canadian market. In recent years, Delta has had expanded into the US market. Delta's product focus is system integration and they have developed a product offering that appears well suited to medium and large-size facilities. Delta Controls product offering is mature. Delta goes to market through an exclusive independent distributor network.

2.3.3 Tier 3 Manufacturers

2.3.3.1 Computrols

Computrols has several interesting products in their offering. Their products do not appear to be well suited to the bid/spec market. Computrols focus is on negotiating work directly with the building owner or facility manager. Computrols has just introduced a controller for the home or small commercial facility. This product is a web appliance that can control two rooftop units, while communicating directly on the Internet.

Some of their product features include:

- an embedded web-server capability in the controller firmware,
- the ability to configure each physical point as an Analog Input/Output or a Binary Input/Output,
- web programmability through a sophisticated web interface,
- a simplified product line (8/16/32 point controllers),
- products for HVAC, Access and Lighting control, and
- the ability of the controller to switch polarity on an RS-485 communications network automatically (if the network is wired incorrectly)

2.3.4 Niche Product Manufacturers (software solutions)

2.3.4.1 Tridium

Tridium markets itself as the integration software for the building controls industry and has developed applications for energy monitoring and profiling. These applications are able to interface to their network bridge (called a JACE), to provide real-time data analysis. Tridium software utilizes their proprietary framework (called Niagara), to facilitate communications between protocols inside of their JACE gateway hardware. Tridium was financed in part by ENRON, and the company has been working hard to locate additional capital funding to continue operations. During the last couple of years, Tridium has undergone significant layoffs in their Field Sales Operations.

Tridium has well-developed integration software. It can dynamically interrogate networks that are communicating with open protocols. Open protocol devices will appear automatically and they have some drag and link capability for their graphics. In addition, they can dynamically modify their web graphics as required. Many of the Tridium System Integrators have begun using a competitors control products as their open protocol hardware solution. The software uses Tridium's proprietary Niagara framework to program objects between the protocols.

2.3.4.2 Enflex

Enflex is a direct competitor to Tridium and offers many of the same protocol solutions, but their graphical interface is rudimentary. Enflex is just breaking into the market and they are currently focused on the retail market.

2.4 End-User Analysis

2.4.1 Product Distribution

Figure 6 demonstrates several methods that building controls manufacturers use to get their products to market. There are two generic types of building controls manufacturers: many of the largest manufacturers own controls contracting branch offices, while the smaller manufacturers sell their products to an end-user via independent controls contractors. There is also the possibility for manufacturers to supply building controls products to OEM manufacturers who then install the controls products directly at their factory.

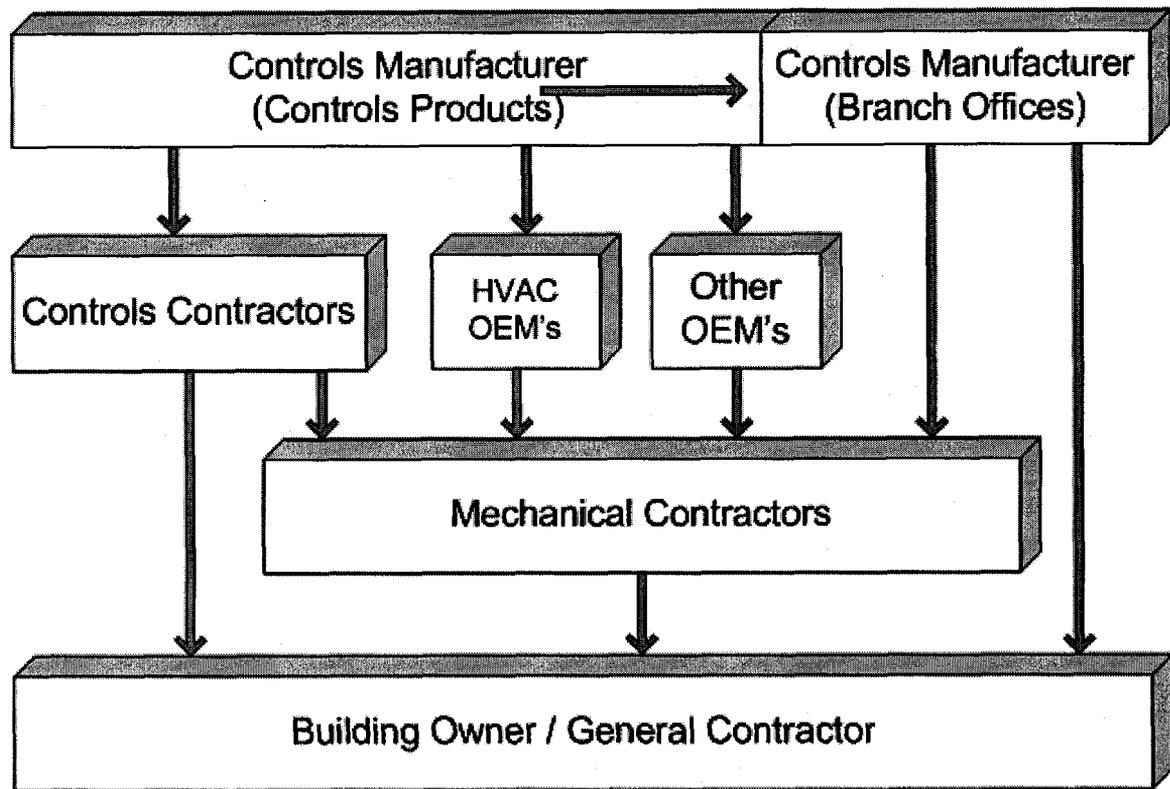


Figure 6 Overview of Industry Value Chain⁶

⁶ (BCS Partners, 2002, p9)

2.4.2 End-User Analysis

The building controls market is undergoing a significant evolution in product technology. Most controls products make use of IT technology enabling facility managers to access buildings over the Internet using wireless technology. While this new technology has provided end-users with many benefits, it is also exposing them to levels of technology that they were not aware of previously. The use of proprietary protocols had allowed manufacturers to 'bury' networking management configuration and provided end-users with simplified network architectures. For the most part, these architectures met the primary need of providing communication between a front-end and several buildings connected by high-speed media. The introduction of open protocols has enabled the use of Internet communications which now allows the end-user to communicate with their facility from virtually anywhere in the world. For the purpose of this paper, several end-users of Innovative's product will be defined. They include building engineers, building managers, building owners, and facility managers.

2.4.2.1 Building Engineers

Building engineers have been trained in facilities maintenance and have a superficial understanding of building controls. They typically have knowledge of the large players in the industry such as Johnson, Honeywell and Siemens, but their knowledge of the Tier 2 players is limited. The technical capability of the building engineer is typically low. The building engineer's computer skills are usually considered basic, but they have enough knowledge to start up the building controls system software package, navigate the graphics and do some basic system configuration. Some building engineers have more advanced skills and can program the system, but for the most part, building engineers rely on the distributor's service personnel to ensure the system is operating properly.

Building engineers want the system to work reliably with minimal maintenance required. They need simple graphical interfaces to quickly identify problem areas, and then make appropriate adjustments. Pre-emptive notification is ideal; it allows the building engineer to resolve problems before the occupant makes a complaint. In addition, a scheduled maintenance notification would be desirable.

2.4.2.2 Building Managers

Building managers typically have more of a business focus than the building engineer does. They are concerned with tenant comfort, tenant billing, and the return on investment (ROI) for installed systems. They are sensitive to maintenance costs, as well as the impact of service on the building tenants. The building manager will review reports generated by the automation system. These reports indicate overall building performance and the relative energy savings the system delivered. Custom reporting should be available upon request of the building manager.

2.4.2.3 Building Owners

Building owners have minimal interaction with their buildings automation system. In general, they are looking for a system that reduces overall energy costs and has minimal service requirements. The main concern of most owners is focused on the initial installation cost for the system.

2.4.2.4 Facility Managers

Facilities managers are the most advanced of the end-users. They are typically employed by universities or institutions and are required to provide an overall automation strategy for their facility. They have solid knowledge of several automation systems and the associated strengths and weaknesses of the system. Facility managers are well trained in HVAC controls and many

will do their own system programming. Facility managers can be quite demanding. They expect service personnel to have a high level of knowledge when they call for service assistance.

