

6. Studies on the role of intrapreneurship and on the role model

The empirical study in this chapter looks at the role of intrapreneurship and the implementation of the developed role model in a number of technology companies operating globally. It also describes the resulting consequences outlined in five elements for development and strengthening entrepreneurial orientation to synthesize the findings of the study. In line with Cooper and Schindler (2010:80-99), a methodical research design has been selected with which it is possible, in a global business environment, to reflect in company practice the three central tasks of an entrepreneurial organisation and the role model of an entrepreneurial organisation developed in the synthesis (chapter 5). The role model can help to examine the entrepreneurial orientation of the organisations surveyed, taking their environments into account, and to consider the five roles of an entrepreneurial organisation for implementation of the three central entrepreneurial tasks in the light of what happens in practice.

The starting point of the study is a management dilemma characterised by the fact that companies have to continuously and systematically identify and process opportunities and risks in an increasingly dynamic and complex business environment. Ever more internal and external adaptations to changes in the environment have to be proactively initiated and entrepreneurial decisions that are necessary for long-term viability have to be taken, keeping in mind products, markets and technology. In order for the required decentralised decisions to be effective for the good of the whole organisation, it is not enough for only strategy and the business environment to be developed coherently, the same has to happen with the organisation culture and the organisation architecture. The individual interests of the individual actors have to be in tune with the objectives of organisation. In order to resolve the management dilemma, organisations have to fulfil in practice the three central tasks of an entrepreneurial organisation derived from the literature study in chapter 3 and which are analysed in general terms in chapter 4. The management question that follows is; how can the necessary entrepreneurial orientation of the whole organisation be attained? In response to this question, the role model in interaction with the external business environment can provide the necessary orientation.

6. Studies on the role of intrapreneurship

For holistic intrapreneurship, organisations must design the five roles using division of labour such that the three central tasks of an entrepreneurial organisation are realised in a focused way and in interaction with the business environment. Entrepreneurial information gathering, shaping of the future and entrepreneurial organisation design must be fulfilled interactively in such a way that the viability of the entrepreneurial organisation is permanent. The theoretical findings developed in chapters 3 to 5 and which were compacted into the role model of an entrepreneurial organisation, are used in the empirical study to ascertain some indicators on the role of intrapreneurship and implementation of the role model as an indicator for holistic entrepreneurial orientation in practice.

The empirical research design that was conceived and implemented for this relates to three consciously selected random samples and contains three studies of the implementation of intrapreneurship in technology companies in the Bodensee-Oberschwaben region of southern Germany (see Appendix A.4). As a convenience sample⁴⁶⁹ (see Cooper and Schindler 1998:245) for the first (quantitative) study, 100 managers from various management levels in 50 different technology companies were selected; they are or were all following a general management course (MBA). This sample was chosen because the participants' companies represent a cross-section of technology companies in the Bodensee-Oberschwaben region. The survey was carried out in two stages. As a convenience sample for the second (quantitative) study, 75 managers and employees from a highly-innovative company in the Bodensee-Oberschwaben region were surveyed (as a reference group), these representing a cross-section of employees with management and project responsibilities in the organisation. The convenience sample for the third (qualitative) study consisted of twenty managers from technology companies in the Bodensee-Oberschwaben region.

⁴⁶⁹ The empirical research on the role of intrapreneurship in companies is sensible. Thus, the research design was chosen to study the role of intrapreneurship and to identify deficits in implementation of the developed role model (see chapter 5.1) in a specific (cultural) context and on an aggregated level (see chapter 6.1 and chapter 6.2.). Chapter 6.3 explores (also on an aggregated level) how companies in the Bodensee-Oberschwaben region implement the five roles of the role model. Further case study research can complement this pioneering (more general) study using the new role model to investigate how entrepreneurial organisations implement the role model in detail and what can be learnt from best practices. Since the author of the study is a member of the MBA programme management board, it was possible to use this sample for the study on an aggregated level.

6. Studies on the role of intrapreneurship

The managers represent the spheres of strategic personnel and company development in their organisation. The organisations surveyed are members of the programme advisory board for continuing education at the Ravensburg-Weingarten University. Data collection in the first and second studies was via a written questionnaire with a rating scale (1 – yes, full agreement to 5 – no agreement), for the sample with managers and employees from various technology companies was done by e-mail survey⁴⁷⁰, and in the sample of managers staff in an innovative technology company (reference group), the data was collected personally. Data collection for the third (exploratory) study (experts survey for implementation of the role model) was done using a questionnaire and interview guidelines. Data recording and analysis providing a basis for survey evaluation was achieved using the *inkidu* electronic survey system from the Ravensburg-Weingarten University.

The empirical studies in the Bodensee-Oberschwaben region give some important indications on the role of intrapreneurship and implementation of the role model. The specific design of the role model and thus for the design of the entrepreneurial division of labour, must be company-specific in each individual case and must take each respective context into consideration (especially the cultural ones). Chapter 6.1 shows how far the intrapreneurship concept presented here and an entrepreneurial orientation of technology companies in the Bodensee-Oberschwaben region are already in place with the purpose of resolving the management dilemma originating from entrepreneurial interaction with the business environment and achieving the long-term viability of the organisation. The evaluation of the reference group of managers and project workers in a highly innovative technology company in chapter 6.2 gives some additional insights. On the basis of the experts survey with managers from successful technology companies (via qualitative data analysis), chapter 6.3 outlines how the role model can be implemented in practice. The findings from the empirical studies place the five roles of intrapreneurship in the proactive adaptation of the organisation to changed framework conditions into a practical context and lead to further interesting and continuing company research projects for the implementation of the role model in specific contexts.

⁴⁷⁰ The e-mail survey method was chosen because there was already a permanent internet-based exchange with the sample participants and the appropriate contact details were already available.

6. Studies on the role of intrapreneurship

6.1 Study on the role of intrapreneurship in technology companies

In the written survey⁴⁷¹ (first study), various aspects of the entrepreneurial orientation (Pinchot 1988, Wunderer 2006) of and in technology companies from the Bodensee-Oberschwaben region are examined. There is an investigation of whether and in what form intrapreneurship plays a part in the companies studied. It is explored how far the characteristics of an entrepreneurial organisation already exist in the companies surveyed and what potential obstacles to intrapreneurship are present.

This provides hints on implementing the three central tasks of entrepreneurial information gathering, and shaping of the future and the organisation. In all the figures in this chapter m indicates the mean Likert score, s is the standard deviation and n indicates the sample size for the relevant questions.

With the help of the role model, the implementation of the five manager roles is considered. In the literature there is often a distinction between elite and collective intrapreneurship. It ensues from the survey that there is often employee potential for elite intrapreneurship. Individual intrapreneurs receive little support, however, from the organisations (see figure 116).

