STRATEGIC MANAGEMENT IN SMALL METAL JOB SHOPS IN SWEDEN AND THE U.S.

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Abstract
Strategic management can be defined as an ongoing process to analyze and learn from the internal and external environments, in order to establish direction and create strategies that help to achieve business goals. Strategic management is defined in different ways and interpreted from different perspectives in the literature. Strategic management theories provide different tools for analysis and for helping managers to make the best decisions in order to reach desired goals. In this article, I discuss management in small metal job shops and how the managers use available tools, as related to strategic management theories. The discussion is based on case studies in about 30 small companies in Sweden and the U.S. and shows that management in small firms in many ways diverges from the theoretical concepts.

Introduction
Strategic management, an ongoing process to satisfy the organization's stakeholders, involves analysis and learning from the internal and external environments in order to establish direction and create strategies that help to achieve business goals. Strategic management theories provide tools for analysis and for helping top managers make the best decisions in order to reach desired goals.

The aim of this article is to discuss how management in small job shops within the metal industry relates to strategic management theories, and how managers in small companies use available strategic management tools. The discussion is based on observations and interviews in about 30 small companies in Sweden and the U.S. I describe how small job shops deal with different steps in the strategic management process and discuss the reasons why they may diverge from the theoretical process.

Definitions and Conceptual Framework
Small Companies. The case studies were done in companies within the metal industry. The companies are all independent firms, that is, they are not related to any big corporation and are not franchise companies or partners in any formal virtual organization. Most of them are family businesses. The size varies between 3 and 50 employees. They are all job shops, fabricating different kinds of parts for the manufacturing industry or providing service to customers within the mine, paper, steel, or wood industry.

Strategic Management. The word strategy is interpreted in different ways in the literature (Quinn 1998; Mintzberg, 1998a; Porter, 1987). Strategy can be defined as a plan, a guide for intended actions, or a pattern, a stream of actions, intended or emerging, that takes place in the organization. Strategy can also be defined as a position, the organization's market position, or a perspective, referring to the organization's character or culture—this latter interpretation suggests that strategy is a concept. Depending on how you define strategy, different methods are available to manage the organization in a strategic manner (Mintzberg, 1998a).

In this article, the definition of strategy I use is closest to an interpretation that integrates strategy as a position and strategy as a plan. Strategy has to do with how the organization matches to its external environment, and the management process is concerned with how to maintain, stabilize, or change that position. The strategic management process is defined as a process to analyze and learn from the internal and external environments in order to establish direction and create strategies to achieve business goals; the management process would result in a plan to maintain, stabilize, or change the organization's market position.

A Model of the Strategic Management Process
In order to compare how the small job shops studied are influenced by or apply strategic management theories and how they use the available strategic management tools, it is necessary to define a model of the strategic management process. Based on the works of Harrison and St. John (1998), Thompson and Strickland (1989), Andrews (1998), Porter (1987), and Mintzberg (1998a), a simple model includes the following steps: analysis, direction setting, strategies, implementation, and control. These steps, described below, are interrelated, and they shall not be regarded as a linear process. The strategic management process is an ongoing, circular process. The model presents different strategic decisions that the manager must make and the different tools available to help him or her make the best decisions. The strategic management process is carried out on the corporate/company level. Implementation of

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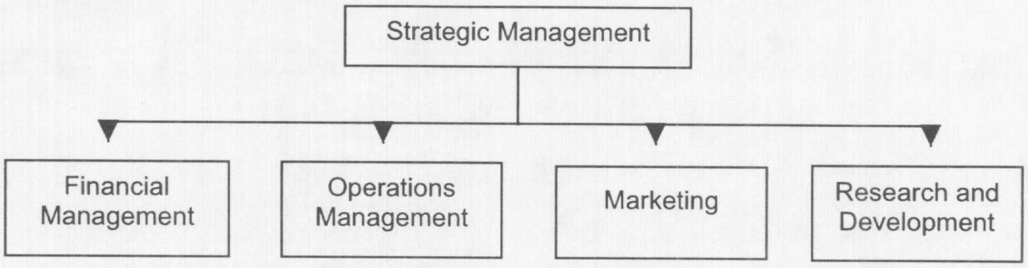
Exhibit 1. The management organization



the strategies decided upon requires analysis and the formulation of strategies and goals at lower levels. The management organization is defined schematically in Exhibit 1.