2.5 Assessment of Industry Attractiveness in the Global Building Controls Industry

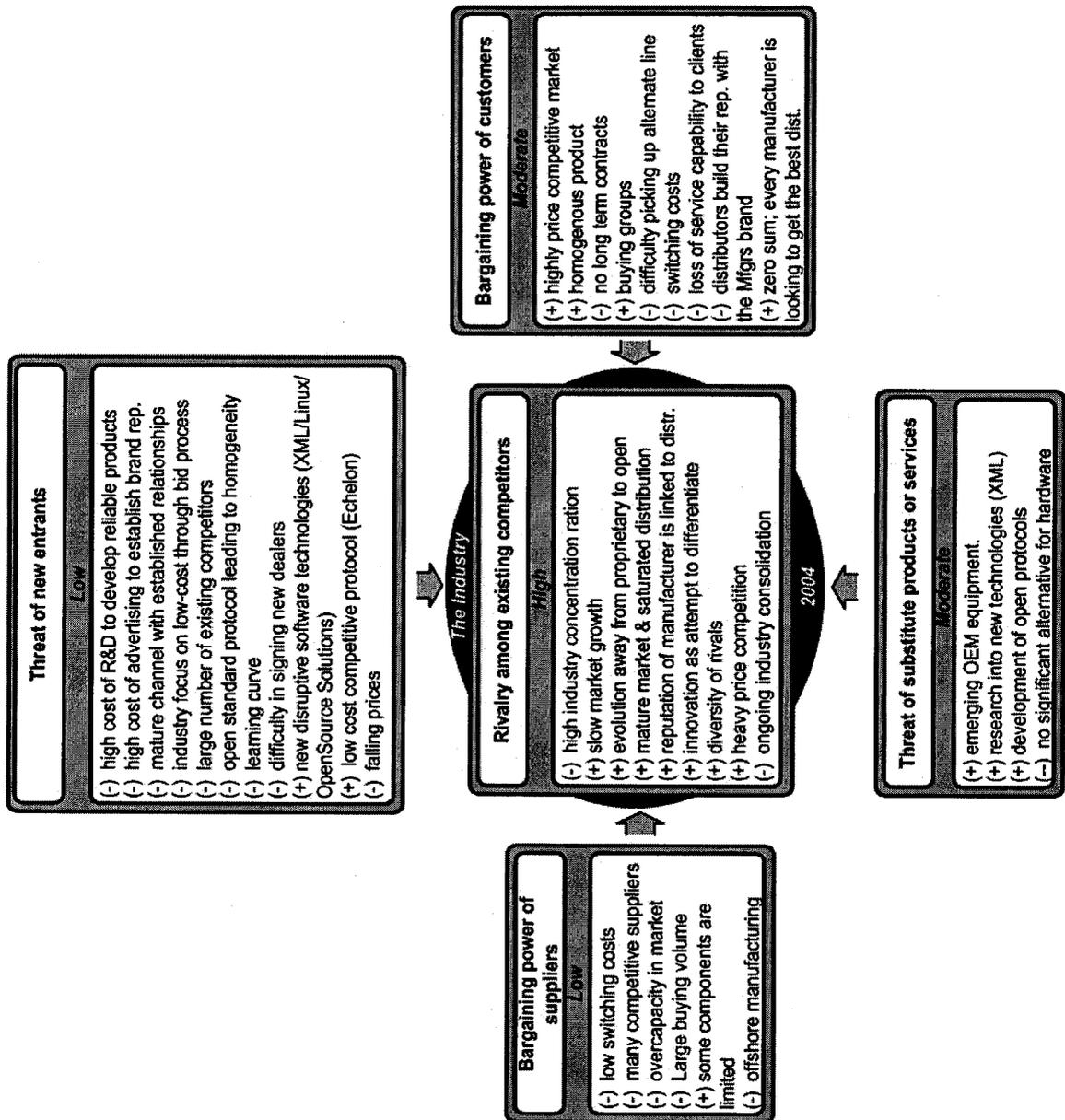


Figure 7 Five-Forces Analysis for the Global Building Controls Industry, 2004⁷

⁷ (Porter, 1985, p4)

As seen from **Figure 7**, the building controls industry appears moderately attractive, with most of the competitive forces resulting from the rivalry between the existing competitors. The building controls industry is at a relatively mature stage in its lifecycle and the underlying structure ensures that the incumbents remain competitive relative to each other. The remainder of **section 2.5** describes each of the competitive forces and explains each of the factors influencing the strength of that force.

2.5.1 Bargaining Power of Suppliers

The bargaining power of suppliers is low and in general, most of the inputs to this industry are commodities that are readily available through multiple sources. The threat of offshore manufacturing also limits the power of labour organizations. A number of factors affect the supplier's bargaining power. Components used with controller hardware are available through many different suppliers. Most components are in greater supply than demand. The result is that the cost of switching suppliers, for the majority of components, is relatively low. Both of these factors push the overall bargaining power of the supplier down.

Another factor that reduces bargaining power is the fact that most manufacturers in this industry have large buying volumes. Even choosing a hardware microprocessor, for use with a product platform, is not that significant. A typical hardware platform has a lifecycle of five years. Hardware platform redesign occurs once every five years to take advantage of new technologies and expand the capabilities of the product line.

Another factor that reduces the bargaining power of suppliers is that many manufacturers are having their products built overseas. Labour and material costs are lower in China. If there is no strategic advantage for the company to have manufacturing in North America, then China is a logical choice. Some manufacturers are also outsourcing their product development projects to software contractors in India and elsewhere. This combination of many supplier alternatives, the

relative homogenous nature of the supplied products, the low cost to switch suppliers, and the large buying volumes, combine to make the force of supplier bargaining power relatively weak.

2.5.2 Bargaining Power of Customers

The bargaining power of customers within the building controls industry is moderately strong. For the purpose of this paper, customers are defined as the controls contractor or the branch office that purchases a manufacturer's products. The ultimate customer, the end-user, is a customer of the controls contractor, and they are indirect customers of the controls manufacturer. Nonetheless, they are a shared customer base as the end user is a target of the manufacturer's advertising and promotion campaigns. Some of the larger manufacturers own their distribution branches, but those branches operate as separate entities with their own business goals.

One of the factors that increase the bargaining power of customers is the fact that the building controls industry is a competitive market that is very sensitive to costs. Surveys of building owners consistently emphasize purchase price as one of the main factors in choosing a building controls system. These surveys highlight the fact that building owners do not see a significant value in product differentiation, as long as the chosen product achieves a minimum standard of quality, reliability and service. This focus on price is a significant factor for both the distributor (reseller) and the manufacturer because a lack of competitive pricing will result in significant revenue loss. One of the reasons for this price elasticity is that a majority of work in this industry occurs through a closed-bid process. To bid on a project the consulting engineer must pre-approve the product. Once approved, the controls contractor must submit a bid low enough to win the project. Controls products typically account for 18% of the controls contractor's total project cost.

Many products supplied by this industry are application specific. Manufacturers build products to control specific pieces of mechanical equipment, whether it is a fan coil unit, a

variable air volume unit (VAV) or another similar application. This has resulted in a relative homogeneity of manufactured products. Features between the products are different, but the core functionality for the end-user is the same. For a customer this reduces the cost of switching product and increases their bargaining power.

On the other hand switching costs increase for the controls contractors because they build their reputation with the manufacturer's national brand. It is often difficult (but not impossible) for the distributor to switch product lines. Another factor that makes it difficult is the fact that switching product lines may orphan the distributor's existing installed base of product. This installed base of product is often a large source of ongoing revenue for most controls contractors. The fact that the industry is relatively mature has resulted in reputable manufacturers having distribution agreements in most markets; it is very difficult for a distributor to pick up a good product line if they were to lose their current one.

In summary, the customers of this industry have a moderately strong bargaining power. An increase in this power results from the end-users focus on price, and the intense rivalry among manufacturers to gain market share at the expense of their rivals by attracting the best distributors possible. The customer loses some of their bargaining power because severing relationships with their current supplier would result in significant lost revenue from their service base, and the difficulty associated with trying to picking up a new product line.

2.5.3 Threat of Entry

The threat of new competitors entering the building controls industry is low. The primary reasons for this are the maturity of the industry and the high fixed costs associated with continued business operations. To remain competitive, companies in this industry accrue continuous and significant R&D costs. This industry tends to use product innovation as a

method of manipulating project specifications, and increasing the overall engineered system cost required by other manufacturers for the same task.

As well as the R&D costs, another factor that acts as a barrier is the high cost of advertising new entrants incur as they attempt to break into the industry. Existing companies spend a significant amount of money on trade shows and advertising every year. The industry has several well-known manufacturers, and it is very difficult for new entrants to develop a reputation without purchasing large amounts of advertising and other forms of marketing. This makes it even more difficult for a new entrant to develop a presence in the market.

The fact that this is a mature industry with well established distribution channels results in new entrants having to attract less efficient distribution partners. These weaker distributors are ill equipped to compete in the market, resulting in lower revenues for the new entrant. The industry focus on low cost, through a closed-bid contract, gives an advantage to the existing manufacturers. It would be very difficult for a new entrant to attain a minimum efficient scale in a relatively short period. This would result in a weak launch into the industry. The large number of rivals competing within the industry makes the industry unattractive to new entrants. It also makes it difficult for the new entrant to sign up distributors. Most potential distributors already have relationships and those who do not, would probably look to forge a relationship with a stronger manufacturer, instead of working with an unknown.

The development of open, interoperable standards act to both lower the barrier to entry and to increase the homogeneity of industry products, thereby reducing opportunity for differentiation by a new entrant. Some open protocols are difficult to implement, and they typically require several generations to become robust. This engineering challenge creates a barrier to entry because companies that have already developed products using those protocols are able to exploit the learning curve. Other, more basic protocols are easier to implement, but

they have relatively limited functionality compared to the more complex ones and they are losing market share.

The average cost per control point in the industry continues to drop as the competition increases. This is another disincentive for new entrants. The market is growing, but not rapidly. Given the current economic slow down, along with the intensive price competition, the opportunity for return on investment by new entrants is relatively low.

New technologies are a potential for industry disruption, which could significantly reduce the barrier to entry. Software solutions represent a premium value to the building operator and several industry associations have been discussing new technologies that are of interest. Technologies such as XML, Linux and open source solutions, combined with interoperability standards, could result in the entrance of large companies, such as business solution developers. These companies may identify an opportunity to develop front-end software solutions and integrate them with their existing packages. They could develop a user-interface that would connect to building controls systems that use open protocols. One of the deterrents to these companies entering this market is the internal expertise developed over time by existing companies. To overcome this barrier, the new entrants could recruit the necessary industry expertise from existing manufacturers' staff.

2.5.4 Threat of Substitutes

The building controls industry has a moderate threat of substitutes. At this time, there are two primary sources of substitutes. One area of substitution is from the OEM manufacturers who supply controls equipment directly to mechanical equipment manufacturers. These equipment manufacturers then ship the product directly from the factory to the construction site. This completely bypasses the controls contractor, who at that point is responsible primarily for commissioning the unit and ensuring that it integrates with the existing system cleanly.

A second source of potential substitution is from software companies combining new technology structures, (such as XML, Linux and open-source software) to interface with open protocols. These products could provide a richer user-interface experience to the building operator. These companies may be able to use their existing software products to analyze building data providing valuable insight to the facility manager. Examples of these types of companies include Tridium (www.tridium.com) and Webgen Systems (<http://www.webgensystems.com>). Both companies provide software solutions to owners and system integrators, bypassing traditional channels.

The one factor that holds back many substitutes currently threatening the industry is that there is no substitute for controls hardware. All hardware uses similar microprocessor and printed circuit board technology to control the equipment. Another critical component to discuss when reviewing the threat of substitutes is the sheer size of the building controls industry and the levels of interaction between architects, engineers, contractors and building owners. There are many steps involved in the contract process and the existing relationships are quite strong. New substitute products would have to be quite valuable to the industry in order to disrupt these existing relationships. It does not appear that there is any real threat to the relationship structure at this time.

