
How Can a Health-Care Business Achieve Strategy Elasticity in a Crisis Environment?

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Abstract

This chapter focuses on specific area of entrepreneurship—health-care services. Insufficient commercial business knowledge by the managers of SME health-care businesses and a lack of entrepreneurial skills relative to the medical care industry could also be considered barriers to growth or barriers to survival within a crisis environment. An analysis of the strategic elasticity of small a health-care organisation could help find an answer to the question of how this specialised business segment, with its multi-faceted sources of finance, might deal with challenges from the external environment and what mixture of strategies might they use to achieve their goals. This will allow the organisations to be proactive with regard to market risk and to construct their own model of behaviour under the four pillars of crisis strategic behaviour—marketing, financial, personal and plan of supply of services. This chapter compares the original options of measurement based on modelling with ROC curves and reflects upon the possible problems of applying this option to the context. A detailed analysis of the data suggest the following results—better understanding about health-care management/business and how to strategically guide such businesses in a unique regulatory environment. And answer the question—do physicians make good managers/business-people or would it be better for them to delegate this role to an experienced business manager. From a practitioner perspective, the chapter will give feedback for entrepreneurial effectiveness in this specialized area of commercial activity.

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9.1 Introduction

Over the past decade, the study of business activities has increasingly pursued many diverse areas of exploration. One such area of research considers relationships that occur inside an organization, particularly those between managers and owners who tend to coordinate work and duties. Within this body of research, some would argue that every organization is defined simply as a system that is effective only when, one, it achieves its goals, and, two, it maximises its use of human and other resources at minimum cost (Kast and Rosenzweig 1985). Baptista and Thurik (2007) focus their work on measuring turbulence in an industry based on the birth and exit rates of nascent companies, and found that survival problems arise mostly in the period of the 2–3-year-old company. However, what is not commonly found amongst such studies are details of the influence of the strategic skills of the owner and how a business unit deals with its resources in a changing or turbulent environment. Arguably, one exception is the work of Carree and Thurik (2008), who explain the positive relationship between GDP growth and the dynamics of a company, and highlight evidence of the strong impact of stable capacities (existing companies) to economic growth (GDP) against young, new capabilities. Their study also supported the argument for business development and elasticity improvement within a changing environment. Therefore, in a crisis environment, it is critically important for owner–managers to recognize the significance of strategic flexibility, and this chapter contributes to this understanding by examining how health-care businesses in the Czech Republic can achieve strategic elasticity in a crisis environment.

9.2 Social Entrepreneurship in Context

For centuries, many individuals have committed themselves to improving their communities and to offering a better life for those considered less fortunate. Frequently this has led to the establishment of charities or NPOs whose primary purpose was the enhancement of society. The activity of these individuals has led to the development globally of a significant number of social enterprises and activities from which communities with a wide variety of human needs have benefited. However, their work has not been formally recognized as an act of entrepreneurship because the people who initiated these ventures were not motivated by profit, but by broader social objectives. However, it has been heartening to note in recent times that there is now a greater recognition by society generally of the contribution made by social entrepreneurs to the economy and to the social needs of the country. Many commentators simply view social entrepreneurship as the creation of any NPO, and thereby include the public sector. But social enterprises are significantly different to the public sector, whose organizations are larger, funding comes from government, and the taxpayer is the boss. Social enterprises need to be established in the same way as profit-orientated ventures,

since they need to generate income from a variety of sources, and the risk of bankruptcy and closure is constant. Defining a social enterprise is additionally complicated by its legal status, since the options include charity, trust, cooperative, private company, or public company. The variety of legal and operating structures utilized by social enterprises contributes to the challenge of identifying how many exist and to the deeper understanding of their characteristics.

The process of social entrepreneurship is broadly similar to the traditional concept of starting a new business: the entrepreneur gauges the commitment, develops the infrastructure, generates and screens ideas, conducts feasibility studies, and plans the venture. The social entrepreneur will also establish a new venture team, develop a business plan, and determine sources of finance for the venture. As with entrepreneurship in other contexts, unique characteristics apply, and these peculiar differences must be considered when initiating a social enterprise. For example, social enterprises frequently start from a point of having no assets and are unable to offer collateral for loans, and thus must access a range of non-traditional funds.

Social enterprises will normally operate in complex partnerships with the private and public sector that may have a strong impact upon the developmental path of the organization and issues related to funding. Indeed, income will frequently come from a combination of commercial and non-commercial sources. The principal difference between social entrepreneurship and traditional entrepreneurship is that social enterprises reinvest the surplus income or utilize it for additional social purposes. The motives behind the venture are socially or community driven. A social entrepreneur is an individual who is driven by a social vision; someone who has the leadership skills to operationalize that vision, and who will build something that will grow and endure. Social entrepreneurs build social, aesthetic, and environmental capital, as well as the financial capital required to achieve the primary objectives of the social enterprise. Many of the characteristics of successful social entrepreneurs reflect those of entrepreneurs in the profit-seeking sectors. Some commentators believe that their leadership and personal qualities are similar—that they are equally driven and ambitious, that they have a vision that they can communicate and sell to others, and that they have the capacity to manage with resources. The vision is generally based on an opportunity where current services to the community are weak. The social entrepreneur also needs to build networks and relationships that bring credibility and cooperation to the organization. While social entrepreneurship is normally financially fragile and the risk is high, it is critically important to the development of communities.