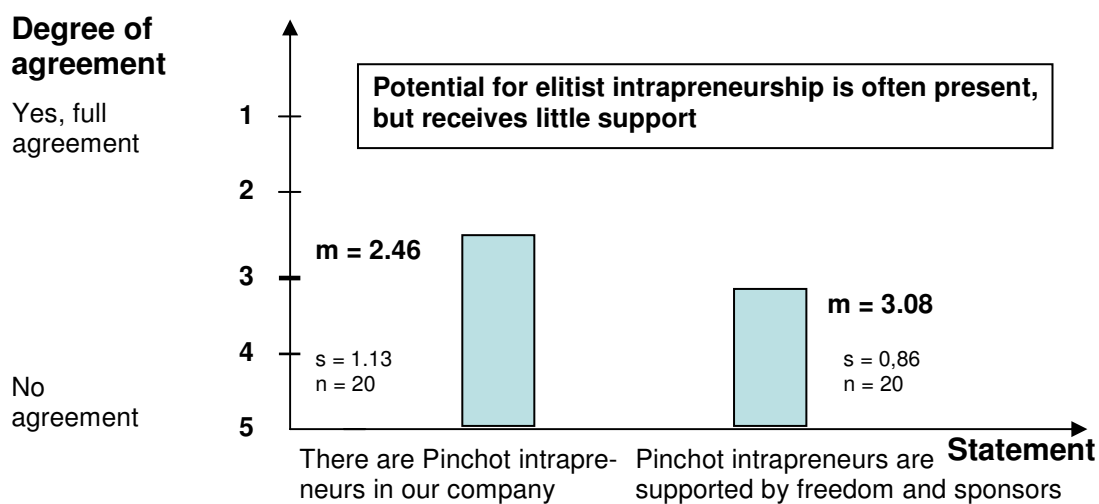


Figure 116: Potential of Pinchot intrapreneurs and degree of support in global technology companies in Bodensee-Oberschwaben region

⁴⁷¹ The response rate is 20 % (sample: $n = 20$). The values in the figures show the mean (m : arithmetic average). The average standard deviation (s) is 1.08.

6. Studies on the role of intrapreneurship

Managers in the technology companies in the Bodensee-Oberschwaben region are required to have an entrepreneurial orientation. However, it emerges from the survey that intrapreneurship at the level of managers is only rarely achieved. A basic entrepreneurial orientation is also expected from the employees but is rarely achieved. A lack of support for intrapreneurship by organisations certainly gives a clue of what is an important reason for this discrepancy (see figure 117).

Degree of agreement

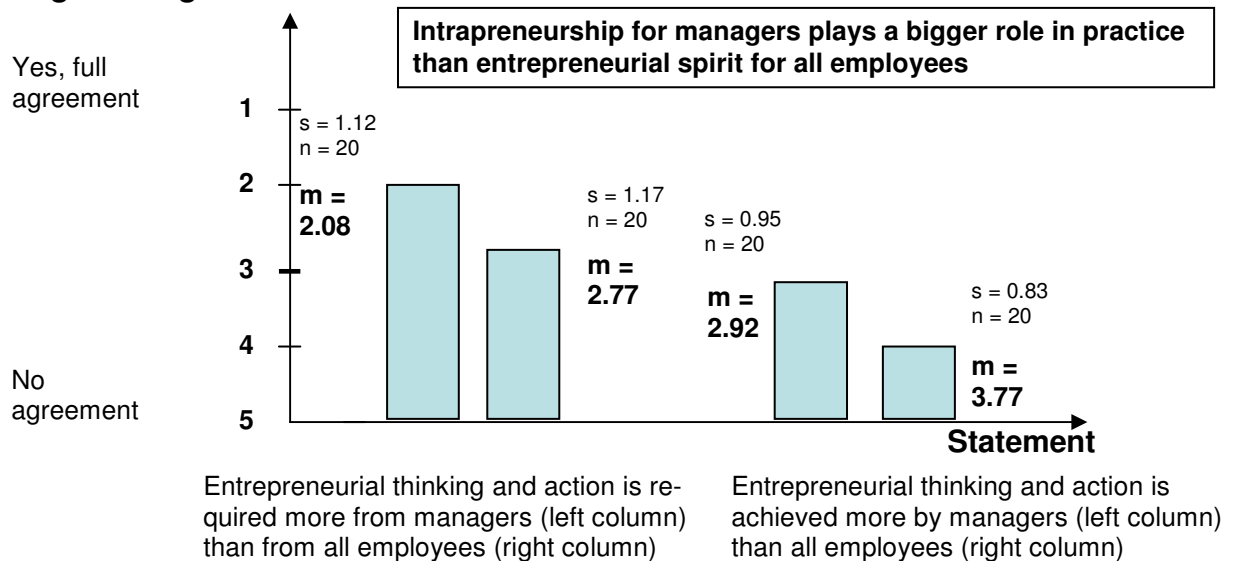


Figure 117: Elitist versus collective intrapreneurship in global technology companies in the Bodensee-Oberschwaben region

Thus, figure 117 gives compact information about the discrepancy between the required and achieved entrepreneurial orientation of managers and employees and makes it easy to see that entrepreneurial managers should play an important role in building and developing an entrepreneurial organisation. Entrepreneurial action as a community task attracts less agreement than intrapreneurship driven by managers (see figures 118 and 119). This is strengthened by the fact that managers only lend support to the entrepreneurial orientation of their employees to a minor degree (see figure 118).

6. Studies on the role of intrapreneurship

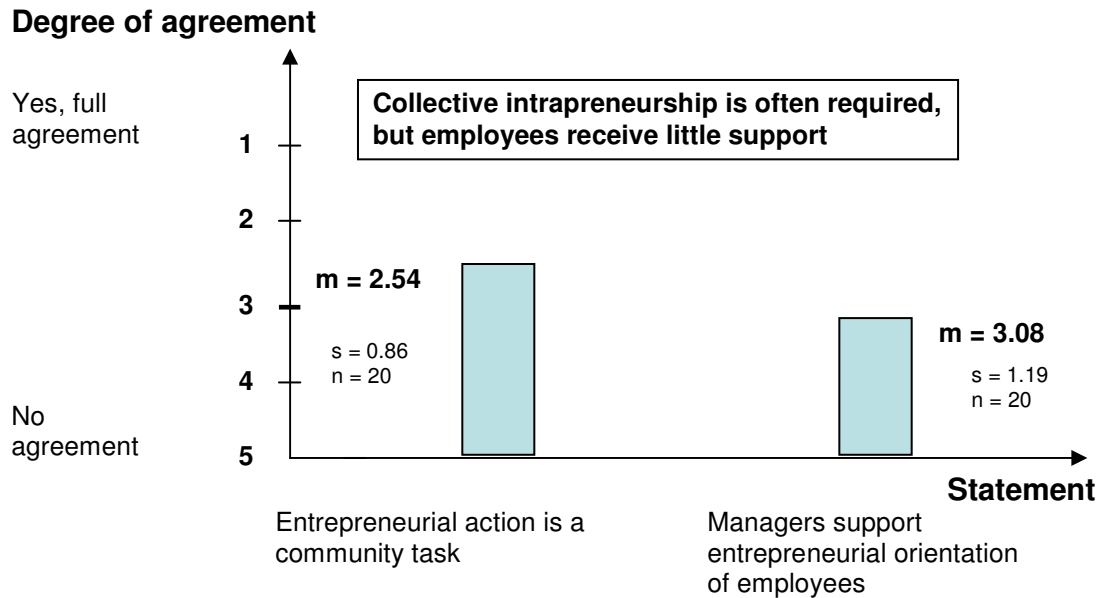


Figure 118: Entrepreneurial action as community task in global technology companies in the Bodensee-Oberschwaben region