Analysis. *Analysis of the business situation.* It is important to analyze the business situation, the organization's external and internal environments, to determine the strengths and weaknesses within the organization and the industry situation in which the organization operates. Tools that are commonly used for analyzing the business situation are the SWOT (stands for strengths, weaknesses, opportunities, and threats) analysis, which shows the internal and external strengths and weaknesses and the opportunities and threats in the external environment, and the strategic group map, which helps an organization to understand its competitors' strategy. Another tool is Porter's five forces, which gives an idea of the industry situation in which the organization operates. Using the model, it is possible to determine the power of customers and suppliers and the influence of existing competitors, by analyzing the competition from companies selling similar or substituted products. It is also possible to determine the influence of potential competitors, by analyzing the strength of barriers to entering the industry. Important information about the business situation also comes from the board of shareholders or the board of directors.

Functional analysis. Functional analysis is necessary for deciding how to design the production process and the infrastructure needed to support the process. Functional analysis examines the organization's internal environment; the purpose is to analyze and evaluate the value-adding activities. Functional analysis helps management to decide how to operate the "five P's of operations management" (Chase et al., 1998)—people, plant, parts, processes, and planning & control—i.e., how to design the production. The relationship between product and process can be analyzed by using a product-process matrix and break-even analysis (Chase et al., 1998). Another functional-analysis tool is the value-chain analysis, with which you divide organizational processes into specific activities and evaluate how the activities create value for the customer.

Other internal environmental factors that have an impact on an organization's efficiency and its ability to compete are the organization's culture and ethics, information flow, management organization, and core competence. There are many different tools to measure and evaluate these factors, such as validated surveys for taking the temperature of the culture or the business climate and established ways to measure productivity, quality, and reliability that help to determine the core competence (Chase et al., 1998).

Financial analysis. To be able to make any decisions at all, you have to know the financial situation. The financial analysis includes analyzing profitability, liquidity, the ability to take financial risks, efficiency of asset utilization, inventory turnover, and credit policies.

The purpose of each of these analyses may differ, depending on whether a company is newly started and in its infant stage or is a mature company. Financial analysis and the business situation analysis are more or less ongoing processes in organizations at different stages in the organizational life cycle. Functional analysis can be of greater importance to a company in the infant stage or to one undergoing reorganization than to a mature company.

Direction Setting. Direction setting includes formulating a vision and a mission and setting long- and short-term goals. The vision is not very specific and in some way expresses the dreams for the company's future. The mission statement is formulated to define why the organization exists, what the organization does, and for whom, and it is also supposed to give stakeholders an idea of what benefits they can get from the organization.

In an existing company, direction setting is a process integrated into the analysis process, and the goals are questioned according to the results of the analysis.

Strategies. Strategies are both plans for the future and patterns from the past. The analysis produces a pattern of the past and also a platform for forecasting the future. According to Mintzberg (1998b), the concept of strategy is rooted in stability, and the reason to have a formulated strategy is to create resistance to change. "No stability means no strategy," no patterns from the past, and no plans for the future (Mintzberg 1998b). In many production concepts, such as just-in-time and total quality management, the philosophy is to create continuous improvement instead of stability. The philosophy of the production system must be correlated to the organization's strategy; otherwise, it is impossible to set and achieve goals. *Strategy as a position* can mean to stabilize, but *strategy as a plan* has to be questioned by continuously analyzing the situation in which the corporation/company operates.

The organization can choose a strategy for growth or stability. If the strategy is to grow, different tools can help achieve this aim. The internal tools include market penetration or development, production system improvement, and product/service development. External tools include horizontal integration, joint ventures, and strategic alliances. The organization may be forced to choose stability because of high or expensive barriers to exiting the industry. Stability can also be the chosen strategy when the founder, for various reasons, does not want the company to grow.

Whether the purpose is to grow or stay stable, the organization has to compete to survive. There are different strategies for competing. One is the cost-leadership strategy, where the organization turns to a broad market and competes by providing the lowest cost to the public (McDonald's, for example). A tool for organizations that choose this strategy is the Boston consulting group (BCG) matrix, which shows industrial growth versus the organization's relative market share. The purpose of using the BCG matrix is to plan the cash flow and also to identify the products that are the cash cows and the products that may be taken out of production. The underlying reasons for choosing cost-leadership are, for example, high-capacity utilization, economies of scale, technological advances, and learning effects. Another approach is differentiation, or competition by uniqueness.