As a result of the current economic crises across the globe, many businesses (both for-profit and non-profit) are now seeking to redesign their future strategies. The challenges for some businesses can be far greater than others, dependent upon the size, nature, and industry of the business activity. In the health-care sector, for example, bureaucracy and regulative activities are particular factors that can cause significant delays to any potential strategic changes in business behaviour. Anecdotal evidence would suggest that insufficient commercial business

knowledge by the managers of social enterprises such as health-care SMEs, and a lack of entrepreneurial skills relative to the medical care industry, could also be considered barriers to growth or to survival within a crisis environment. Therefore, an analysis of the strategic elasticity of health-care SMEs could help find an answer to the question of how this specialized social enterprise sector, with its multi-faceted sources of finance, might deal with challenges from the external environment, and what type of strategies might they use to achieve their goals.

Strategic planning in health-care SMEs has a relatively unique position in the business literature. These social enterprises are under political, institutional, and professional pressure regarding how to use their resources (Light 1997; Van Zon and Kommer 1999), while simultaneously other agencies such as governmental institutions and insurance companies maintain a strong influence on their strategic behaviour. These health-care organizations are often criticized for their lack of attention to the factors and signals from the commercial market because of the institutional protection that they enjoy (Oliver 1991). According to Miller (1992), there are three main areas where each business deals with uncertainties: (i) external; (ii) within the sector; and (iii) specific to the organization. Since the health-care manager is an agent of a health-care business and not a passive observer (Stacey et al. 2000), they are required to develop a strategy that will enable the health-care business to emerge and self-organize from their uncertain state (McDaniel and Driebe 2001). This approach can be expanded with the resource-based approach of managing a firm (Barney 1991) by adding components of knowledge to provide strategic flexibility to health-care businesses in the market. This will allow the businesses to be proactive with regard to market risk and to construct their own model of behaviour around the four pillars of crisis strategy—marketing, financial, personal, and plan of supply of services.

In attempting to construct a model of strategic behaviour, a number of challenging questions immediately arise. How can one utilize the fundamental planning pillars within health-care businesses when the behaviour itself is not predictable? What interactions support the dynamics and adaptability of the business in a positive way? Can different types of stakeholders (or other factors such as business age or connections) shed light on developing a better understanding of strategy making in health-care services? The proposed model incorporates dynamic behaviour and the way in which manipulating certain items can alter outcomes in the strategic system in predictable way. As a contribution to the literature, the chapter will highlight who has the greatest influence on the flexibility of the business and which items are the most important for strategy-making when faced with uncertainty and a turbulent environment.

9.3 The Unique Features of Health-Care Services

Entrepreneurship in health-care services can be seen as a very specific area of business activity that introduces a unique set of commercial dimensions (Borovský and Dyntarová 2010). There are many distinctive barriers to entry within the medical market itself, in addition to the classical business start-up procedures for providing professional medical services. One such distinction is that there are two types of companies—state-funded medical entities and the individual small- and medium-sized enterprises. A fundamental problem of doing business and planning strategy can be seen in the perspective of medicine as science and business (Souček and Burian 2006; Arrow 1963), where such peculiarities are highlighted:

- **Conflict between medical science and available resources** It is not easy to balance the provision of services according to patient needs or expectations based on innovation, science, and transfer of research in the area of drugs and procedures, combined with the available financial resources of the health-care provider.
- **Standardization and calculation of services** The service sector by definition deals with problems such as scaling and process-measuring. Any irregularities can cause problems with the appropriate calculation of routine activities as more than 60 % of activities are based on individual care.
- **Business knowledge and management** Health-care is classified under the service sector as a knowledge-intensive service that requires lifelong learning in this field. However, there is substantive evidence that highlights a lack of basic skills regarding business knowledge and management within health facilities.
- **Strong influence of institutions** The first part of influence or lobbying in this business sector comes from pharmaceutical and biomedical companies, offering instrumentation, drug support or testing, and construction companies. The second comprises central institutions that primarily regulate the price policy and health-care business activities, review expertise, and approve processes (national institutes of drug control, national institutes of health), give licences for health insurance companies, and regulate cooperation with the various business entities. The third and last influence is exerted by the patients as recipients of care, seeking high quality at low cost, but who do not necessarily recognize the real cost of their care.

On the other hand, it could be argued that such business units behave as normal enterprises because they have fixed prices for their services, they pay standard wages to their employees, and they pay the market price for goods (medicines, equipment) (Borovský and Dyntarová 2010). When the service is done, after a patient has been through a complicated relationship, the services are then mostly paid by someone else (often a health insurance company), and the provider loses the direct link with the user. The user does not know about the price, and has little opportunity to contribute to discussions regarding the price adequacy. This information is therefore missing from the feedback loop, and it is only available

when a person chooses a service that is not covered by public insurance so they have to pay to the business owner direct.

Besides being an enormous influence on the quality of our life, it is important to note that health-care services differ from all others in three basic perspectives:

- The services must be offered by a professional, knowledgeable provider whom the customer trusts to select the most suitable type of service.
- Customers are in the position of being service recipients who often do not know what they need, and business meetings are influenced by the recommendations of the provider. Initially it is a classic business relationship where customers come for the service. But the customer only chooses the consultant services and assumes responsibility for the final decision, while the provider chooses the service.
- The service provider faces a dilemma, as their answer to the question of whether they should follow their own business interests or the interests of the customer will have an influence on strategy-making.

According to a review of literature that was carried out in advance of the primary research being undertaken, no identifiable study has yet attempted to measure strategic elasticity across economically active units in this branch of the health industry. Neither has anyone attempted to find the answer regarding which parts of strategic planning could be highlighted as key pillars of success under crisis environment within this sector and could be used as accelerators of change in organizational behaviour in trying to simulate the process.