It is possible to derive here ten characteristics of an entrepreneurial organisation from the literature study in chapter 3⁴⁷². As part of the empirical study, the managers surveyed evaluated their organisation against these ten characteristics, which implicitly include the three entrepreneurial tasks and five roles of an entrepreneurial organisation. Thus, these ten characteristics can serve as indicators of entrepreneurial orientation. The survey shows that, overall, there is only a low level of entrepreneurial orientation in the technology companies from the Bodensee-Oberschwaben region (see figure 119). The ten characteristics can be assigned to the three entrepreneurial tasks (see chapter 4) and to the role model (see chapter 5) in order to derive from the survey some implications on the role of intrapreneurship.

⁴⁷² These characteristics are not directly related to the theoretical analysis in chapter 4 or the model building in chapter 5. They follow on from a reflection on the description of intrapreneurship in the literature (see chapter 3 and the appendix). The first and second empirical study is realised in parallel to the theoretical research process in chapters 4 and 5. This make it possible to enrich the theoretical (see the derived five elements for the development and strengthening of a vital entrepreneurial learning organisation in chapter 6.4) and empirical research process (see qualitative exploration on the role model in chapter 6.3).

6. Studies on the role of intrapreneurship

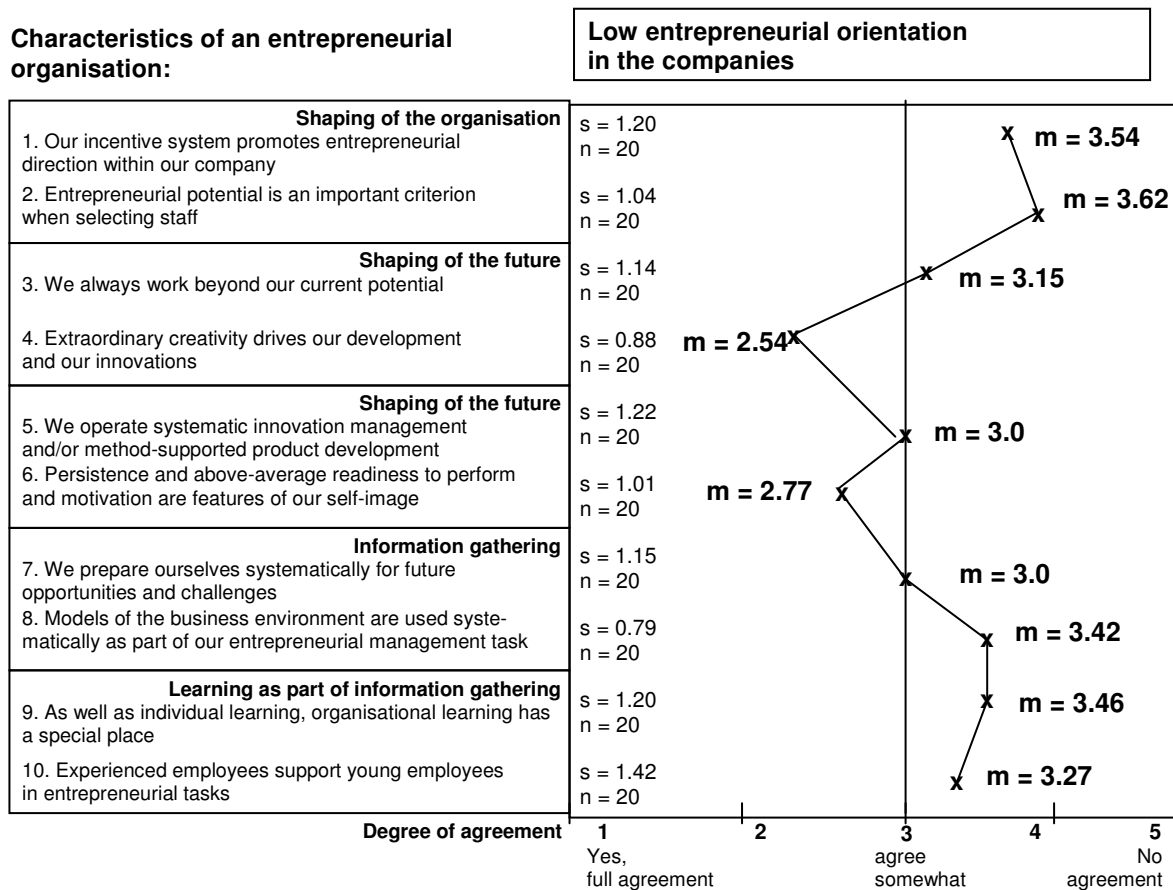


Figure 119: Entrepreneurial profile of global technology companies in the Bodensee-Oberschwaben region

Where the task of entrepreneurial shaping of the future (corresponding characteristics 3,4,5,6) is properly carried out in relative terms, there is inadequate outward orientation in the process of entrepreneurial information gathering (corresponding characteristics 7,8) and inadequate entrepreneurial organisation design (corresponding characteristics 1,2,9,10). Thus, the foundations for entrepreneurial shaping of the future and for an organisational *fit* between the three central entrepreneurial tasks are lacking. With regard to the role model, it is clear that the perception of the roles of idea finder and idea implementer (corresponding characteristics 4, 5, 6) and the role of entrepreneurial manager in existing businesses (corresponding characteristics 3, 6) is still relatively well rated. The roles of knowledge manager for opportunities and threats (corresponding characteristics 7, 8) and, in particular, the synergy manager (corresponding characteristics 1, 2, 9, 10) are inadequately applied, according to the study. This implicitly derived conclusions are to a large extent confirmed by the explicit monitoring in the survey (see figure 120) subsequent to implementation of the five roles of the entrepreneurial organisation.