2.5.5 Rivalry among Existing Competitors

The building controls industry suffers from intensive competitor rivalry. Many of these companies are relatively small. This contingent of smaller companies ensures that there is a significant amount of ongoing investment in new technologies, and companies use this to differentiate themselves from the competition as much as possible.

The high industry concentration ratio works to minimize competition at some levels. This occurs on very large projects, for which big companies provide specialized services. For

the vast majority of projects there is a lot of competition in receiving approval to bid on the project. The recent recession affected the industry and has increased competition as more manufacturers fight to win projects based on cost.

The evolution from proprietary protocols to open protocols has made it easier for companies to compete for project additions. In the past, when a controls product was selected for a project, the owner was committing to a long-term relationship (15 years or more) with that specific product because it was almost impossible to develop gateways to the proprietary protocols. With open protocols, the situation has changed dramatically. Contractors can successfully win future project bids, as long as their product supports the same protocol. This has made it difficult to generate adequate financial returns on contracts where the initial project margin is minimal, in anticipation of a higher margin for future additions and service work.

Another factor that leads to increased competition is that the market has a relatively saturated distribution channel. It is difficult for companies to locate good controls contractors to distribute their products. Often the only way to pick up a new distributor is when a manufacturer removes a distributor's access to the product line, due to conflict or change within an existing territory. One explanation for changes that may occur within the distribution channels is that the manufacturer's reputation is closely associated with the local distributor's reputation. If distributors are not meeting minimum standards, conflict between the manufacturer and the distributor arises.

Continuous innovation also forces ongoing competition. As new strategies and product innovations are developed, existing companies must either reduce their price to maintain an equal value proposition or innovate. The building controls industry is diverse; the fundamental philosophies and culture of the companies that form it are quite fragmented. Some manufacturers have slow-moving, bureaucratic cultures, whereas others are more dynamic and cutting edge, always looking for the latest and greatest technology to market. This diversity

leads to differences in strategy, which in turn leads to a complex competitive environment. This complexity increases the existing rivalry among industry competitors.

A factor that may reduce some aspects of this rivalry is the current wave of consolidation occurring within the industry. While this creates a larger organization and should have a minimizing effect on overall competition, it may also increase competition by creating scale economies for that organization. That scale of manufacturing provides a leadership opportunity in the execution of cost-based strategies.

2.5.6 Overall Assessment

The Five-Forces analysis finds the global building controls industry to be moderately attractive. While existing barriers to entry discourage new entrants, incumbents are able to earn a healthy profit margin. Ongoing consolidation keeps the industry vibrant, and creates 'churn' at the distributor level. The ongoing innovation, fostered by the intense rivalry among competitors, maintains a healthy R&D environment with continual product innovation. The relatively high barriers to entry, and the lack of substitutes, offer existing companies a relatively strong return on invested capital.

While there are threats of substitute products that could significantly alter the underlying industry structure, the value chain holding the industry together is strong. This presents a reasonably strong barrier to substitute products, which may attempt to use alternate distribution channels. The continuous adoption of new technologies and innovative concepts keeps the industry exciting and the level of investment required is a definite barrier to new entrants.

2.5.6.1 Key Issues and Strategic Recommendations

Given the nature of this industry, there are several key issues that a company is required to identify to develop an effective and successful business strategy. The first requirement is to have a solid understanding of the industry structure. The knowledge of how a project moves

from architectural concept to site maintenance and how the controls products value-add to the supply chain can provide insight for strategic development. The second requirement is that the building controls manufacturer must understand what drives opportunity in the industry, cost or innovation. The third requirement is that the manufacturer must learn what value the controls contractor places on the product and what value the end-user places on the product. The manufacturers must also understand which products have high-value and which products are relative commodities in the industry. The fourth requirement is that the building controls manufacturer must learn what its core competencies are so that it does not expend resources on fruitless activities. Finally, the manufacturer must be able to market its products in a way that generates the greatest return on investment.

3 INTERNAL ANALYSIS OF THE COMPANY

The goal in performing an internal analysis of a company is to gain a thorough understanding of the business.⁸ This section of the paper begins with a review of the current strategic marketing occurring at Innovative, and then investigates the company's approach to products, pricing, promotion and distribution. Following this, a Strategic Fit analysis of Innovative will be presented. The Strategic Fit analysis discusses the company's generic strategy, and then looks at the activities the company uses in the execution of that strategy to determine if there is any misalignment. Misalignment occurs when a particular activity is not well suited to a strategy. The final analysis in this section of the paper will be a value chain analysis. The value chain analysis looks at both the industry value chain and the value chain for Innovative specifically. The value chain analysis concludes with an overview of Innovative's core competencies and opportunities for improvement.

3.1 Current Strategic Marketing

This section of the paper presents an overview of Innovative's current strategic marketing program. It begins with a discussion of Innovative's product portfolio, followed by an overview of comparative pricing to a few of Innovative's primary competitors. A brief discussion of promotion and distribution methods completes this section.

3.1.1 Products

There are several common attributes being marketed by most building controls manufacturers. In no specific order, they are as follows: Web Operator Interface Software,

⁸ (Aaker, 2001, p. 111)

WAN communications, Open-Protocol Integration, and Systems Integration. With the technology available today, most manufacturers have relatively equal product offerings. This is creating a definite shift away from the focus on product technology and depth, to a newer focus on the service capability and knowledge of the controls contractor. Because most manufacturers have similar technologies, the differentiation generally comes down to the service provided by the distributor to the customer. The Tier 1 companies have a significant advantage here in that they have more control over the training and the quality, of their branch staff.

Innovative's current product offering is at par with some of the larger manufacturers and in some ways, Innovative's product design makes the system easier to configure and use on a daily basis. Among the Tier 2 companies, Innovative's current product advantages are the power and flexibility of the controller firmware, and its breadth of products. These advantages are definitely short term, and if the company's competitors try to catch up, it might only take them a couple of years. **Table 1** provides an overview of Innovative's current product platforms, it indicates their strengths, and their relative position compared to the industry's offering in general. The rest of this section provides a brief overview of Innovative's product offering.

	Controller Hardware	Access Controls
Strengths	<ul style="list-style-type: none"> • Use of open protocols implementation • Peer-to-peer communication • Competitively priced • Flexible & powerful programming • Large number of controller models 	<ul style="list-style-type: none"> • Same programming language as HVAC controllers • Cost effective solution • Limited competitors with similar integration capabilities (HVAC & Access) • Simple programming interface
Industry Position	<ul style="list-style-type: none"> • good implementation of open protocols 	<ul style="list-style-type: none"> • One of the only companies that offer an access controls solutions along with HVAC controls

Table 1 Strengths of Innovative's Products

3.1.1.1 HVAC Hardware Platform

Innovative has developed powerful, distributed hardware. Innovative has five primary hardware platforms: PROstat, Field Modules, Room Controller, and Building Controllers. All of these fully programmable controllers have customizable databases. Engineers create objects, as needed, and then use the products programming language to sequence the I/O as required. All of these controllers have Schedules, Calendars and Trends that are stored locally. The PROstat product has a field-selectable fixed algorithm for use with VAV, HPU, and simple Fancoil applications. There is a significant opportunity for the PROstat in the stand-alone terminal unit market.

3.1.1.2 Lighting Control Systems

Innovative has developed two fully programmable lighting controllers. These controllers were designed to provide lighting integration for projects with an existing Innovative or open protocol control system. Lighting controls is recognized as a must have for Innovative's distributors, who see themselves as advanced building controls distributors. Innovative's distributors will have some inherent cost savings if they can engineer both the lighting and the HVAC controls at the same time. This will allow them to provide bids to both the mechanical and electrical contractors for lighting projects that require open protocols.

3.1.1.3 Access Controls

Innovative's Access Controls development has been moving along a well-defined product roadmap. Phase 1 of development provided some basic door control capabilities for the system, with the creation of Access specific objects, application specific hardware for door control and storage of the card user database. This product was developed for small-scale projects and sales were negotiated directly with the end-user.

Phase II of Access Controls was designed to bring Innovative to a level of commercialization in which its distributors can enter competitive bids. The capacity of the card user database has increased substantially, and through object replication, it is possible to modify individual card users throughout the system. This latest version includes some enhanced access objects, historical database for storage of Access Event logs, built-in reporting capability, custom report generation, and elevator control.

3.1.2 Pricing

Price is determined largely by the competition, but there is also a strong influence from cost and perceived value. For instance, two seemingly similar products, designed for the same application, can have several different features. Some products may have features that make the installation easier and less expensive, which adds value to the product, while others may have features bundled with the product so that customers do not have to buy separate pieces.

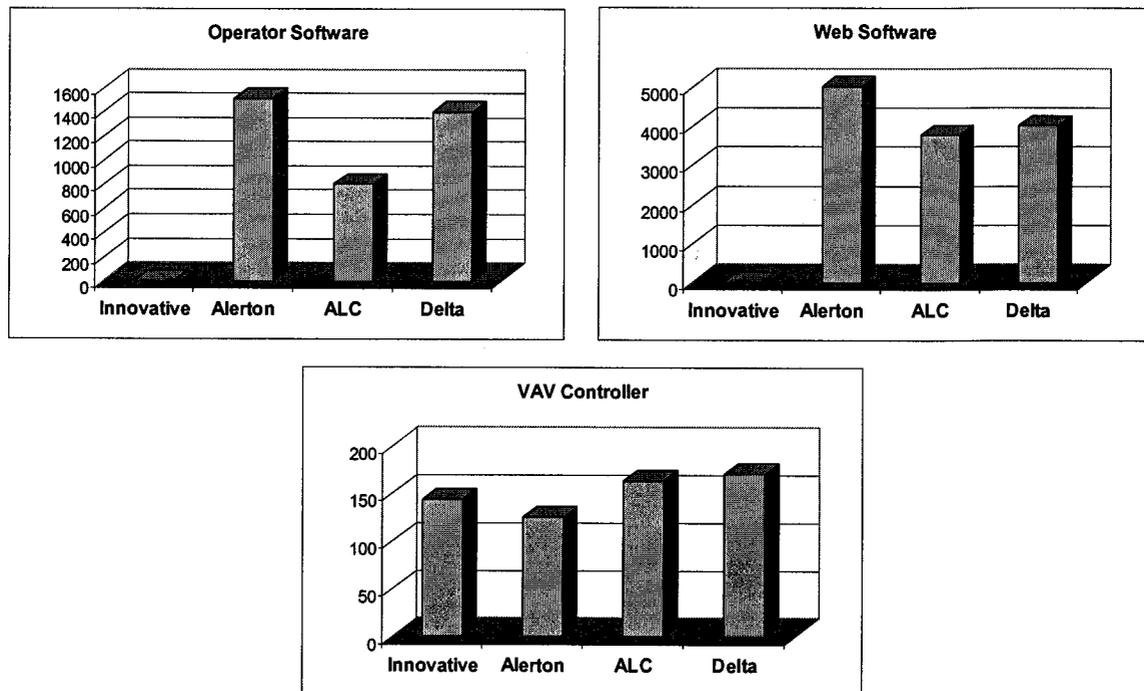


Figure 8 Domestic Competitive Pricing (USD)