The Czech Republic has a system of Social Health Insurance (SHI) based on compulsory membership of a health insurance fund. The Ministry of Health's chief responsibilities include setting the health-care policy agenda, supervising the health system, and preparing health legislation. The ministry also administers certain health-care institutions and bodies, such as the public health network and the State Institute for Drug Control. Patients are free to choose one of the health insurance funds to pay for their care. Insurance contributions are obligatory, and the amount depends on the individual's wages or income. The majority of expenditure is administered through the SHI system, which is financed through compulsory, wage-based SHI contributions and through state SHI contributions on behalf of certain groups of economically inactive people. Approximately 95 % of primary care services are provided by physicians working in private practice, usually as sole practitioners. Patients register with the primary care physician of their choice, but can switch to a new one every 3 months without restriction. Primary care physicians do not play a true gatekeeping role, as patients are free to obtain care directly from a specialist and do so frequently. Secondary care services in the Czech Republic are offered mainly by private practice specialists, health centres, polyclinics, hospitals, and specialized inpatient facilities (see Appendix 9.1). The health system in the Czech Republic operates with several different methods of payment, as follows:

- SHI with virtually universal membership, funded through compulsory, wage-based SHI contributions.

- Diversity of provision, with ambulatory care providers (mainly private) and hospitals (mainly public) entering into contractual arrangements with the health insurance funds.
- Joint negotiations by key actors on coverage and reimbursement issues, supervised by the Government.

These mechanisms for accessing money are highly complex, and the process can be very difficult for owner–managers of health-care businesses to follow (see Appendix 9.2). This will be dealt with further when analysing the results of the study.

This chapter will utilize measurement options based on factor analysis, and will reflect upon the possible challenges for health-care businesses that subsequently arise. From a practitioner perspective, it will give feedback regarding entrepreneurial effectiveness in this highly specialized area of social enterprise activity. The overall purpose of the research is to examine how a health-care business can achieve strategic elasticity in a crisis environment, and it is the ambition of the research that it will be possible to determine whether measuring elasticity (or its simulation of the phenomenon) in an uncertain environment can confirm or refute commonly cited arguments stating that ‘small and medium sized firms are flexible on changes’ (for example, Galbreath et al. 2004; Carmeli 2004; Krupski 2005; Collins and Porras 2004; Bateman and Crant 1993; Butler and Ewald 2000). Therefore, an analysis of the strategic elasticity of health-care SMEs could help find an answer to the question of how this specialized business sector, with its multi-faceted sources of finance, might deal with challenges from the external environment, and what type of strategies might they use to achieve their goals.

9.4 Research Methods and Results

The study is based on a survey of owners or managers of health-care businesses in the Czech Republic with fewer than 50 employees. A total of 384 valid responses were gathered through personal visits and the completion of a standardized questionnaire, collected from November 2009 to June 2010, and again from September to November 2010, with every health-care entrepreneur having to deal with changes in the market in the intervening period. The questionnaire had three parts: the main reasons for start-up and an evaluation of the current environment (access to finance, cooperation, possible, expansion); the main barriers to closing down the business; and an evaluation of strategy (resources, responsible person, activities). The respondents consisted of private practitioners and operators of small, specialized outpatient clinics such as surgeons, cardiologists, stomatologists (dentists), paediatricians, and physiotherapists. The data was analysed using SPSS and the Slávik–Romanová Model (2005) based on mixture of resources and their effective allocation (Barney 1991).

The analysis is based on data analysis using multidimensional statistical methods in the qualitative research area, using alpha factor analysis. All collected data were processed in SPSS Version 18 for Windows. To get more sophisticated

Table 9.1 Research sample

	Frequency	Valid percentage	Number of people (median)
Nursing and home care	10	2.6	5
General practitioners (GP)	86	22.4	3
Laboratory	3	0.8	4
Specialists	67	17.4	3
Pharmacy	104	27.1	7
Stomatologists	54	14.1	4
Physiotherapists	44	11.5	9
Psychologists	16	4.2	2
Total	384	100.0	

results and to identify dominant tendencies, the applicability of data was examined using Bartlett's test of sphericity with the values of the presented results being under $P < 0.05$. For all of the data, the authors used the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) with a recommended minimum value of 0.6 (Sharma 1996). The distribution of respondents is given in Table 9.1. The surveyed companies were either independents or a part of a clinical chain, so they differ in dependence on demand for service, payment per service (direct or indirect—mostly from insurance), and size. Most of them are, officially, micro-sized organizations, but they often collaborate, especially if they share one building, in which case they appear to customers as a health centre. Informants were chosen randomly, and a personal interview was preferred.

The results from questionnaire were coded using a Likert scale (1–5 for non-numerical data) in order to ensure comparability. Next, the factor analysis was used to obtain groups of elasticity factors (all data inputs had KMO and Bartlett's test value at recommended values). As a supporting analysis, cross-tabs were used to identify significant and non-significant values. The aim of these comparisons was to identify differences in adaptability factors between high- and low-strategy organizations and to explore how specialization in health-care business contexts influences the specific strategic adaptability evident in their behaviour. Finally, ROC curves (Table 9.2) were used to model the relationship between the strategy maker and the elasticity of strategy, generating equations for each sector and other supporting material. It was found that the dominant role in strategy-planning is taken by the owner (mainly a health-care service provider such as a nurse or a doctor), who has a dual position as a professional service provider and a business person.