6. Studies on the role of intrapreneurship

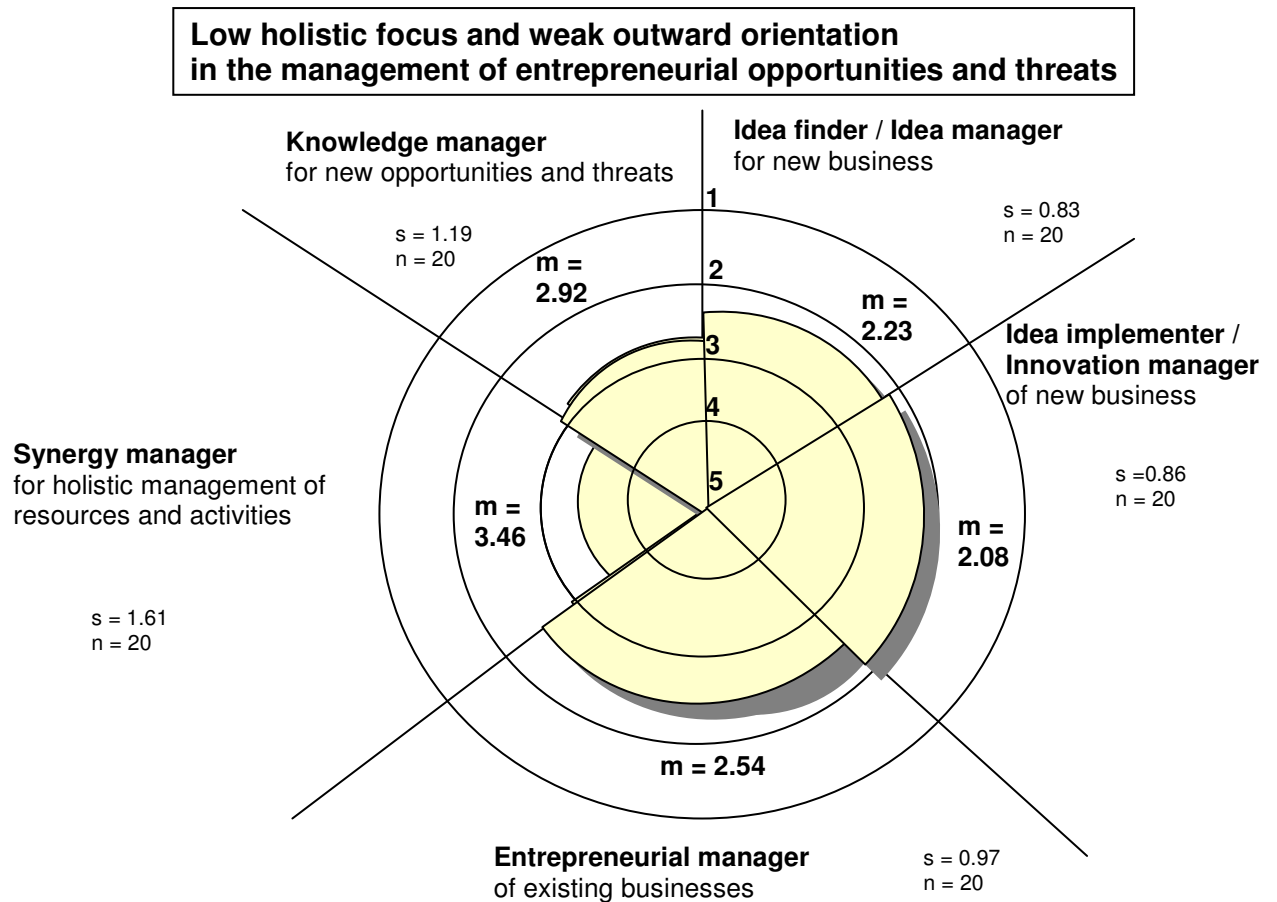


Figure 120: Manager roles in intrapreneurship system: Entrepreneurial profile of globally active technology companies in the Bodensee-Oberschwaben region

The study thus documents a management dilemma. The company particularly requires entrepreneurial orientation from its managers. This, however, was not achieved. Furthermore, managers only demand entrepreneurial orientation from their employees to a minor extent. It is, therefore, clear that as well as an inadequate structural organisation design, people management is not applied in a particularly supportive way in terms of attaining an entrepreneurial orientation in the company.

In the survey (see figure 121), it was possible to highlight three structural constraints. To some degree, the organisations are constrained by bureaucratic structures and lack of incentive in their entrepreneurial development. Inadequate definition of responsibilities and accountabilities was named as the biggest constraint. The exit of particularly entrepreneurial employees to start their own businesses was not a main issue.

6. Studies on the role of intrapreneurship

Characteristics of lack of support for intrapreneurship:

No support for intrapreneurship via structural design

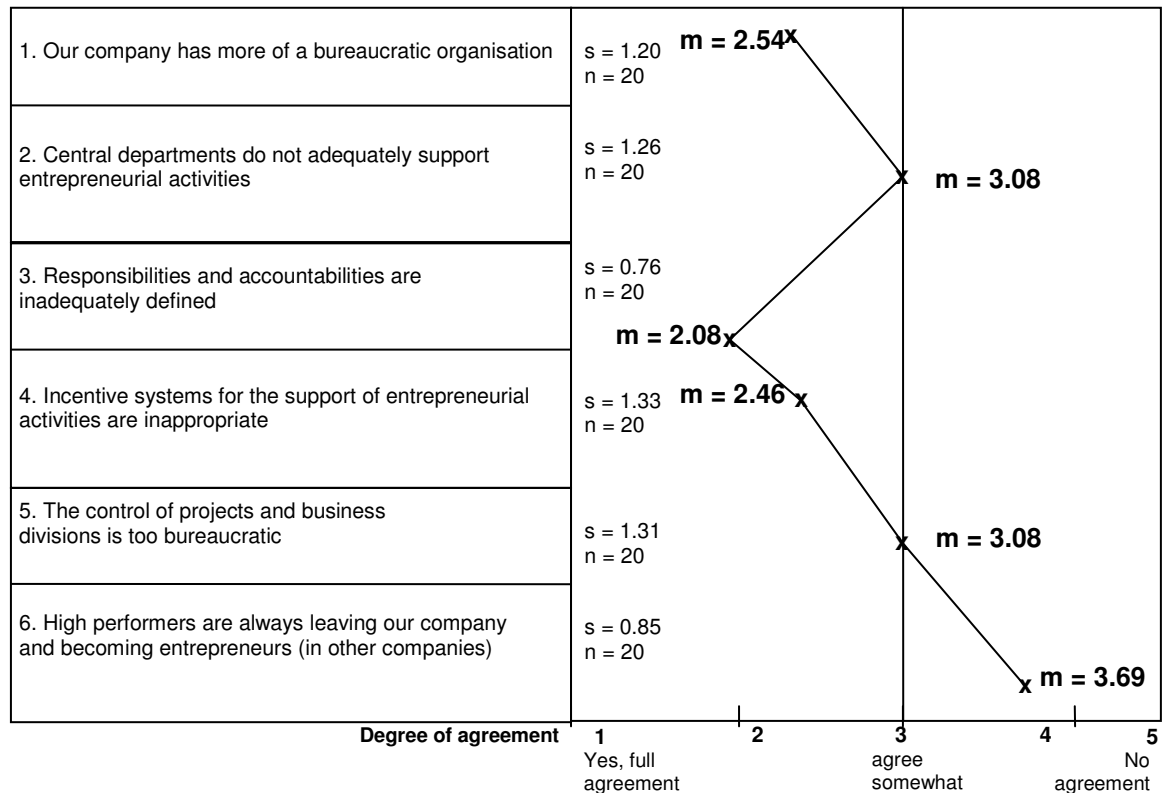


Figure 121: Structural constraints for entrepreneurial thinking and action in globally active technology companies in the Bodensee-Oberschwaben region

In view of the poor implementation of the synergy manager role, the frequent lack of incentive and the inadequate design of the division of tasks as constraints on the road to a stronger entrepreneurial orientation, entrepreneurial arrangement of cooperation within the organisation can be identified as a central field of action for the technology companies in the Bodensee-Oberschwaben region.

Within this, the creation of a culture of cooperation has to take a major role in order to support the development of an adaptable, entrepreneurial culture. Since the technology companies in the Bodensee-Oberschwaben region particularly require an entrepreneurial orientation from their managers, the individual entrepreneurial potential of managers, as well organisation design and leadership, moves into focus as a necessary requirement for an entrepreneurial management orientation (see also figure 122).

6. Studies on the role of intrapreneurship

Characteristics of intrapreneurs according to Pinchot:

High potential for intrapreneurship as per Pinchot

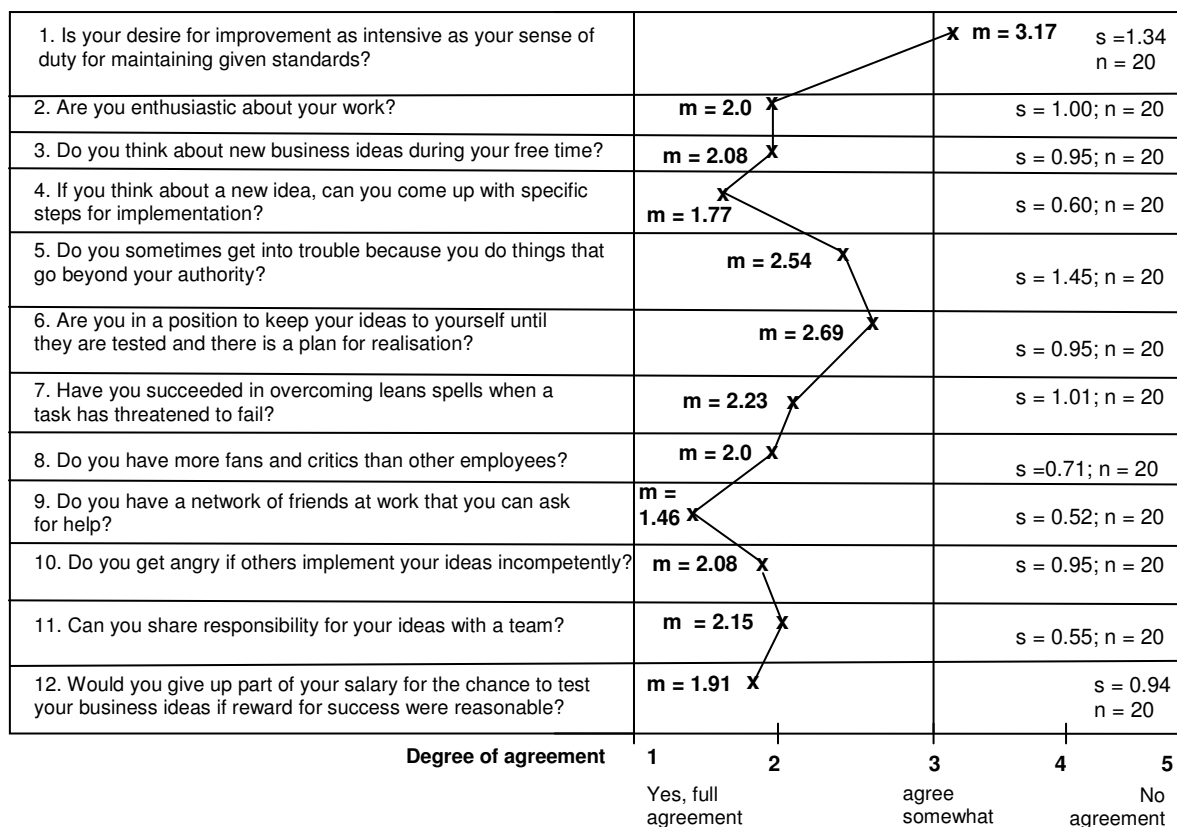


Figure 122: Intrapreneurs as per Pinchot (1988) working for globally active technology companies in the Bodensee-Oberschwaben region

The survey results suggest that there is a high entrepreneurial orientation amongst managers in the companies surveyed and that, with a balanced arrangement of the intrapreneurship system with clear rules of cooperation, it would be possible to achieve an entrepreneurial orientation across the whole organisation. Thus, as a result of the culture, it would be more appropriate to consider an individualistic foundation with entrepreneurial managers as drivers of entrepreneurial activities as well as integrating employees for the reinforcement of an entrepreneurial orientation of the organisation as a whole; the implementation of the five roles of the entrepreneurial organisation would be achieved by a division of labour approach. Equally, taking the low level of outward orientation into account, the development of a strong cooperative and outward looking orientation in the actors appears to be the core field of entrepreneurial culture design to supplement the country-specific cultural features (see Phatak, Bhagat and Kashlak 2009)⁴⁷³.

⁴⁷³ The culture-related orientations identified match the theoretical concepts and stylised facts on the classification of cultural differences in various world regions examined in chapter 3.2.1.3.

6. Studies on the role of intrapreneurship

Thanks to this, the entrepreneurial organisation is able to perform the three central entrepreneurial tasks for securing long-term viability successfully and continuously. The study shows that there is a little unexploited potential for elitist intrapreneurship in the technology companies in the Bodensee-Oberschwaben region and also that the actors have a low degree of outward orientation⁴⁷⁴. What is more, collective intrapreneurship is barely achieved - even if it is often desired - and thus overall, there is a low level of entrepreneurial orientation amongst the companies studied. A look at the role model makes it clear that the missing entrepreneurial orientation could bring significant problems in the future. In an increasingly dynamic and networked internal and external business environment, the role of *knowledge manager for new opportunities and threats* and that of *synergies manager* are taking on increasing significance.