Figure 8 indicates comparative pricing for three types of products in the North American market. Notice that the price of Software varies more between competitors than the price for a VAV controller does. This is because Software pricing is greatly influenced by differentiating features and bundling, and is purchased in small volumes (i.e., several licenses per customer). By comparison, the VAV controller hardware is virtually a commodity. It is purchased in large volumes (several hundred per customer), and therefore the pricing is much more competitive. Innovative is well priced in the market. Generating greater margin in many situations is difficult, because most projects are won through the competitive bid process, where the lowest bid wins the contract.

3.1.3 Promotion

Innovative currently invests slightly below the industry average (in % revenue terms) in promotion activities annually. This investment contributes and drives brand awareness for Innovative in the North American markets. Current promotion activities include advertising in many trade magazines such as Consulting Specifying Engineer, the ASHRAE Journal, Building Operating Management, as well as online advertising on websites. Innovative also demonstrates its products at trade shows.

3.1.4 Distribution Channels

Innovative has a distribution channel that is made up of value-added resellers to get its product to the market. This independent distribution is a one-step distribution from manufacturer to end-user. Innovative's product accounts for approximately 11% of the engineered solution that the distributor installs on a project (see **Figure 4** and **section 2.2.1** for more information).

3.2 Strategic Fit Analysis

The purpose of a strategic fit analysis is to identify any misalignment between a company's strategy and the activities it pursues in the execution of that strategy. The strategic fit analysis assumes that there are two primary generic strategies, a cost-based strategy and a differentiation-based strategy. It is generally recognized that attempting to be a low-cost leader and a differentiator is extremely difficult to maintain and typically results in a dilution of focus and loss of market share. A loss of market share is a direct result of doing neither strategy well. This section of the paper begins with a discussion of Innovative's generic strategy and then analyses various corporate activities against that strategy. This section then concludes with a summary of overall fit and a discussion of selected activities that need to be realigned with the corporate strategy.

3.2.1 *Innovative Control's Generic Strategy*

Innovative's generic strategy is differentiation. Innovative has always been recognized as an innovative technology manufacturer producing high quality, value added products. While the company focuses on producing products in an efficient, cost-effective manner, to support a price-competitive product in a mature market, it has always chosen to develop products with value-added product features.

3.2.2 *Criteria Analysis*

This section of the analysis reviews individual corporate activities and rates them as to whether they are more aligned to a cost-based strategy or a differentiation strategy. **Figure 9** details Innovative's profile as it relates to its generic strategy. Each of the criteria is given a score from 1 to 10, which is shown in brackets next to the criteria in the heading for each subsection. Low scores indicate a cost focused strategy and high scores indicate a differentiation

3.2.2.1 Product Strategy (8)

Product strategy at Innovative has been focused on development of innovative products that enhance the value proposition presented to its customers and end-users. Innovative has been an industry leader in the development of open protocols. Innovative always takes on a 'user-focus' during product development. To ensure that a product meets the needs of the industry, many of the company's development personnel have significant industry experience. This ensures that the products developed are relevant to the industry needs, and not developed solely for the sake of technological innovation.

3.2.2.2 R&D Expenses (8)

Innovative has a high level of investment in R&D activities. This is indicative of its focus on a differentiation strategy. Relative to its industry and sales revenue, the company's level of R&D investment would be considered high. The ratio of firmware testers to firmware developers is among the highest in the industry. This relates to Innovative's commitment to a high quality product. A high level of R&D is also required to develop products that rely on new technologies. Innovative also requires a high level of R&D because of the quantity of projects executed on an annual basis. This commitment to R&D is appropriate for Innovative's generic strategy of differentiation. The development and integration of new technologies into its product platforms requires a 'stable' of sophisticated technologists, engineers, project managers, and operations staff to execute efficiently and timely.

3.2.2.3 Structure (4)

Innovative's organizational structure received a ranking of 4 because the company is hierarchical in nature. Innovative is organized around functional departments, Sales and Marketing, Product Management, Product Development, Finance, Manufacturing, IT, etc. Most, if not all, significant corporate decisions are made by the senior management team or by the

President directly, with input from key managers. Given the diversification into Access and Lighting controls, the company should consider moving towards an organization that is formed around Strategic Business Units (SBU). These SBU's should have P&L (Income Statement) responsibility for their division, and should be given growth expectations and a budget allowance from the corporate management team. This change would more closely align the corporate structure with its diversification strategy.

The development teams that are assigned to projects are part of a matrix organization. Employees from various functional departments are assigned to each project and report to the project manager. Employees are ultimately responsible to their functional manager, but they are also responsible to any number of project managers, depending on the number of projects that they are working on. These development teams are relatively decentralized in their execution, but are located in the same building. The teams are responsible to the Director of Product Management for product functionality and to the Director of Product Development for project execution.

3.2.2.4 Decision Making (6)

Innovative's decision-making received a ranking of 6, as the hierarchical nature of the company leads to decisions being made by a relatively few senior managers. These decisions are typically strategically important in nature and set the company's overall direction. These decisions can affect a broad array of functional areas, from marketing programs to technical support. While attempting to execute a differentiation strategy it is critical that people are aware of the company's vision in order to distribute the decision making power in a way that allows the organization to operate efficiently.

3.2.2.5 *Manufacturing (7)*

Innovative's manufacturing received a ranking of 7, which indicates moderate differentiation. Innovative out-sources all of its manufacturing. It does this to maintain maximum flexibility in manufacturing capacity.

3.2.2.6 *Labour (8)*

Innovative's labour force received a ranking of 8, indicating differentiation in the tacit knowledge of its employees. For the purposes of this paper, labour will be defined as the group of people that develop the product, which is then manufactured and sold. In this case, the labour is definitely highly skilled. Many of Innovative's developers have graduate degrees in their respective field of study. Several people in the organization have specialized, industry specific experience. The company continues to reinvest in its development teams by encouraging them to pursue further education. This highly skilled labour force definitely contributes to Innovative's differentiation strategy.

3.2.2.7 *Marketing (6)*

Innovative's marketing received a ranking of 6. In the past, Innovative has focused on a push strategy for its marketing programs. The company developed advertising campaigns that were focused on comparing its products to industry standard products. Innovative's target audience for advertising included engineers and consultants, rather than the end-users and potential distributors. The latest marketing campaign has made a dramatic shift towards focusing on the end user's experience with both Innovative's product and distributors.

A shortfall in Innovative's advertising programs is that the investment may not be large enough to generate measurable lift in awareness. An offsetting decision to pursue one-on-one meetings with key stakeholders creates awareness and product understanding on a per market basis. One of Innovative's primary competitors is well known in the industry as an innovator and

that company supports its position with aggressive, high-cost advertising campaigns. In many ways, this competitor is seen as a “market engineer”, creating demand for a new product where none had existed previously.

3.2.2.8 Risk Profile (5)

Innovative’s risk profile received a ranking of 5. The reason for this is that Innovative does not aggressively pursue many risky ventures. Part of the justification for this score is that while the company is prepared to venture into new areas, such as Access and Lighting, it pursues these opportunities in a stepwise and deliberate fashion thereby minimizing risk and lowering the return that may be associated with higher risk ventures.

3.2.2.9 Capital Structure (9)

Innovative’s capital structure received a ranking of 9, indicating high differentiation. Access to Innovative’s balance sheet is not available. Discussions with the company indicate that Innovative is relatively conservative in its capital structure. This provides Innovative with good flexibility in defining its strategy.

3.2.2.10 Distribution Strategy (3)

An additional criterion for measuring strategic fit has been added to the strategic fit chart, which is Distribution Strategy. This was added because Innovative is in a Business-to-Business environment and it is important to measure the fit between the products supplied to its distributors, and how well those products fit within the distributors’ business strategy. This criterion has a scale from 0 to 10, 0 representing low cost, adequate quality products sold to a wide variety of projects, whereas 10 would represent value-adding products that are sold on a negotiated or flat-spec basis to customers. Innovative’s distribution strategy received a ranking of 3, indicating the need for a relatively low cost product portfolio.

Innovative distribution sells most products through a closed-bid process. A specification is developed by a consulting engineer for a project. Once the product is approved, the distributor estimates a price, which is then presented to the mechanical contractor. Generally, the lowest price wins. This is not a good strategic fit with Innovative's product line, indicating a significant misalignment between Innovative and its distributors. Innovative most successful distributors operate in a negotiated bid environment. In a negotiated bid contract, the distributor works directly with the customer developing a solution that more closely meets their needs.

3.2.3 Summary

In summary, the degree of overall fit of Innovative activities to its strategy points to a need for a more solid alignment. Four criteria must be addressed to in order for this re-alignment to occur. These criteria include Structure, Risk Profile, Distribution Strategy, and Marketing. To facilitate greater diversity and depth of innovation the organization must be more decentralized to succeed. Each diversification that the company is venturing into should be organized into a strategic business unit (SBU) that is immediately assigned a business unit leader. Directly associated with this, is an increase in the Risk Profile of the company. When making the decision to invest in a new market, the company must be prepared to provide that business unit with enough funds to be successful. The strategic business unit leader should be given corporate objectives, and from those objectives build an appropriate business plan for which a funding request would be made to the corporate managers. Innovative should organize resources in order to take full advantage of these opportunities.