The plans that they prepare are mainly in non-paper form or simple notes, except for the financial part of the strategy plan, and frequently they do not make a difference between a strategic plan and an operational plan (to ensure elasticity in strategy). They evaluated how often they 'implement' or 'do' changes in the various types of plans (see Table 9.3).

Table 9.2 Who draws up the strategy?

	Frequency	Percent
Owner	262	68.2
Designated manager	30	7.8
Team of specialists	51	13.3
Consultant	41	10.7
Total	384	100.0

At first glance, it would seem that the owner–managers are practically oriented, a form of strategic behaviour that each sector prefers in the market. These results support the idea that customer-relations management in the health-care services is still not common, because the most sensitive group are pharmacies, which have to offer more than drugs prescriptions, as they also sell other goods and give advice. In terms of financial planning, laboratories are the most elastic when it comes to offering support services. They have to create a wide area of work that can be offered to more than one type of medical centre, and they must also be concerned with production planning. Finally, specialists such as surgeons, cardiologists, and others care about their marketing activities, which are mostly targeted at establishing their reputation in the area of specialization. Therefore the effects of the elasticity are greater when businesses are:

- Unsupported by the diagnosis-related group payments (DRG) system.
- Dependent on direct payments and direct relationships with customers.
- Required to be more elastic in a crisis environment.

Therefore businesses offer a wide range of quality-based services to customers where satisfaction is important because of a high level of competition. Indeed, the results of the survey enable further comment to be made about each sector:

- GP units possess a low level of elastic business behaviour as they are typically supported by different funding sources (payments per capita, fixed payments, fixed-price medical fees per visit, payments as per DRG dependent on production).
- Home care services are mostly paid directly, just as with physiotherapy, psychology, and other specialist treatment. However, a high level of competition in these areas gives them the opportunity to behave as a normal business and not be dependent on insurance budgets. But still they are near to being a common-static model. They are in the middle range of elasticity.
- More elastic are dental care providers because they receive direct payments (without support payments per capita), or in other words a medical fee per visit. Their work is manual, so is quite difficult to manage, and they work with rare or new materials, and so they have to manage their time to be more productive.
- Laboratories and pharmacies top the elasticity league because they are dependent on the work of other sectors, and so they develop informal relationships with all participants on the market (GP units, home care services, dental care and others).

Table 9.3 General evaluation of plan elasticity by scale

	Home care	GPs	Laboratory	Specialists	Pharmacy	Stomatologists	Physiotherapists	Psychologists	Common model
Personnel	3.0	4.03	3.00	3.96	2.53	3.83	4.02	3.06	3.81
Finance	2.5	3.06	1.67	3.00	3.65	2.56	2.6	2.63	2.71
Production	2.6	2.63	2.00	2.76	2.9	2.28	2.51	2.31	2.61
Marketing	3.2	4.03	1.67	1.43	2.91	3.67	3.35	2.25	3.43

Time scale (average values) 1 = month, 2 = 3 months, 3 = 6 months, 4 = 12 months, 5 = never

Cooney (2009) finds that successful firms are led by entrepreneurs who are willing to share—they share responsibility, accountability, information, and rewards. The structures of the firms were flat with few managerial layers, and organizational strategy evolves by degrees. Cooney suggests that for a company to grow it must have the freedom to flourish, and in the same way as parents can be overprotective of their children, an entrepreneur must learn to cut the apron strings. The feedback from the survey did not suggest that this was happening, but instead highlighted that the strategy was influenced heavily by the market sector rather than the business philosophy of the entrepreneur.

In addition to the findings detailed above, a number of different methods have been used to obtain further relevant and useful information with which to explore the model to the full.

9.4.1 Cramér's V Coefficients

The formula for the variance of Cramér's V was given by Liebetrau (1983), whereby a coefficient is interpreted as the relationship or level of independence of nominal data in cross-tabs. The values of coefficients describe the dependence on each plan segment. According to these criteria, strong values between 0.7 and 0.9 give the opportunity to predict the evolution of each measurement of elasticity, while values between 0.25 and 0.5 have a significant position in the plan. Table 9.4 highlights where the strengths and weaknesses of the various health-care businesses lie in terms of functional activity.

Equations are often used to evaluate strategy-structure models designed to describe dependent values in strategy behaviour or successful business theories. Bourgeois (1984) utilizes research on managerial choices and strategy proponents reacting to an external environment to build one type of equation, and it has been argued that his evaluation and models were especially developed for industrial organizations (Keeley and Roure 1990). Factor analysis of all dependent variables, without control variables (such as specialization or age of organizational unit), from all data set of the primary data gathered, led to the following formula for strategic plan dynamics under turbulent environments:

$$SP \text{ health-care: } 0.35 * Ma + 0.22 * Pr + 0.11 * Fi + 0.33 * Pe$$

where SP is the strategic plan dynamics in total (how long it takes to change); Ma is the dynamics of the marketing plan (speed/time unit); Pr is the dynamics of the production plan (speed/time unit); Fi is the dynamics of the financial plan (speed/time unit); and Pe is the dynamics the personnel plan (speed/time unit). The accounted weight of each area enables the mean rate of the dynamics of the plan to be measured, as well as the total possible change in planning, and therefore can be used to describe behaviour. The value of dynamics is computed as the weighted value of Cramér's V coefficients (total weight of Ma + Pr + Fi + Pe dynamic coefficients is equal to 1) relevant to the total amount of coefficients, which