To decide on the competitive strategy, it is important to first analyze the product life cycle. How a product's sales volume changes over time indicates whether the demand is growing, has matured, or is declining.

Quality is a very important competitive means. There are different strategies for achieving quality; one of the most complete strategies is probably total quality management, which can be regarded as a concept or philosophy of production system design.

Finally, the company may operate independently or in cooperation with other companies, depending on the "corporate strategy." The company can concentrate on a small group of products/services dedicated to a single market or cooperate with suppliers and/or customers, in vertical integration. Diversification makes the firm competitive in the market either by developing skills and knowledge to compete in new domains (internal venturing) or by acquisition, joint ventures, or sharing resources, such as marketing or research and development, with one or several companies.

Implementation. To implement the chosen strategies, there are many important decisions to make, such as how to structure the company. The main purpose of an organization is to act as an instrument for fulfilling the founder's goals (Abrahamsson, 1992). The main goal in a business organization is to make money. The organizational structure has to support the strategies. Structuring the organization involves decisions about how to coordinate activities, relationships, and communication among the internal stakeholders. The organization can be structured by focusing on functionality, products, markets, projects, or cooperation.

Implementing the strategies decided upon on the corporate or company level requires decisions about how to market the products, operate the production, deal with research and development, create an information system, deal with human resources and, last but not least, finance everything. The implementation process demands analysis and strategies, as well as control systems on the lower, operations levels.

Control. Managers must be able to determine whether the organization is following the strategies and achieving its goals. Control is necessary to provide managers with input to reconstruct strategies or reformulate goals. There are different tools to carry out this part of the strategic process too.

Accounting measures are based on the past. Examining the accounts provides a platform to budget the next year, but financial controls must be balanced with other control systems that give earlier signals to identify necessary changes in direction. Quality control systems, inventory control systems, order-taking control systems, and audits controlling the organizational or staff behavior are based on the present and may give signals to make necessary changes immediately or suggest further analysis of different phenomena. A control system's ability to give early warnings is critical to an organization's survival, competitiveness, development, and growth.

Strategic Management in Small Metal Job Shops

The strategic management processes described in the literature discuss management on a corporate level and assume that the company has a board of directors, a CEO or a president, and a team of top managers. Most of the examples are from studies in very large, global corporations like McDonald's, General Motors, and Toyota. The question is whether strategic management theories can be identified in the context of *small* companies. Do small companies create strategies to reach their goals? Can small companies be used as examples to express different stages in the strategic management process?

At a quick glance, it would be easy to state that small companies have no strategies—at least they do not analyze and formulate strategies. But do strategies have to be *formulated* on the basis of complex analysis? Mintzberg (1998b, p. 115) discusses strategies in terms of "deliberate" or "emerge" and states that a strategy can emerge "in response to an evolving situation." Strategies do not have to be formulated; they can also *form* and develop gradually through the organization's actions and experiences. The approach that Mintzberg describes is more like an iterative process, wherein the future is formed by the experiences of the past and the current situation. Strategies become organizational when they are collective, when they guide the organization's behavior.

The Nature of the Job Shop. Very few of the job shops in my study have a board of directors or board of shareholders. In most, the owner is the president and the only manager at the plant. There are no layers of management, as in larger corporations. The manager wears a lot of hats—those of president, operations manager, financial manager, researcher, inventor, staff manager, and so on. There are no in-house experts that can provide the manager with statistics and reports to analyze different phenomena. Most of these companies have only a secretary doing administrative work such as billing, keeping the books and customer records, and paying the vendors and staff. Frequently, there is an external accountant that checks the books at the end of the year and prepares the tax returns.

Production is very difficult to plan, because there are many customers and a lot of different products are fabricated. The companies bid on all jobs, and products are produced in very small batches, sometimes a lot size of one. Generally they fabricate parts for the manufacturing industry or provide services for large companies like mines, steel mills, paper mills, and the wood industry. There have been changes in the relationship with bigger corporations during the last decade. The manufacturing industry no longer has long-term contracts, and they want parts delivered just-in-time, in small batches, for only a couple of weeks' or days' production.