The third concern is the potential misalignment between Innovative's strategy and that of its distributor's. The difficulty with this situation is that the industry within which Innovative operates is relatively mature, and it is quite difficult to make any change to the distribution

channel over a short time period. Innovative continues to attract distributors that are more closely aligned with the company's generic strategy.

The fourth item that needs significant adjustment is the marketing function. Research should be conducted with those distributors that are properly aligned with Innovative to help define the best approach to marketing its products. Innovative has an excellent product line and a strong business model. To increase revenues and profit, the company must focus on its core strategy and ensure that all business activities reinforce that strategy.

3.3 Value Chain Analysis

3.3.1 General Overview

The building controls industry value chain is relatively complex (see **Figure 10**). Mechanical engineers, who are working for both the building architect and the owner, design a mechanical specification. Both controls contractors and industry trends influence the controls portion of the mechanical specification. Industry trends are derived from component technologies, such as open protocols, and IT technologies such as personal digital assistants (PDA's) and microprocessor capabilities.

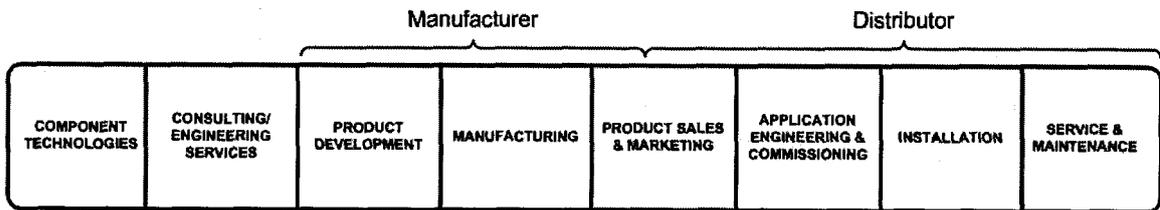


Figure 10 Building Controls Industry Value Chain

Multiple mechanical contractors place bids to the general contractor for the project. The controls portion of the mechanical contract is subcontracted to a controls contractor. Controls contractors provide bids to multiple mechanical contractors, and often favour one or two with a preferred price. Controls contractors can provide the highly specialized skills required to execute

the controls portion of a mechanical contract. Controls contractors supply the building controls system from the building controls manufacturer that they represent. A typical specification will have three approved building controls product lines.

The building controls manufacturer designs, develops, and manufactures the products that are used by the controls contractor. If the controls contractor wins the project, that contractor will provide all of the application engineering, installation, commissioning and warranty services for that project. The controls contractor will often enter into a service agreement with the building owner at the end of the warranty period. An electrical subcontractor sometimes does the installation component for the controls contractor.

3.3.2 Innovative and the Building Controls Industry Value Chain

The “Manufacturer” areas of the industry value chain (see **Figure 10**) are components provided by Innovative. These components include product development, manufacturing and marketing & sales. These components have been separated because some building controls companies outsource the manufacturing of the product that they have developed.

Innovative is both pro-active and re-active to market needs and demands. Many of the product features that are developed are innovative relative to the industry, but some of the product features were implemented as a direct result of innovation by other companies. Those innovations have created demand in the market, and Innovative is quick to implement the required functionality into its product line.

3.3.3 *Primary Activities*

Figure 11 details Innovative's firm-level value chain. The highlighted activities (***bold italics***) indicate Innovative's core competencies. These core competencies are discussed in more detail in the following sections. The diagram is not exhaustive in describing Innovative's complete value chain activities, but it does provide an adequate overview of the various activities, procedures, programs, and services that contribute to the company's differentiation in the marketplace. This differentiation enables Innovative to achieve a respectable profit margin.

3.3.3.1 *Inbound Logistics*

The Customer Service department processes all in-coming product orders for Innovative. The company has recently implemented an Enterprise Resource Planning (ERP) system that integrates systems from accounting, finance, and manufacturing. Orders are placed directly into the ERP system and the order is accepted based on the customer's credit limit. If the customer is on credit-hold, then the order is delayed until it has been reviewed, and then authorized or declined. The system will automatically create manufacturing work orders from the sales orders that are approved. This system helps manufacturing to schedule its workflows based on demand.

3.3.3.2 *Operations*

Operations activities are the core of Innovative's manufacturing coordination process. Manufacturing workflow begins with management of a production-run schedule, which includes scheduling of the backlog, and development prototypes. This information is then relayed to the manufacturing contractors for completion. Other key activities within the operations function include overall management of the manufacturing process and staff, management of sub-contractor manufacturing, and performance of the quality management processes. Innovative is known in the industry for developing products of very high quality. Innovative is ISO certified and the manufacturing department is responsible for a large section of Innovative's documented

processes. These processes are in place to ensure that product quality maintains its very high standard.

3.3.3.3 Outbound Logistics

Innovative's outbound logistics do not appear to be unique, relative to the industry. Services supported by this function are similar to other building controls manufacturers. Activities that occur in this department include management and disposal of waste materials, management of export duties, and management of transportation and shipping services.

Innovative has a peripheral parts program that is managed by the Manufacturing department to simplify the ordering processes. Peripheral parts are various pieces of equipment that Innovative's distributors require on most projects. Typical peripheral equipment includes valves and actuators, variable frequency motor drives, dampers, damper actuators, etc. Innovative does not carry inventory as part of the peripheral parts program. Innovative forwards the parts order to the relevant manufacturer, who then drop-ships all of the materials to the requested location.

3.3.3.4 Sales and Marketing

Innovative's marketing and sales functions are spread across two departments. The sales force, and advertising functions are contained within the 'Sales & Marketing' department, whereas the technical marketing functions are accomplished within the 'Product Management' department. The Sales & Marketing department is responsible for developing and managing Innovative's distribution channels. Innovative has several regional sales managers. These sales managers are required to perform sales management activities within their respective domains. This group is also responsible for overall revenue forecasts, which other department managers then use to develop their budgets. Each sales manager is responsible for a group of key accounts, which are associated with a geographic region. The Sales & Marketing department is also

responsible for developing the marketing plan and the marketing mix. For Innovative, this entails development of advertising programs, trade shows and booths, graphic images used in technical brochures, and overall management of the brand image. The Product Management department produces the technical content for these marketing programs. The Product Management department is also responsible for product strategy, product position, project prioritization, technical communications, training, and technical support.

3.3.3.5 Service

There are two service functions at Innovative. One is repair of defective hardware through the 'Returned Materials Authorization' team (RMA). The other is the Customer Solutions (CS) team who receive all technical support calls. The RMA team deals with all hardware returns, and is under the direction of the Quality Management department. If a product is received during the product warranty period, the RMA team will repair and return the product to the distributor. If it is received after the warranty period, the RMA team will repair and return the product, along with the appropriate service charge.

3.3.4 Support Activities

3.3.4.1 Firm Infrastructure

The activities and services offered to support firm infrastructure include, financial services, accounting services, management of the quality program, and management of Innovative's IT infrastructure. The Accounting department provides Innovative's financial services. Innovative's Chief Financial Officer (CFO) ensures that Innovative is able to fund operations and growth through its line of credit, and ensures that the cash conversion cycle is maintained at appropriate levels. Exchange rates are monitored to ensure that the company is appropriately hedged against currency fluctuations. The Accounting department provides all of

the standard accounting services through accounts payable, and accounts receivable. The Accounting department is a heavy user of the ERP software.

Innovative's Quality department manages the ISO quality program at Innovative, and is responsible for the Quality Assurance Hardware (QAHW), Quality Assurance Software (QASW) and RMA teams. The ISO program is used to audit all operational processes to ensure that Innovative is following its documented procedures. The ISO program is also used to document any new procedures when required.

The IT department is responsible for Innovative's IT infrastructure. They are accountable for network performance, security, and recovery. The IT department processes all technology purchases, including network hubs, PC's and laptops. They are also responsible for all software maintenance, desktop support, and hardware warranties. All laptops are currently standardized on the Dell platform, and Dell provides the technical support for laptop service. Other support activities that are performed under this section include general office management duties. These services include such activities as janitorial services, safety committees, social committees, etc.

3.3.4.2 Human Resource Management

Innovative's human resource management (HR) is a component of the Accounting department. Innovative has a payroll clerk, who offers some limited support for HR to Innovative's management team. The payroll clerk manages all employee records and performs the payroll functions. Many of the managers work with this individual to resolve personnel issues such as negative performance reviews and/or terminations.

Individual department managers are responsible for ensuring that every employee within their department has an annual performance review. This annual review also coincides with a salary review. It is up to the individual department managers to determine the appropriate review

policy for their employees. It is also up to the individual managers to encourage their employees to pursue career development.

3.3.4.3 Technology Development

Technology development at Innovative includes the product management function, the R&D department, along with the associated testing performed by the Quality departments (QASW & QAHW). The various activities that occur in this category include market research, specification development, feasibility studies, requirements development, product development, testing, alpha-beta deployment and product launch.

The Product Management department develops product specifications. Individual product managers and application coordinators perform market research with distributors, and a variety of research tools, to begin developing a vision and scope document. Product Managers have several years of field experience working as application engineers with Innovative's distributors. This gives the Product Manager the required industry experience to provide application specific feedback to the development team.

The Product Development department is responsible for developing the project according to the specification. The quality team verifies that the product is of sufficient quality to release to the distributor network. If the product is free of critical bugs for a standard period, it is released to the distributors with all of the appropriate release documentation (catalogue sheets, product announcements, and installations guides, etc.).

3.3.5 Value Creation

Innovative creates a significant portion of its margin through activities in the following four categories: technology development, marketing and sales, service, and operations. The technology development role is the most significant value generating activity. The innovation that is created differentiates Innovative in the marketplace. Most of the senior developers have

been with Innovative for close to ten years and have developed a solid understanding of the business, which is rare for most development departments.

4 FULCRUM ANALYSIS

This section of the paper, titled Fulcrum Analysis⁹ is designed to summarize the overall situation facing the company, to assess the expected performance of the company given the current strategy, to develop solution criteria, and then develop strategic alternatives. A SWOT (Strength, Weakness, Opportunity, and Threat) diagram will be included along with a description of each strategic alternative. These alternatives are then compared, and then based on the solution criteria, the most appropriate alternative is chosen.