Table 9.4 Cramér's V coefficients significance in the plan

Test result variable(s)	Home care	GPs	Specialists	Pharmacy	Stomatologists	Physiotherapist	Psychologists
Personnel (Pe)	0.894	0.338	0.251	0.263	0.228	0.261	0.483
Finance (Fi)	0.856	0.221	0.231	0.281	0.437	0.312	0.542
Production (Pr)	0.721	0.237	0.278	0.157	0.258	0.255	0.428
Marketing (Ma)	0.73	0.268	0.236	0.243	0.298	0.284	0.428

Not used values in grey cells

Table 9.5 Equations for the share of the total sensitivity (1)

Business type	Equation
SP_homecare (4)	$0.28 * Pe + 0.27 * Fi + 0.23 * Pr + 0.23 * Ma$
SP_GP (2)	$0.56 * Pe + 0.44 * Ma$
SP_specialists (2)	$0.47 * Pe + 0.53 * Pr$
SP_pharmacy (2)	$0.48 * Pe + 0.52 * Fi$
SP_stomatology (3)	$0.26 * Pe + 0.44 * Fi + 0.3 * Ma$
SP_physiotherapist (4)	$0.23 * Pe + 0.28 * Fi + 0.23 * Pr + 0.26 * Ma$
SP_psychology (4)	$*Pe + 0.29 * Fi + 0.23 * V + 0.23 * Ma$

where SP is a strategic plan, and grey cells indicate significant positions in the plan

highlights its importance to the total business plan. This could be called the ‘speed of change per unit time’, as it describes the process of adaptation of an organization in the health-care services sector. However, if one uses only variables with strong values of Cramér’s *V* coefficients (see Table 9.5), it could suggest that some plans are not important or lack elasticity. This model supports segmentation according to a first analysis—with the dependence variable being the insurance payments and portfolio of services. Only three sectors behave like classical business units and use all the planning tools, and they prepare their plans with an equal stress on all activities.

The findings present a number of unexpected results. There is a low relationship between the marketing plan and the strategic plan, which suggests that other influences could be the reason for the slight interest in marketing activities. One interpretation could be that if the founder decides to stay in the health-care services, there is more to it than entrepreneurial motivation. The founder may want to continue in this type of service because of her or his special knowledge and the opportunity to provide public support (social enterprise). Such motivations could emphasize how direct and indirect effects influence the success of a strategy:

- 35 % of indirect effects should be seen in the area of marketing activities from the top strategy as a organizational conception (there are ethical reasons for not using marketing tools).
- 65 % of direct effects in the other activities, which provide a majority of the final effect.

Using this equation, it is possible to predict how long it might take to reorganize a health-care service unit. The dynamics of each plan represent Kaplan’s idea (Strnad 2009) of strategic thinking and continual evaluation. If the revision of each plan is made monthly, the dynamic is 1 month and the final dynamic of an organization is 1 month. If one agrees with the ethical argument of the non-use of marketing in health-care services, then the coefficient influence would be zero and the speed would be 3 weeks. The cooperative influence between these three plans therefore brings a fastest effect of change.

According to the analysis of the research, only three sectors behave as classical business units and use all planning tools (nursing and homecare, psychologists, physiotherapists), as they prepare their plans with an equal stress on all activities. Compared with a general elasticity model, only two specialisms bear much similarity to it. This is why it is so important to examine each sector separately, because a general model seems to be inappropriate, due primarily to different sources of service financing by each sector. These three health-care specialisms represent more than primary care service. All of them need patient participation and cooperation because of the long-term nature of the treatments, mainly paid for by patients. Having adopted a customer-relations management approach, these businesses have to improve their entrepreneurial skills and build strategic foundations if they are to run a sustainable business, mainly with good reputation as the best marketing tool. The second group, formed only from stomatology units (dentists), behave quite differently from others because direct payments outweigh indirect payments from insurance companies, and so they prefer to provide out-of-pocket services. They connect their financial plan with their planned services for the coming period, because their quota of service supply is not under the regulation of insurance companies as in the case of specialists or general practitioners. The third group is not so homogenous, but use only two of four planning tools. The same factor for strategic success and sustainability is the personnel plan and leadership. It means that nearly 50 % of success, or strategic hazard, they see in personnel planning failure. Pharmacies serve as sub-suppliers to general practitioners and specialists, so they prefer to plan their financial amounts (some services are directly paid, but the main drugs are still paid for by insurance companies). Specialists are paid per service, so they prefer this approach when planning. GPs receive mixed payments (per capita for registered patients and per service), so they care about their reputation and include their role as a 'family doctor'. By an approximation of these equations it could be possible to improve the general model to be more realistic (with gaps in strategy-planning tools):

$$\text{SP health-care: } 0.36 \text{ Pe} + 0.36 \text{ Fi} + 0.31 \text{ Pr} + 0.3 \text{ Ma.}$$

By accounting for every coefficient, and evaluating all plans as a whole, a modified structure can be obtained:

$$\text{SP health-care : } 0.36 \text{ Pe} + 0.26 \text{ Fi} + 0.17 \text{ Pr} + 0.21 \text{ Ma.}$$

Hamel (2009) took receiver operating characteristic (ROC) curves from medicine and biochemistry and applied them to business, finding them useful to test, classify, and identify which components of strategy are really connected with the external environment and which with the strategic behaviour of a business unit. The ROC curve is derived from cross-tabs, and so is connected to Cramér's V coefficient. ROC curves were originally used to visually explain optimal operating points for signal discriminators (Egan 1975). The ranking values are typically normalized to values between 0 and 1, the left part of the curve represents the behaviour of the