The job shops in my study are mostly operating in the local or regional market. If some of their products are exported, it is via the manufacturing industry that they supply with parts. Only a few of them have their own product and operate in a broader market.

Analysis. *Analysis of the business situation.* The small companies do not use any special tools to analyze their business situation. Some of them have grown up with the company and are trained by their fathers in the management role. They know the business, by experience and by their personal network. They also know their competitors in the local and regional markets by their personal network, and they know the competitors' capacity from hearing about which company got the last job they were bidding on. Even if some of the information is gossip and speculation, it gives them information about their competitors and how to beat them next time. A few of the companies have an advisory board that consists of people they trust and know. One of the companies has an advisory board consisting of a retired banker whom the manager knows and one of their bigger customers from the manufacturing industry. Some of them have mentors, like the retired father who was the former owner of the company, or another relative or family member who also owns a company. One manager thinks it is important to go to shows to meet customers and other companies to learn about what is going on in the industry. They also meet other company managers/owners through different associations, such as the Rotary Club. Interaction with people in other social institutions, like the family and the church, is also important to get information about the external environment. Small-business managers seem to prefer verbal media, i.e., they seem to prefer to talk with people instead of reading reports or using tools for analyzing the business situation.

Functional analysis. Although they do not use any special tools for functional analysis, job shop owners are tremendously aware of their company's strengths and weaknesses. They just *know* these from experience, and they learn from failures and from successful operations. They know their staff and their capacity. The manager has personally hired every person, and the workers are mostly quite skilled and specialized in different parts of the processes, for example, welding or machining. Core competence, which depends on people, their skills, and the capacity of machines, is sometimes determined randomly, sometimes purposefully. Core competence can emerge from a certain job a company has to take in because they badly need orders, even though they do not really have the machines to do the job. They may have to modify a machine to be able to fabricate the order, with the end result being that the company is then the only one in the region that can take that kind of order. This news is spread by word of mouth, and the company gains a reputation for being specialists for this kind of job. Thus, the core competence more or less emerges randomly, and the company finds itself in a niche, a position they then use for competition. Another, more deliberate approach is for a company to *find* a niche where they can be more or less the only company in the local and regional markets, by talking to people and listening to gossip and finding out what kind of capacity is not represented locally. One company found out that there was no company in the local market that could handle a certain quality of steel, so they took a risk and invested in a machine for that purpose, and spread the word that they had the capacity. They created a niche for themselves. Intuition, rather than data from strategic analysis, is what informs small companies' awareness concerning competition.

Financial analysis. When it comes to financial analysis, the companies rarely do a lot of complex analysis. In two of the companies in my study, one of the family members went to school to learn accounting, and in those two companies they analyze different ratios to get a full picture of the financial situation. In other companies, they just check the profit-and-loss account until they have to do an investment. Some of them get advice from an accountant in that situation. The two companies that have started to do financial analysis declare that it is a great help in making decisions, and that they now have a totally different view of what is going on in the company. Using financial analysis tools has also been a link to using other business tools, such as personal reviews and reward systems.

Direction Setting. Direction setting in small companies differs from the processes discussed in the literature. The vision, the mission, and the goal can be regarded as three different levels of direction setting, starting with the broad vision and narrowing down to specific short-term goals.

In these job shops, the managers do not talk about having a vision. They use another word to express the vision—they say that they have *plans* for how they want to see the company develop, stabilize, and survive. The plans seems to be very unspecified and more of a wish or a dream. They *hope* that they will be able to earn enough money to invest in modern machines or to move to another facility, etc.

The mission statement is sometimes formulated, especially if the company has some kind of brochure about its capacities. Some companies have a consultant help to produce a brochure. In some cases, the mission statement describes the company and its history, the products and/or service they offer, and whom they regard as their potential customers. In other cases, the statement explains that they "offer high-quality products," and sometimes it is just a description of the kinds of machines they have in-house to show the potential customer their capacity. Very seldom do mission statements give an idea of whether the company is successful or not, or what plans they have for the future. It seems that the mission statement is formulated only for commercial purposes, and does not include long- or short-term goals or ways to guide the organization's operations. Most of the companies have some kind of written commerce, and it is more and more common for them to set up a Web page on the Internet. The Web pages will also make it easier for companies to find information about their competitors, including their capacity. The mission statement is directed at external stakeholders rather than at internal operations.