4.1 Evaluation of the Current Situation for Innovative

As a general summary of the current situation, this section will distil the core issues that are creating a potential crisis for Innovative and its future business health. As previously presented, one of the core issues affecting the company is the impact of open protocols and the impact of bundling building controls with mechanical equipment.

The introduction of open protocols is leading towards the commoditization of building controls products (see **section 1.4**). Creating a common communication protocol, with object definitions, dilutes the differentiation between products resulting in increased price competition. Some of the larger mechanical equipment suppliers, such as TRANE, have already developed a separate building controls product line for their equipment (see **section 2.3.2.4**). This enables suppliers such as TRANE to ‘bundle’ their equipment sales along with the sale of their controllers. Bundling equipment makes it difficult for more traditional building controls manufacturers to compete because the overall system cost is typically less, and it is difficult to ‘un-bundle’ the controllers from the equipment.

⁹ (Boardman and Vining, 2003, p. 19)

Another significant trend within the industry is the integration of major building systems, such as the Fire Control and Lighting systems into the same product line and operator workstation. Integration gives the larger building controls manufacturers the opportunity to negotiate the sale of entire systems with building owners and operators. Providing a sole-sourced solution like this provide overall cost savings to the owner, and makes it difficult for traditional building controls manufacturers to compete.

Several other significant issues are affecting Innovative and the building controls industry in general. There has been a significant amount of consolidation occurring over the last several years (see **Figure 1**). These merged and acquired companies increase the barrier to entry for smaller companies and generally increase the overall industry attractiveness. For incumbents, these changes result in larger, more powerful companies that have access to greater resources than smaller companies do. The end-result is that smaller companies need to be more strategically focused to compete with these larger companies.

Another significant industry trend is the increased power of available technology. Microprocessor functionality has increased substantially, while the cost of the technology has decreased. This permits companies to develop powerful products with less effort. Internet technologies have exploded and the use of existing technologies has increased. Generally, using existing technologies such as web-technologies has reduced the overall required by a manufacturer time to market new products.

4.2 Strategic Alternatives

The following strategic alternatives are considered viable:

- Sell the company
- Move towards a franchised distribution model
- Open distribution and sell to anyone
- Related diversification of existing business
- Acquire a mechanical equipment company and offer a bundled solution

4.2.1 Alternative 1: Sell the Company

With the understanding that the introduction of open protocols is leading to the commoditization of products, the industry may be undergoing a significant structural change. Most strategic alternatives will require additional investment with a return that is only realized several years into the future, if ever. If this is the case, then the best solution may be to sell the company immediately, and let the new owners invest the funds required to execute any new strategy.

4.2.2 Alternative 2: Develop a Franchised Distribution Model

The current distribution model has several difficulties because the Innovative distributorship is composed of independent business owners. These independent business owners have their own business goals, making it difficult for Innovative to implement risky strategic initiatives. A franchised business model would allow Innovative to influence and control key aspects of the distributor network.

4.2.3 Alternative 3: Open Distribution and Sell to Anyone

The third strategic alternative is to dissolve the current distribution model and sell all products to anybody willing to purchase them. One of the barriers to company growth is directly related to the growth capacity of the distributors. A distribution model based on distributors has a growth potential limited to the accumulation of new distributors. Dissolving the Innovative's distributorship would immediately broaden the distribution capacity of the current channel.

4.2.4 Alternative 4: Related Diversification of Existing Business

Innovative has developed both a mature product line and a team of highly skilled professionals. Designing a strategy to diversify its business offers Innovative an opportunity to

leverage current investments and increase overall ROI.¹⁰ The primary method of related diversification has been identified as the development of Access and Lighting controls.

Development of products specifically targeted to the Access and Lighting Controls market takes advantage of development expertise at Innovative, as well as the technical skill level of the Innovative's distributorship. It is generally recognized that controls contractors have a deeper skill level than Access or Lighting contractors. Providing distributors with a line of Lighting and Access controls products will help the distributor to diversify their business.

4.2.5 Alternative 5: Purchase a Mechanical Equipment Manufacturer

Bundling of controls hardware with mechanical equipment by TRANE has proven to be a relatively successful strategy. One alternative for Innovative is to pursue a similar strategy. One way for Innovative to accomplish this would be for the company to acquire a mechanical equipment manufacturer, such as a VAV manufacturer, and then build from that base. Acquiring a VAV manufacturer would make the most sense because large volumes of unitary controls are attached to VAV's. The next acquisition or expansion could be to manufacture Fancoils or Unit-Ventilators.

4.3 Evaluation of Strategic Alternatives

This section will objectively evaluate proposed strategic alternatives using a number of criteria. The chosen alternative is supported by recommendations at the end of this analysis.

4.3.1 Strategic Goals – Evaluation Criteria

Selection of the most appropriate strategic alternatives requires the use of comparative criteria. The following solution criteria are listed in order of priority:

¹⁰ (Aaker, 2001, p. 231)

1. Return on Investment — return on investment is listed as the highest priority because the owners of the company want to ensure that they make as much money as possible in a sustainable manner. Will this strategic alternative increase Innovative's ROI?
2. Risk — as with any analysis, the perceived risk to ongoing business operations must be assessed. With much of Innovative's revenue achieved through the distributor distribution channel, it is important to ensure that that source of revenue is not damaged. Is this strategic alternative considered high risk?
3. Distributor Loyalty — it is also important to investigate whether the alternative will increase distributor loyalty to Innovative. Will this strategic alternative increase loyalty?
4. Increased Market Share in building controls industry — another factor that must be reviewed is whether the alternative will increase Innovative's market share in the building controls industry, or whether it will simply maintain it. Will this strategic alternative increase Innovative's market share in the Building Controls' Industry?
5. Capital Costs — the capital costs must be compared between the multiple alternatives as well. Will this strategic alternative require significant capital funding?
6. Increased Customer Satisfaction — will this alternative increase overall customer satisfaction?
7. Use of core competency — does this alternative make use of existing core competencies of the company, or is it a completely new venture that will require a new set of business skills?
8. Time to realize benefit of strategy — the final factor that will be considered is the time required to realize the full benefit of the strategy. Does this alternative require a 1-year time horizon or a 7-year time-horizon?

4.3.2 *Qualitative Analysis of Strategic Alternatives*

The following six sections discuss each alternative with respect to the defined criteria.

4.3.2.1 *Evaluation of Alternative 1: Sell the Company*

There is a level of risk associated with any investment. This alternative assumes that the time required to achieve a positive Net Present Value on any of the remaining alternatives is too long to justify the investment to the owners of the company. Some of the positive aspects of this alternative include the fact that this may have the greatest ROI in the short term. From the perspective of risk, this alternative is also the least risky. There is no additional capital cost required to implement this strategy. Because the business in essence continues in a status quo

mode of operation during the short term, the core competencies will continue to be used. This alternative should have its expected economic benefit in approximately one to two years.

This alternative has no negative impacts on any of the solution criteria, but it does have a neutral impact on several areas. The impact on distributor loyalty is of no significance because it will be the responsibility of the new owners to ensure that distributor loyalty is maintained. This alternative should have no impact on Innovative's market share. During the short term, impact on end-user satisfaction should be negligible as well. It will not be until either new products are introduced or fundamental changes in distribution are in place that the end-user should be impacted. **Figure 12** highlights some of the strengths and weaknesses of this option.

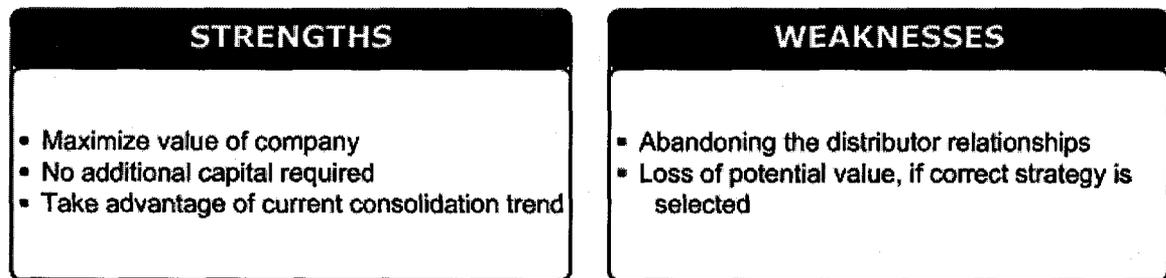


Figure 12 Strengths and Weaknesses of Alternative #1

4.3.2.2 Evaluation of Alternative 2: Develop a Franchised Distribution Model

This alternative is primarily about control over distribution business practices. A fundamental issue with using independent distributors is the difficulty associated with implementing business strategies that may conflict with the distributor's business model or goals. If this alternative were accepted by both the company and the distributors then it should have a positive impact on distributor loyalty. The business processes developed by Innovative for its franchisees, should also improve end-customer satisfaction. This alternative continues to focus on Innovative's core competencies and the time required to achieve the benefit of this strategy is relatively short.

The capital, and the tools, required to develop the franchised business processes is substantial. This alternative will not have a direct impact on market share, and as a result, ROI should not be greatly affected. This solution would be considered a medium risk because of the difficulty associated with legal requirements when setting up franchises in different jurisdictions within the United States of America

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">▪ Ability to execute complex strategy▪ Consistency of strategy, globally▪ Control over customer experience▪ Efficiency through productivity tools	<ul style="list-style-type: none">▪ Legal complexity of setting up inter-state franchisees▪ Capital required to develop value-added programs and tools▪ Lack of incentive for existing distribution to participate in franchise program

Figure 13 Strengths and Weaknesses of Alternative #2

4.3.2.3 Evaluation of Alternative 3: Open Distribution and Sell to Any Company

It is possible to foresee a time when controls contractors do not need to have specific relationships with manufacturers. This alternative is an attempt to be the first in this market to develop this strategy. The positive aspect of this strategy is that growth potential is significantly greater than present, which would result in a much-improved ROI. This strategy would have minimal capital costs associated with it. Innovative's core competencies are still being used and the period required to realize the benefit from this strategy is short.