It becomes clear, however, that the organisations of the sample have currently the biggest deficits in terms of a holistic entrepreneurial orientation. In particular, a systematic outward orientation has to be combined with entrepreneurial initiatives. This theme defines what will become important scientific and practical research areas in the future. Against this background, and as a direct consequence of the empirical study, chapter 6.4 shows a concept with five elements to develop a vital entrepreneurial learning organisation. In the chapter directly following this chapter (6.2), there is a second empirical study on the role of intrapreneurship in a highly innovative technology company which aims to examine whether the basic findings of the first study can be confirmed and whether approaches for the development of an entrepreneurial orientation can be identified now.

An experts' survey in chapter 6.3 rounds off this look at the role of intrapreneurship in technology companies in the Bodensee-Oberschwaben region. Future research in other regions, particularly in the various international economic regions, can uncover important cross-cultural implications for the practical implementation of the holistic concept for intrapreneurship in specific contexts presented here.

⁴⁷⁴ This aspect matches with the general cultural expectations according to Trompenaars and Hampden-Turner (1998) according to which, one can expect a strong individualistic characteristic in combination with a strong inward orientation in the above cultural context.

6. Studies on the role of intrapreneurship

6.2 Intrapreneurship in an innovative technology company

In the second empirical study⁴⁷⁵, 75 managers and project workers in a highly innovative company⁴⁷⁶ in the Bodensee-Oberschwaben region were asked about the role of intrapreneurship as a bench mark (reference group). Data collection was via a written survey using a questionnaire with a rating scale (1 – full agreement to 5 – no agreement). The questioning of this reference group confirms, to a large extent, the findings of the baseline study in chapter 6.1: There exists a basic potential for elitist intrapreneurship. This form of intrapreneurship, however, receives little support (see figure 123).

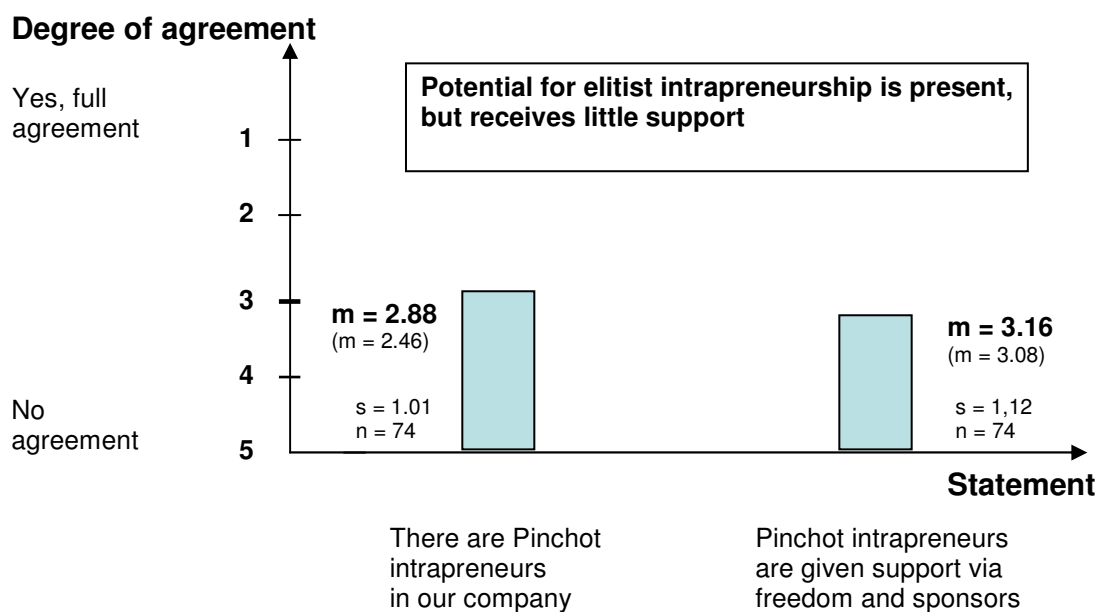


Figure 123: Frequency of Pinchot intrapreneurs and degree of support in a highly innovative technology company in the Bodensee-Oberschwaben region

In the highly innovative company, a stronger collective and holistic entrepreneurial orientation is strived for and, compared to the baseline study, is achieved to a somewhat greater degree (see figure 124).

⁴⁷⁵ The response rate is 98.67 % (**sample: n = 74**). The (bold) values in the charts show the **mean (m: arithmetic average)**. To facilitate comparison of the two studies in chapters 6.1 and 6.2, the values for globally active technology companies are shown on the graph in brackets. The **average standard deviation (s)** is 0.98.

⁴⁷⁶ The company is global, innovative and has a strong, competitive technological base.

6. Studies on the role of intrapreneurship

Degree of agreement

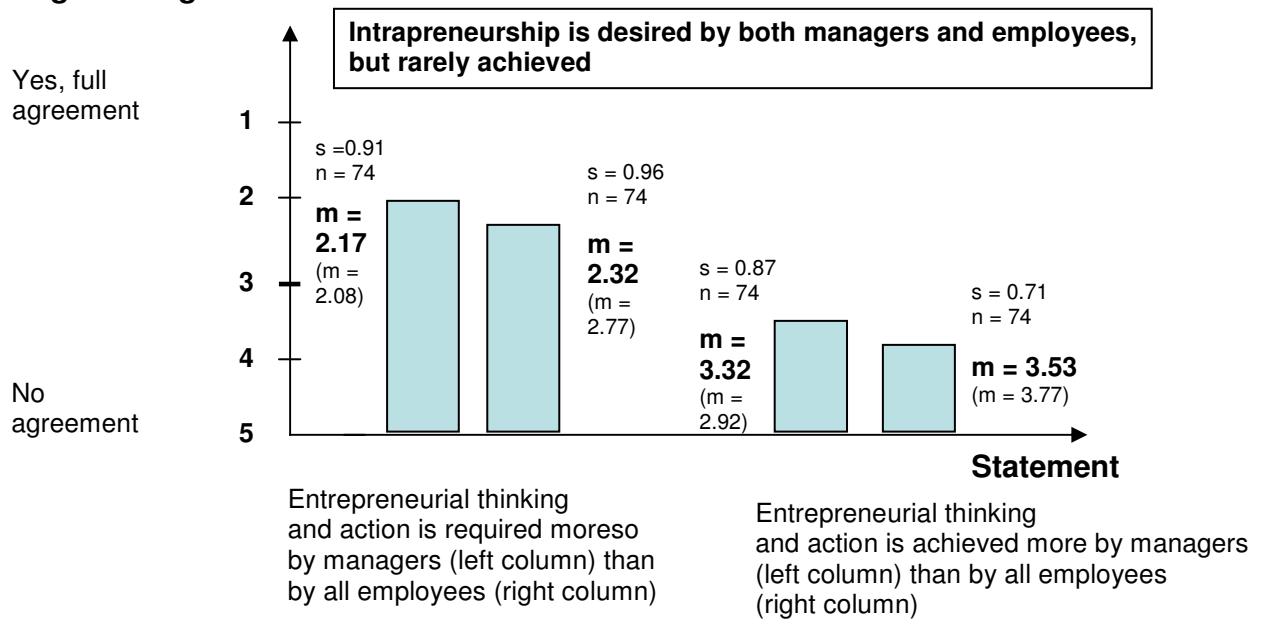


Figure 124: Elitist versus collective intrapreneurship in a highly innovative technology company in the Bodensee-Oberschwaben region

Collective intrapreneurship is therefore required more in this organisation and also receives greater support from management (see figure 125).