It is rare to find specified long-term goals that are communicated and accepted in the organization and also possible to measure. Short-term goals are set for a very short time and are more or less similar to scheduling the current production. The reason for that is probably the nature of the job shop. It is very difficult to set goals or plan for the future by analyzing the past, because they are bidding on all jobs and cannot know for sure which jobs they will get. Some of the companies fabricate parts for the manufacturing industry and can assume that they will be able to produce almost the same amount for next year, so they are able to set some goals. One of the few companies that has their own product has set a goal for how many units they will produce in one year. The assumption was based on the sales for the previous year, and the manager explained that if they do not get orders for all units, then they will have to go out and find the market to be able to sell them. In this case, the long-term goals are causing the formulation of a strategy—a plan for how to meet the production goal.

Strategies. Many of the small companies have no intention to grow, which makes it easy to state that their strategy is to stabilize. One reason why a company does not intend to grow is that the manager wants to keep his/her direct control over the activities in the company, and growth in the employee pool would make that impossible. Another reason is that the main goal is not to earn as much money as possible, but just enough money to give the family a decent living. To own a small company is a lifestyle, not a profession. Some of the managers describe their growth as a long process, sometimes over 20 years or more, that was not planned but, rather, emerged as a result of their reputation in the market.

The metal job shops in my study use an approach of differentiation to stay competitive in the market. They do not talk about it as a strategy, but several of the managers explain that they want to find a niche or that they have already found a niche in the market. For some companies, it seems to be quite important to be able to explore their core competence, which depends heavily on the staff, to find a niche in the industry where they are almost alone, at least in the local and regional markets. The product life cycle is quite uninteresting in this kind of company, because they have a customized fabrication of hundreds of different products, and sometimes the product is so unique that it is produced only once and in only one unit.

Quality is important, but very few companies are certified in ISO 9000 or similar quality programs. The quality is decided on and evaluated by the customer. If the customer is satisfied, it means more jobs. The companies regard quality as a competitive weapon, but they have not formulated a strategy for how to achieve high quality. The strategy is simply to do a good job—otherwise, they will be out of business.

Adaptation Strategies. Organizations have different strategies to adapt themselves to business needs and to the context in which they operate. Organizations can be assigned to one of four categories according to their behavior, as follows: defenders, analyzers, prospectors, and reactors (Chase et al., 1998; Ellström and Nilsson, 1997). Defenders focus on survival. Analyzers focus on a more aggressive development and seek new products or new markets. Prospectors are followers—they wait for the analyzers to invent a new product, and when the technology is proven, they start to improve to compete. Reactors are those who react to changes in business needs or context and act in an iterative way, without forecasting like the analyzers.

It is among the defenders and reactors that we find small companies like the job shops. The defender's strategy is to stabilize, and the main goal is to earn enough money to give the family a decent living. Analysis is concentrated at the operations level, and the control systems are created to control people, production, and products. The biggest concern is calculating and bidding on jobs. The survival strategy has never been formulated on the basis of any complex analysis. Instead, experience and the current conditions on the operations level form it.

Reactors do not analyze the past or forecast the future. They react to what is happening in the present, and they do it in an iterative way. They try to adapt their operations to customer needs, sometimes reacting too slowly, so that they will almost go bankrupt before they realize that changes are necessary.

Conclusions

The job shops have a traditional functional design. How the company strategy relates to structure has probably never been of concern, because the companies are quite small. One company with about 20 employees that had been in business for many years had not even considered the company structure before they started to work toward ISO 9000 certification. The company level and the operations level are integrated, and the analysis, plans, processes, and control systems at the corporate level are not separated from those at the operations level. Further, strategic management and operations management are mixed. Therefore, in practice, all management is at one level, the operations level. There is no management hierarchy as in bigger corporations.

The nature of the business in job shops make planning very difficult. Planning activities are concentrated on operations, and the planning horizon is very short. Some managers talk about two weeks, others about eight weeks, but no one talks in terms of years.