This strategy has some significant problems. The first problem is that it is a high-risk strategy because the industry may not be ready for this type of model. The retaliation from existing distributors, who may choose to distribute products from other manufacturers, could deeply hurt Innovative, because a large part of Innovative's reputation stems from the quality of the installation and maintenance performed by its distributors. Innovative's products are very technical and it requires training and skill to install correctly. Moving to this style of distribution will result in many incidents of poor installations, which will negatively affect end-user

satisfaction. Exposing this product to a broad array of new distributors could prove extremely costly to support.

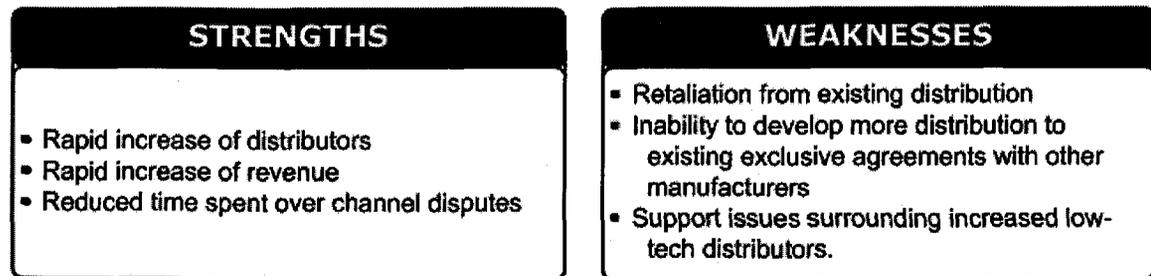


Figure 14 Strengths and Weaknesses of Alternative #3

4.3.2.4 Evaluation of Alternative 4: Related Diversification of Existing Business

This alternative has positive aspects for both Innovative and its distributors. It should definitely increase ROI and market share because products are being developed for higher margin industries. Distributor loyalty should also be increased as the distributors realize that Innovative is capable of providing them with a long-term business diversification opportunity, which keeps their businesses healthy. This strategy also makes use of Innovative's core competencies. Finally, end-user satisfaction should be increased through a related diversification strategy because they are able to interact with multiple systems and equipment within their building in a simple, consistent and efficient manner.

This should be considered a medium level risk primarily resulting from the potential resistance of the distributors to adopt this strategy for their businesses. The distributors may not agree with Innovative's vision of the future, and may not be prepared to invest along with Innovative to enter these new markets, even though these new markets are related to the distributors' core businesses. This solution will definitely require several years to realize its full potential.

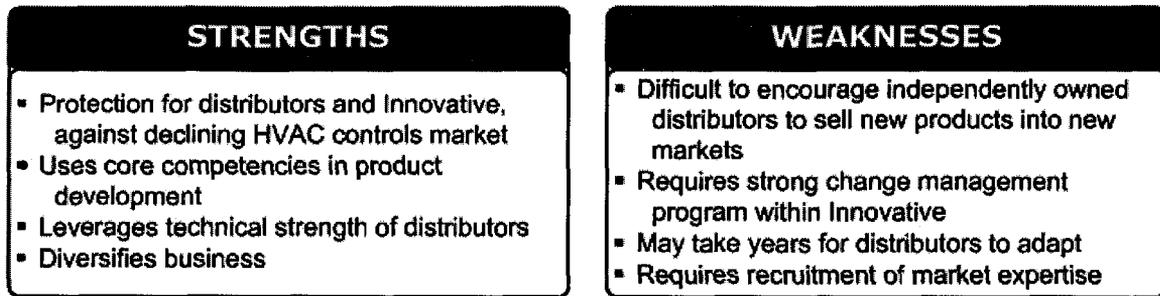


Figure 15 Strengths and Weaknesses of Alternative #4

4.3.2.5 Evaluation of Alternative 5: Purchase a Mechanical Equipment Manufacturer

This strategy should work to increase distributor loyalty because it shows a commitment from Innovative to strengthen the distributors businesses, and provide them with a sustainable competitive advantage in the market. This should also help to increase Innovative's market share, as more projects are won and more distributors are attracted to this business model. The increased margin from the sale of mechanical equipment should also increase ROI.

This alternative should be considered a medium risk, because it is a different type of business than Innovative is currently involved in. It would also have a medium window to realize benefit of the strategy. Overall end-customer satisfaction would probably remain the same because the user-interface would not change substantially. The primary disadvantage with this solution is the capital costs associated with the acquisition of another company.

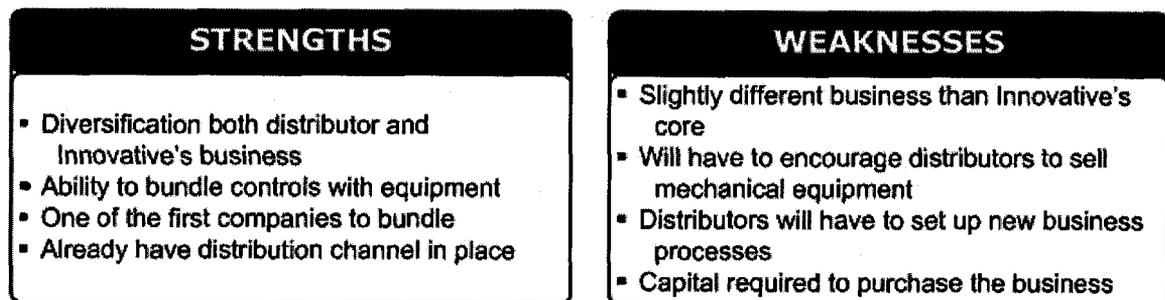


Figure 16 Strengths and Weaknesses of Alternative #5

4.3.3 Quantitative Analysis of Strategy Alternatives

The ability of each alternative to satisfy the solution criterion has been quantified on a -1 to 1 scale. A score of 1 represents a strong ability to satisfy the criterion, -1 indicates an effect opposite of that desired and a zero indicates a neutral effect. Each of the criteria has been given a relative weighting so that the maximum score, from any of the alternatives, represents a score of 100.

Strategic Alternatives	Criteria								
	Increases ROI	Low Risk	Increases Distributor Loyalty	Increases Market Share	Low Capital Cost Requirement	Increases End-User Satisfaction	Uses Existing Core Competencies	Short Time to Realize Benefit	FINAL SCORE of ALTERNATIVE
1 Sell the Company	1	1	0	0	1	0	1	1	70
2 Franchised Distribution	0	0	1	0	0	1	1	1	35
3 Dissolve Partnership	1	-1	-1	1	1	-1	1	1	30
4 Related Diversification	1	0	1	1	1	1	1	0	78
5 Acquire Equipment Mfgr	1	0	1	1	-1	0	0	0	20
Criterion Weighting	20	15	10	10	20	10	8	7	100

Table 2 Corporate Level Strategy Alternatives Quantified Evaluation Matrix

Table 2 illustrates the results of the quantitative analysis. The analysis suggests that strategic alternative #4 – Related Diversification, is best suited based on Innovative’s current strategic position.

5 RECOMMENDATIONS

Based on this strategic analysis, the recommendation for Innovative is to pursue their strategy of related diversification, but to add clarity to the vision and refinement to the processes surrounding it. The final section of this paper focuses on Innovative's vision, and following that, will build an action plan for execution of the strategy.

5.1 Innovative's Vision

A great vision is based upon a solid understanding of your customers needs, both now and into the future. **Figure 18** is a graphic representation of Innovative's vision. Innovative has two sets of customers, the distributor and the end-user. The distributor is the direct customer because they purchase product directly from Innovative. The end-user is the indirect or ultimate customer because they purchase the product from the distributor.