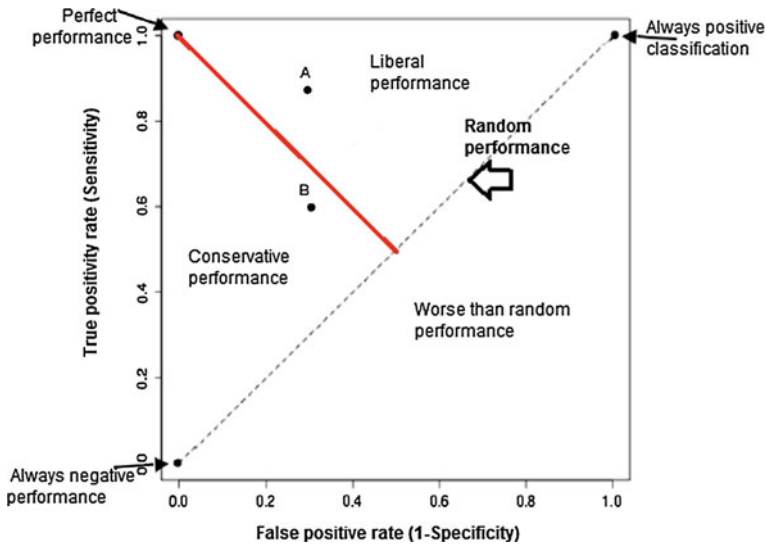


Fig. 9.1 ROC curves. Note: A = better performance, more suitable to model than B. *Source* Hamel (2009, p. 7)

Table 9.6 AUC based on strategy preparation

	Owner	Manager	Team of specialists	Consultants
Personnel	0.609	0.384	0.373	0.491
Finance	0.505	0.486	0.496	0.503
Production	0.507	0.525	0.474	0.497
Marketing	0.578	0.426	0.389	0.512

model over high decision thresholds (conservative), and the right part of the curve represents the behaviour of the model under lower decision thresholds. ROC curves (see Fig. 9.1) here were computed for each sector to describe different behaviour (see Appendix 9.1) in order to compare two stages of business behaviour—planning and implementation. The resultant area under curve (AUC—see Table 9.6) explains the significant parts of the plan that lead to success.

In testing the behaviour of each sector, it was found that the implementation stage was quite different to that expected. All planning resources are prepared as equal partners for success, but after comparison, preferences were changed (see Table 9.7).

There is a general consensus in the literature that in a business context two primary benefits arise from the application of strategy. First, it assists organizations to achieve superior performance and a competitive advantage over rival firms, an argument that has resulted in a significant volume of literature, including the work of Thompson and Strickland (1987), who state that strategic planning can significantly affect the future performance and growth of the company (see also Mintzberg and

Table 9.7 Implementation stage

	Home care	GP	Laboratory	Specialists	Pharmacy	Stomatologists	Physiotherapists	Psychologists
Personnel	0.329	0.579	0.218	0.546	0.422	0.546	0.534	0.314
Finance	0.455	0.588	0.264	0.564	0.437	0.460	0.464	0.480
Production	0.502	0.493	0.374	0.522	0.565	0.421	0.476	0.450
Marketing	0.472	0.657	0.173	0.570	0.342	0.571	0.483	0.254

Note that the deviations are in grey; only specialists are in the same position without deviations

Quinn 1991; Johnson and Scholes 1999; De Wit and Meyer 2005). Second, it helps organizations cope with change (see also Miller and Friesen 1978; Liedtka and Rosenblum 1996; Murray and O'Driscoll 1996; Porter 1996; Pettigrew 2001). However these two points should not be perceived to be mutually exclusive as there is an interactive relationship between the two functions (Barney 2002). The message here is that the application of strategy within the business paradigm is essential to the potential future success and growth of organizations and ultimately of economic growth itself. Anecdotally, this perspective on the application of strategy in a business environment is something agreed upon by health-care practitioners.

9.5 Conclusion

It has been found that all variables must be taken into account to achieve strategic goals. Each dynamics measurement must explain the internal and external validity of its results. In many cases it may bring about greater internal validity for the research sample, but another phase of the experiment is still needed to be able to generalize about this model. The internal validity is significant for the first phase and first conclusions, and provides an opportunity to develop the idea. But on the other hand, this approach brings problems with the strategic prognosis using only internal valid models in another type of company. Another dilemma could be called the 'socially desired effect' (Green 1977), where different ideas are not presented because they do not encompass normally used methods or strategy elements. This could cause future problems with strategy development and dynamics: the consequential time delay could cause more behavioural change, and might well have an impact on the final effectiveness. Learning must be customized to the circumstances of each organization and the work it conducts; it was the reason why the same approach was used to describe the effect of behaviour:

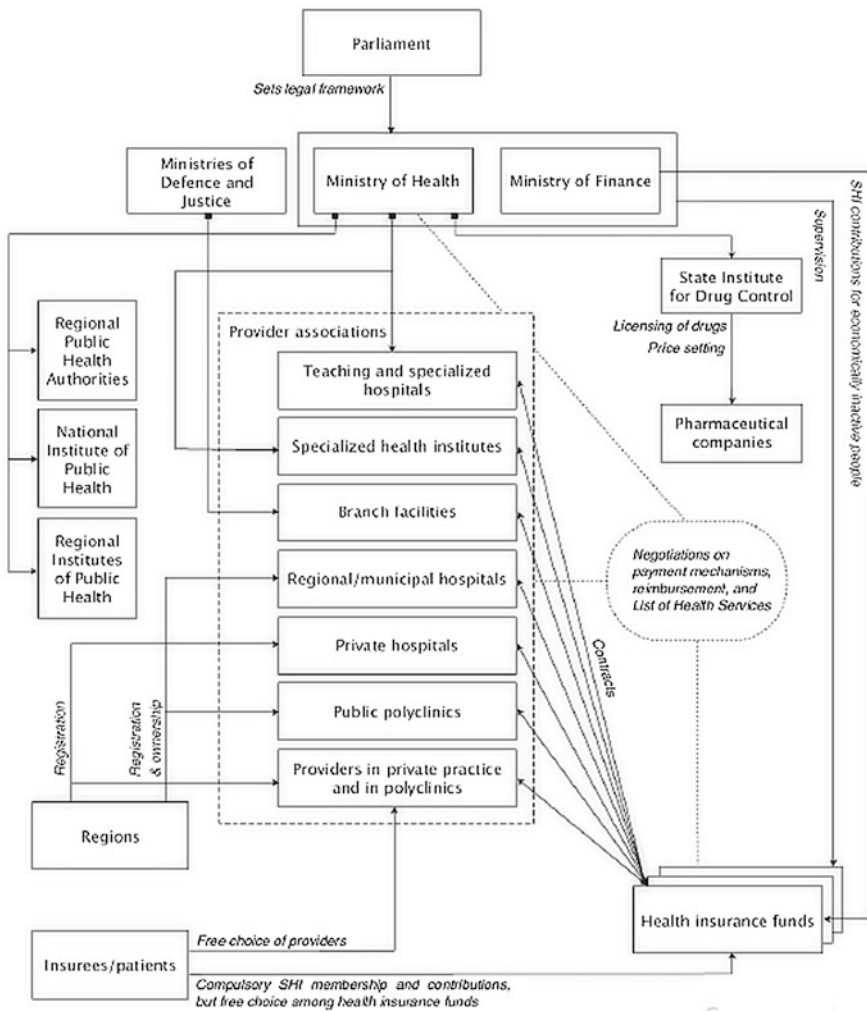
- Sleeper effect (delay of impact)—if the effect is measured only as the difference before and after the change process and the final effect could be greater because of the re-engineering of the main process, new activities, and innovations. This approach was used as a model for factors influencing strategic behaviour.
- Backsliding effect (decay of impact)—if the dynamics are measured after the project, as an ongoing process, so the different strategic behaviour within the plan and the final effect is near zero.
- Trigger effect (borrowing from the future)—businesses are prepared for some problems due to their business areas and internal and external procedures, and so they improve their leadership, strategy, and goals. It appears to be similar for business plan preparation according to market analysis, price analysis, customer analysis, and other factors.
- Historical effect (adjusting for secular trends)—for the compilation of strategy dynamic, businesses use customer segmentation and price diversification to spread the risk. It is practical to first see the partial effect of dynamic decision-

making on observed groups and after that it should be used as a strategy as a whole.

- Contrast effect (treatment effect)—the plan and the implementation do not come together in the future.

The differences in responding to the business environment and the self-interest of companies bring about constraints on being dynamic. For many companies, the main goal for their future is not innovation, but merely survival.

Appendix 9.1 Organizational Structure of the Czech Health System



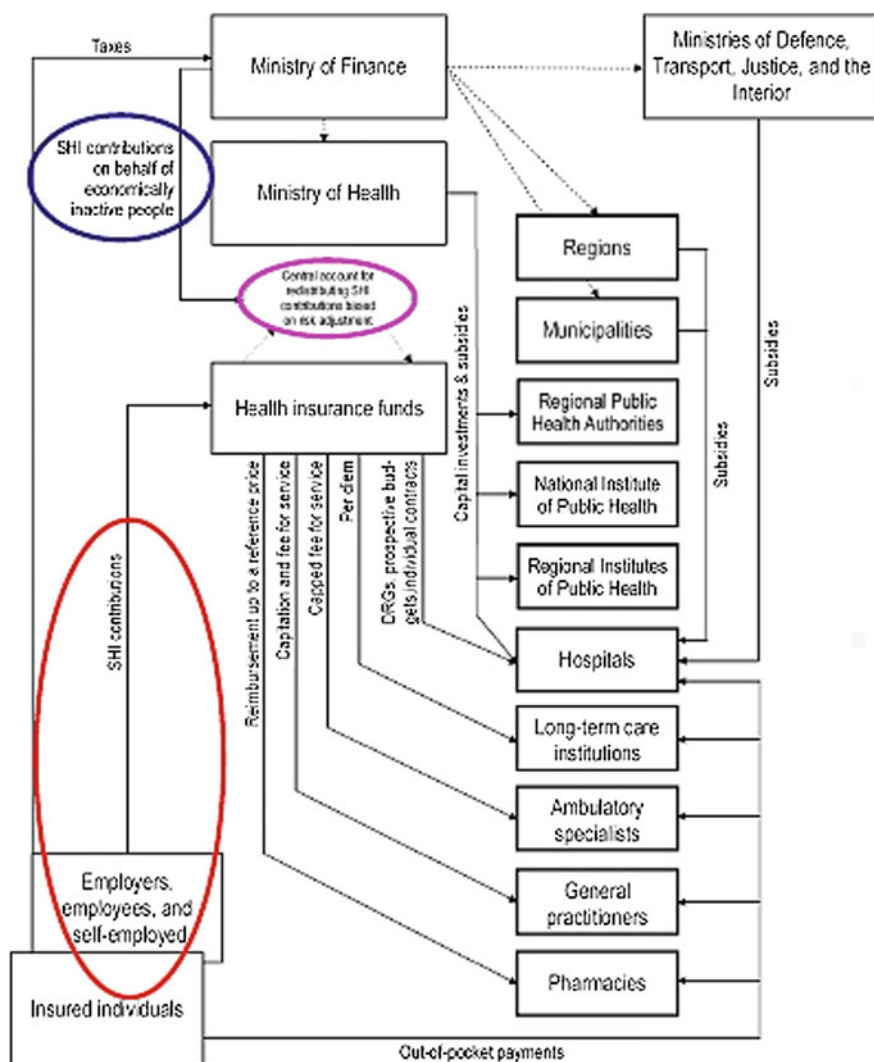
Notes: Branch facilities are health-care facilities that serve employees of the respective ministry, as well as soldiers and prisoners, but are sometimes open to other individuals as well.