The most important tool for analyzing the external environment is people. The manager's personal network is important, and interaction with people in the social environment seems to be preferred to reading reports and doing complex business theoretical analysis. Small companies are very aware of the competition, and they try to find themselves a niche to explore their core competence and stay competitive. These actions are based more on intuition than on data from some report. Complex financial analysis is rare, as are in-house experts to perform the analysis.

Small business managers do not talk in terms of vision, mission statements, and long-term goals. They have plans, and they hope that their dreams or wishes for the company's development will be fulfilled. The mission statement, if expressed in words, is aimed at the external stakeholders, rather than at providing the organization with direction for its operations. Short-term goals are set for a very short time, and are similar to scheduling the current production. Many of the small companies have no intention to grow; they are more like defenders, focused on survival, than analyzers, aggressively seeking new markets and new products.

Strategic management theories are likely to be put into practice in large companies, where the strategic and operations levels are separate. The tools for business analysis are created for professional managers who lack the intuition and experience that a third-generation manager in a family business has. All companies have a characteristic way of working in order to remain in business, whether they want to stabilize or grow. In the small companies studied, this way is seldom discussed in terms of strategies, and strategies are seldom formulated, communicated, and related to specific goals. The present and the past *form the way*. The current conditions within the company, industry, and market, and the present, integrated with experiences from the past, determine the company's actions. These actions are aimed at meeting the customer's demand by managing the operations. Without customers, there is no business, but a satisfied customer comes back.

The strategies for the company (corporate) level are not especially *formulated* but, rather, are *formed* by experience, planning, and problem solving at the operations level. The strategies have emerged rather than been deliberated.

Only fragments of the strategic management theories are put to use in the small companies, and hardly any strategic analysis tools are used. Management in small metal job shops is similar to operations management. They do not have formulated strategies, but they have found ways to stabilize, change, and grow.

Strategies are not expressed in words—they just *are.* The small business managers *feel* and *know* the company's direction by the intuition that comes from experience. And no strategy is also a strategy.

Exhibit 2 summarizes the discussion on strategic management in small metal job shops as it relates to the theoretical assumptions.

Lessons Learned

The strategic management processes described in the literature are those observed in very large, global organizations. Therefore, theoretical concepts of "how to do business" are generally based on conditions in very large corporations. This study shows that the theoretical assumptions of strategic management diverge in many ways from what is practiced in small metal job shops.

Because only fragments of the strategic management theories can be identified in these small metal job shops, and hardly any of the available tools for practicing strategic management are used, it would be easy to state that small companies do not analyze business or formulate strategies. In fact, my analysis of small metal job shops and how they are managed, compared with the theoretical assumptions of strategic management, can lead to this conclusion. However, that is not the whole truth.

The strategies used by the small metal job shops in this study are formed by experience and problem solving during day-to-day operations, rather than by complex business analysis. Small companies practice strategic management in a way that is different from that underlying the theoretical assumptions, which are based on observations in large corporations. One can conclude that concepts of strategic management, mainly based on conditions in very large corporations, do not fit small companies.

Most companies in Sweden and the U.S. are small companies, and they play an important role in their respective national economies (NUTEK, 1994; Davidsson et. al, 1996; U.S. Census

Exhibit 2. The strategic management process in small companies

Strategic characteristics	Theoretical assumptions	Practice in small companies
Structure	• Structure supports strategies	• Not of special concern
Management organization	• Board of shareholders • Board of directors–management hierarchy • Professionalism	• Advisory board • One manager • Lifestyle
Analyzing	• Complex analysis, "scientific" tools • Statistical reports • In-house experts	• Know by experience, intuition • Verbal media • Interaction with people, personal network
Direction setting	• Vision, mission statement, long- and short-term goals formulated on corporate level	• Vision and scheduling the current production on operations level
Strategies	• Formulated at strategic management level • Deliberated	• Formed by experience, planning, and problem solving at operations level • Emerged • Adaptation: defenders and reactors
Implementation and control	• Analysis, strategies, and control systems decided at strategic management level to be implemented at operations level	• Strategic management and operations management integrated • Operations management has higher priority • Control systems related to production

Bureau, 1999).

It is important to visualize the structure, management, and production processes in small companies to improve the knowledge and understanding of the small business sector. Further research has to be done to understand the nature of the small firm.

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