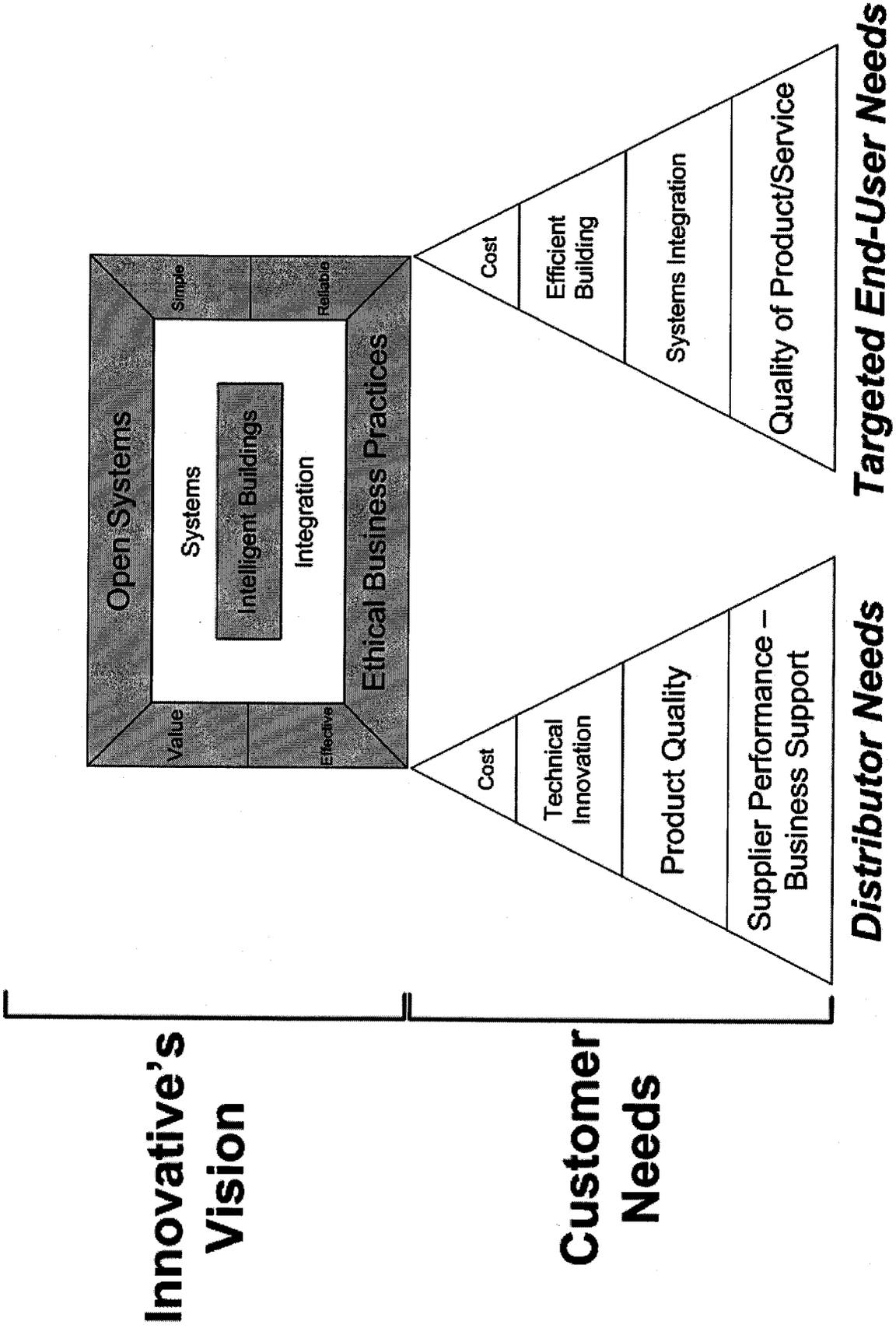


Figure 17 Innovative's Vision

Distributors require a strong relationship with the product manufacturer. To be effective this relationship should be focused on the tools that support the distributor businesses. Distributors also require quality product to minimize their risk on projects. Profit margins are tight when using a competitive-bid process and it is important to get the job done right the first time. Using poor quality product increases operating costs reducing overall competitiveness. Distributors require their manufacturers to provide an ongoing stream of technical innovation and development. Technical innovation is important for the distributor and is often used by them as a method of differentiating against local competition when demonstrating product capabilities to a local consulting engineer. As discussed previously, cost is a critical driver for most projects, and while the hardware and software components of an engineered system only account for 11% of the final project cost, it is influential.

End-users have a variety of needs and expectations concerning both product and service. An end-users primary need is product quality. Reliability of installed product is high on the level of importance for most end-users. Most end-users are also looking to develop a good working relationship with a local controls contractor. If a controls contractor provides good service and support to a customer, they stand a better chance of securing future work, by influencing specification and project proposals. Most end-users are looking for building controls that will operate their buildings efficiently. The final and oftentimes determining factor is for the engineered solution to be cost-competitive.

Innovative's vision is to provide a solution to these needs, by developing products that focus on "Intelligent Buildings". According to the Continental Automated Buildings Association (CABA) "Intelligent buildings apply technologies to improve the building environment and functionality for occupants/tenants while controlling costs. Improving end user security, comfort

and accessibility all help user productivity and comfort levels.”¹¹ Focusing on Intelligent Buildings should help Innovative develop products and tools that support the distributors and help the distributors provide solutions for their customers. The core focus of Intelligent Buildings is systems integration, the ability to integrate multiple building systems, such as Lighting, Access, and HVAC controls. The use of open systems is one method of providing value to the end-user, because of the ability to integrate future expansions to the existing system. Open systems supports the vision of Intelligent Buildings because it permits a degree of functionality and designs that was not possible in the past. The final component of Innovative’s vision is the core principles guiding the day-to-day activities. The company vision focuses on key phrases such as value, effective, reliable, and simple. The entire vision is supported, not only by an understanding of corporate needs, but also by the manner in which business activities are executed. Ethical business practices form the foundation of Innovative’s approach to both its customers and the end-users.

5.2 Related Diversification Business Opportunities

Before developing a specific action plan, Innovative should analyze the potential opportunities that could be pursued. The primary channel is through the distributors. A business unit that is closely associated is the opportunity to provide peripherals parts to that distributor channel. Peripheral parts include all of the miscellaneous components and equipment required to complete a project. Such parts include valves, dampers, actuators, sensors, etc. A potentially new channel would be to sell some select products directly to the end-customer, or anyone else interested in purchasing those products.

¹¹ (National Research Council, 2002, p. 7)

5.2.1 *Distributor Channel*

As discussed previously Innovative is developing products for both the Access and Lighting Controls markets. This strategy should be continued as a method of developing related diversifications. Innovative should also continue to expand its distributor network in the global market. There is a large opportunity for expansion in the EU as well as China and some parts of South East Asia.

5.2.2 *Peripheral Sales*

Generally speaking, sales of peripherals components is approximately equal to the cost of the building controls product when considering the value of the engineered solution that is installed on a typical project. If developed properly, this business unit could be equal to Innovative's hardware sales. The gross margin from peripherals sales will be less than hardware sales, but if run efficiently through an e-commerce solution, peripheral component sales could result in significant contribution to net income.

5.2.3 *Customer Direct/Wholesale*

Several of Innovative's products could be sold directly to end-users and other controls contractors directly because they are simple stand-alone products. Innovative's thermostats are now recognized as industry-leading open protocol thermostats. There is a demand for this product and opening this up through an e-commerce solution could significantly increase the revenues associated with those products.

5.3 Opportunity Analysis

In an effort to prioritize these different business opportunities and develop an execution plan, both the scope of the opportunity and the risk associated with it must be reviewed. **Figure**

19 reviews each business unit from the perspective of whether the effort involves either a new market or a new product. Expanding sales in North American makes use of selling existing products into existing markets, while selling products to the EU has the potential to sell existing products in new markets. Selling products into the wholesale channel would be targeting existing markets with modified and/or new products.

The simplest growth opportunity is to use existing products in existing markets. Having a Tier 2 market share in North America presents an opportunity for Innovative to continue to develop this market. The primary method for growth in North America is through the attraction and development of new distributors.

	Existing Market	New market
Existing Product	<ul style="list-style-type: none"> • North America 	<ul style="list-style-type: none"> • EU
New Product	<ul style="list-style-type: none"> • Wholesale 	

Growth Opportunities

Figure 18 Analysis of Growth Strategies

Assuming barriers to entry are not significant, the next logical choice is to take existing products into new markets. In this case, the EU represents an opportunity for Innovative. Attracting new distributors is the simplest method for growth in this market. There would be some new product development required to adapt to this market, but because the growth opportunity is significant, it should be explored.

The Wholesale market represents an opportunity to gain a greater share of the building controls market through bypassing the distributor channel and going direct. While this may result in some initial distributor backlash, if the products are selected and developed properly, any disruption should be minimized and Innovative could develop another strong business unit. Consultants familiar with the wholesale market opportunity can be hired to provide specific insights regarding risk associated with this opportunity.

Figure 20 shows the risk-return profile for each of the business units identified as part of Innovative related diversification strategy. Developing the distributor channel has the highest return with the least risk. The lowest risk opportunity is to develop a strong peripheral program. Implementation of a strong peripheral sales program should double corporate revenues and it is not risky. Overall, gross margin would be reduced, but net income would be increased as well. The Wholesale opportunity is higher risk than the peripherals program.

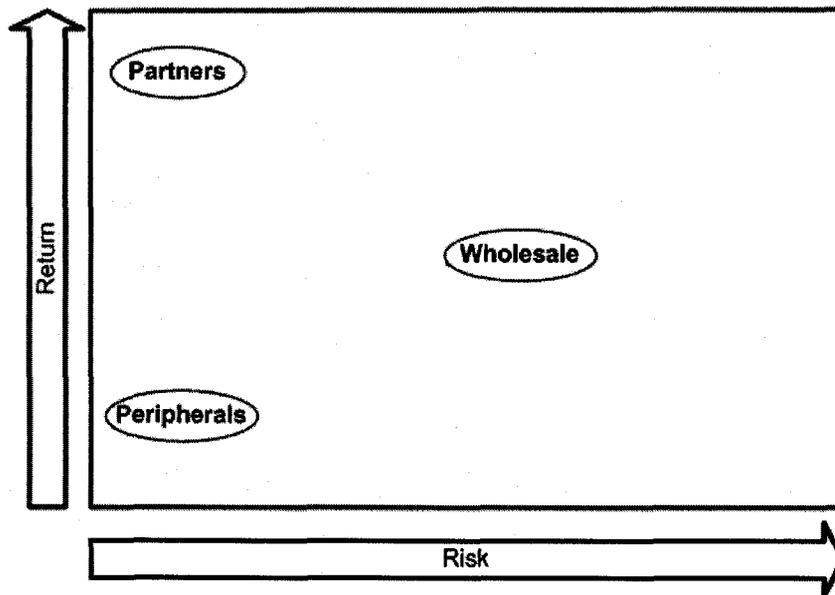


Figure 19 Risk & Return for Opportunities

5.4 Strategic Execution

Successful execution of this related diversification strategy has both corporate action items as well as commercialization action items. Corporate action items are required because the related diversification involves organizational and process changes to the current organizational structure. The commercialization action items identified a prioritized approach to resource allocation.

5.4.1 Corporate Action Items

Diversifying a business, even in related areas, is difficult. Hence, the implementation of a change management program at Innovative is recommended. The goal of the change is to identify areas of the company that are affected by this business venture. After identifying areas of change, it is critical to continue to communicate corporate goals to the employees and begin working with key stakeholder and managers to identify the best organizational structure to achieve the business goals that have been identified. After completing this analysis, the organization structure and process should be modified to accommodate the new business units, and to minimize barriers to success.

5.4.2 Commercialization Action Items

Review of the available information, as presented in this report has led to the identification of several diversifications that Innovative can begin to pursue. Some would be relatively easy-to-implement and some would be rather difficult. The list of items below indicates the order of priority that should be attached to the business opportunities:

1. Expansion of North American distribution
2. Expansion of Peripheral program
3. Expansion of EU Distribution
4. Diversification into wholesale market

Expansion of the North American distributor market and the Peripherals program can be considered the “low-hanging” fruit. Combined, these two growth opportunities are the least risky and provide the highest overall return. Expansion of the EU market is a low risk, large opportunity that requires a relatively small investment. Several key pieces of development will be required for the effort to realize an appropriate ROI. The last priority is given to the wholesale market. This is primarily because operating that business unit is quite different from Innovative’s core business and could be risky. Stating this does not mean that this opportunity should not be explored. On the contrary, all opportunities that have been listed should be explored as possible ways to diversify business operations.

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