Degree of agreement

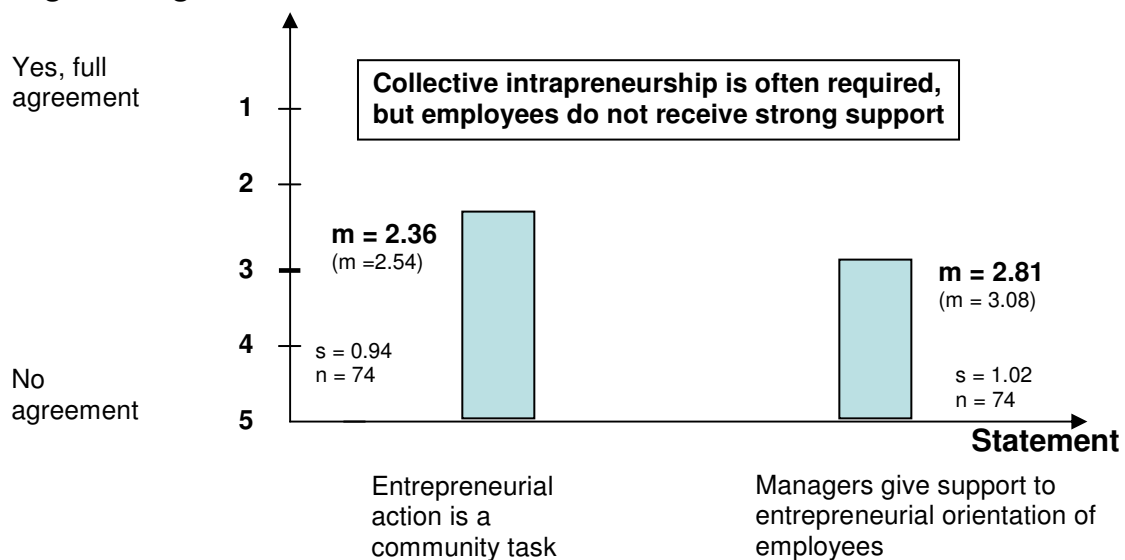


Figure 125: Entrepreneurial action as a community task in a highly innovative technology company in the Bodensee-Oberschwaben region

The highly innovative company sees intrapreneurship as more than a community task, managers have greater entrepreneurial orientation, they give more intensive support to employees and are drivers of entrepreneurial orientation in their organisation.

6. Studies on the role of intrapreneurship

As part of this, it can be seen that there is an ongoing need to develop managers and employees in terms of strengthening entrepreneurial orientation. Since elitist intrapreneurship receives little support, this form of intrapreneurship appears to be less desired and tolerated here. It is clear from figure 126⁴⁷⁷ that the highly innovative company as compared with the first (baseline) study (see chapter 6.1), exhibits overall a greater entrepreneurial orientation. The respective peculiarities of the characteristics of an entrepreneurial organisation follow, however, a similar pattern. A greater outward orientation and thus, a more intensive entrepreneurial organisation design calls for greater consideration of and greater harmony with the role of entrepreneurial shaping of the future. It is also clear that there is a stronger focus on entrepreneurial human resource management with individual and organisational learning. This point could provide an explanation and a design hint for developing stronger entrepreneurial orientation.