SHI: Social health insurance.

An arrow with a square indicates that a health-care facility or institution is directly subordinate to the respective ministry.

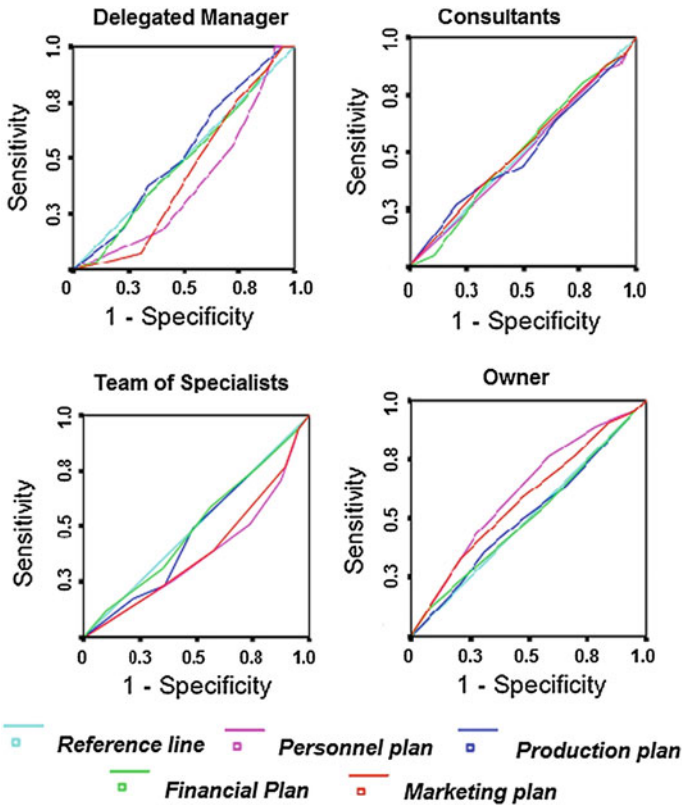
Source: Bryndová et al. (2009, p. 14).

Appendix 9.2 Overview of Financial Flows in the Czech Health System

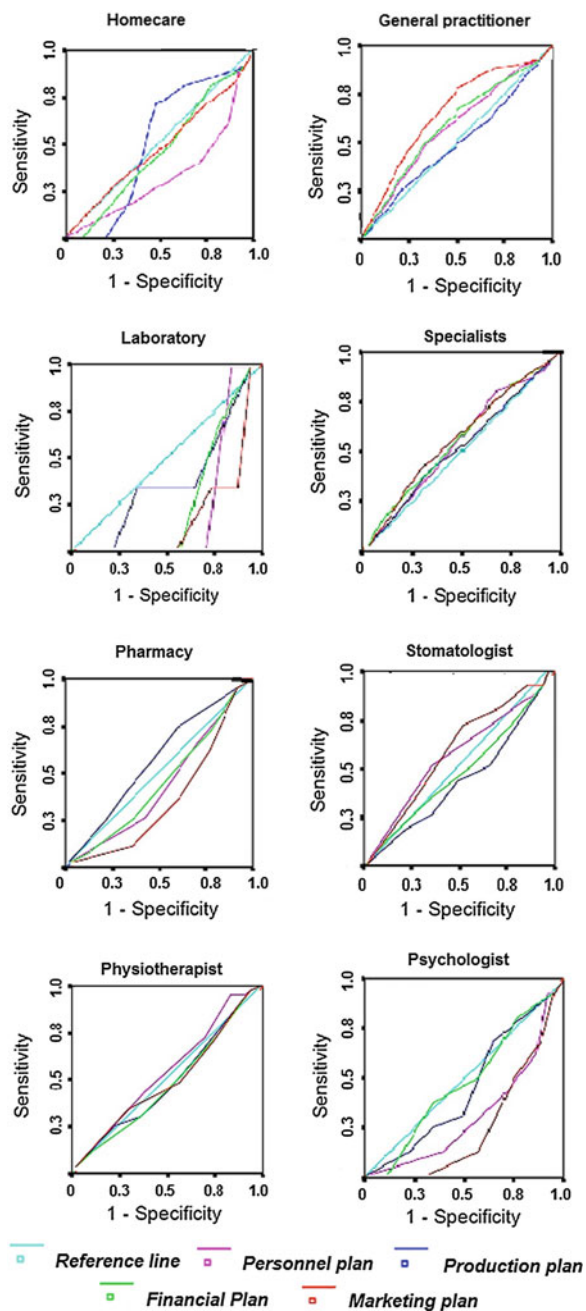


Notes: SHI: Social health insurance.
GP: General practitioner.
OOP: Out-of-pocket (payment).
DRG: Diagnosis-related group payments.
Source: Bryndová et al. (2009, p. 28).

Appendix 9.3 ROC Curves and Strategy-Planning



Appendix 9.4 ROC Curves and Specialization Remastered



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