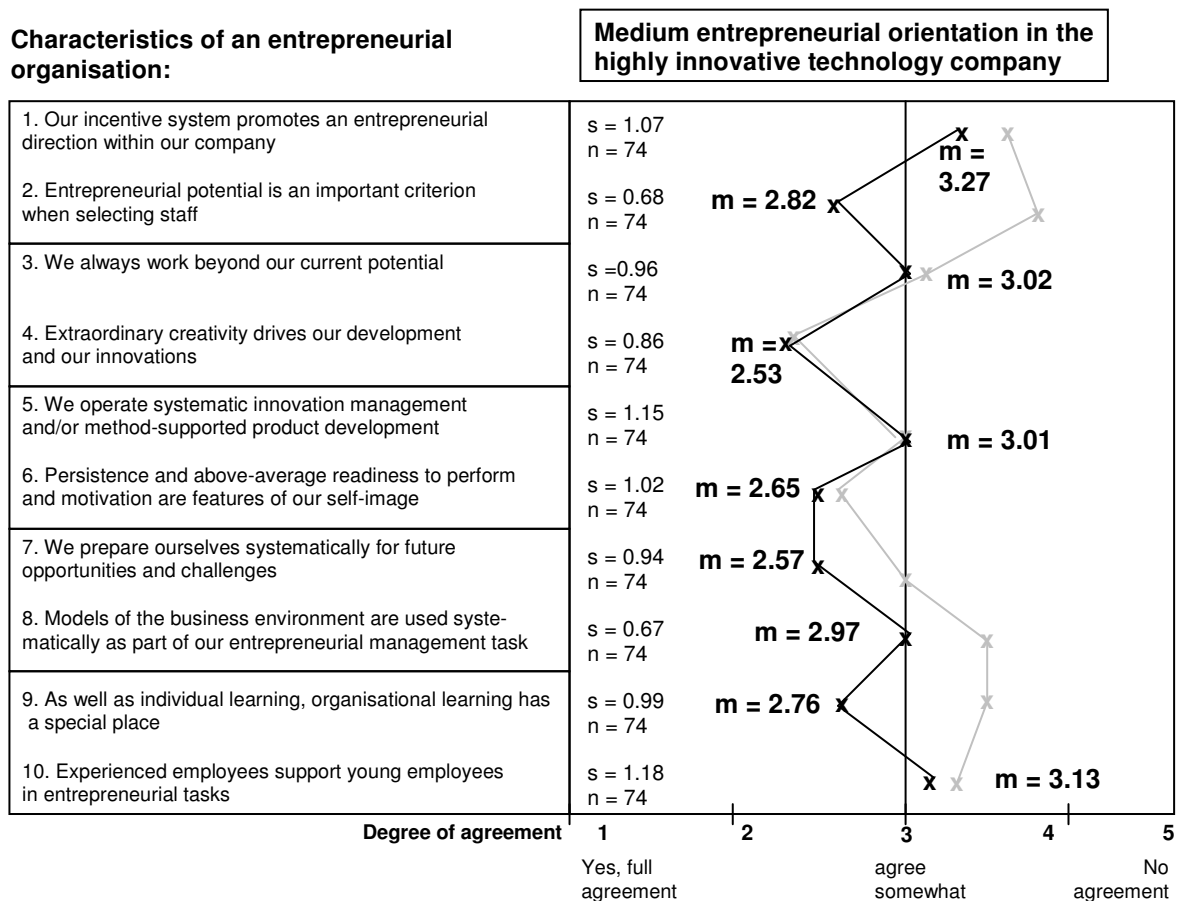


Figure 126: Entrepreneurial profile of a highly innovative technology company in the Bodensee-Oberschwaben region

⁴⁷⁷ The profile of the globally active technology companies from the first study in chapter 6.1 is shown as a comparison by the grey coloured curve.

6. Studies on the role of intrapreneurship

A further important aspect that can be derived from the study of the highly innovative company appears to be the existence of better structural framework conditions for intrapreneurship (see figure 127⁴⁷⁸). This would suggest a design which reduces structural constraints to intrapreneurship so as to achieve stronger entrepreneurial orientation from the potential entrepreneurial momentum.

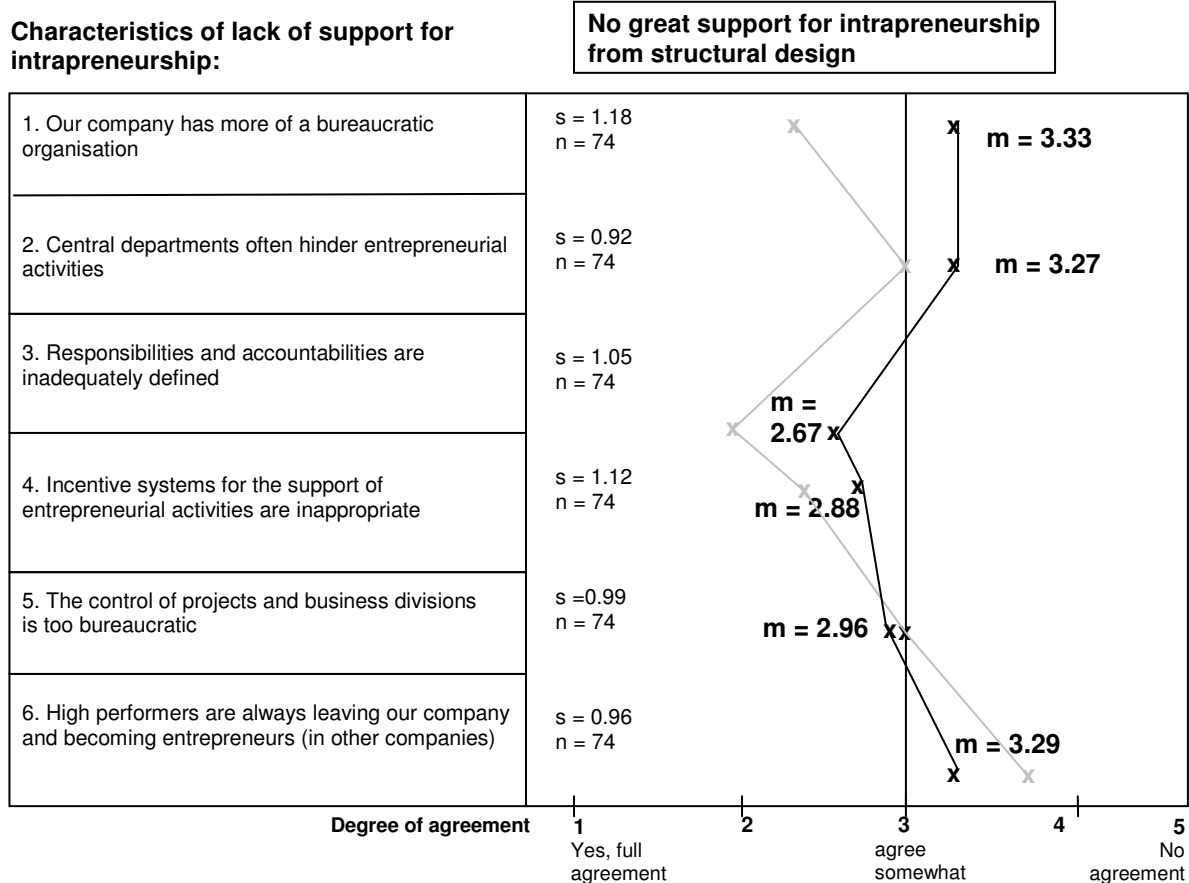


Figure 127: Little structural support for entrepreneurial thinking and action in the highly innovative technology company

As well as reducing structural constraints, it appears to be particularly appropriate to have an entrepreneurial culture and entrepreneurial human resources management function to support development of an entrepreneurial orientation in accordance with the role model presented (see chapter 5.1). The empirical study thus supports the development of design elements for a vital entrepreneurial learning organisation (see chapter 6.4). The benchmark study in chapter 6.2 shows the potential for a more collective intrapreneurship and the learning fields to strengthen holistic intrapreneurship in the specific cultural context.

⁴⁷⁸ The comparison curve of the globally active technology companies (see chapter 6.1) is shown on the graph in grey.

6.3 Survey of experts on implementation of the role model in practice

The role of intrapreneurship in companies in the Bodensee-Oberschwaben region is examined further by way of a personal and written qualitative survey (see Voss 2010) of experts amongst company representatives. This should contribute to understand how the companies questioned implement the manager roles in an entrepreneurial organisation taking into account the change dynamic in the business environment. The data collection for the third study is done via a structured survey⁴⁷⁹ which looks at implementation of the role model (see chapter 5.1). Via content analysis, interpretation and comparison of the data collected from several organisations, patterns for the five manager roles of the role model are inductively derived (see Bortz and Döring 1995: 271-312). Thus, the qualitative analysis captures some typical aspects of the five roles in practice (see figure 128).

The technology companies from the Bodensee-Oberschwaben region that were surveyed move in highly competitive dynamic and global markets where there are many uncertainties. The study suggests ways that opportunities and threats can be identified, new entrepreneurial ideas formulated and implemented, existing businesses adapted to changing competitive situations and synergy and change management actively developed. Twenty managers from technology companies in the Bodensee-Oberschwaben region were selected as a sample for the expert interviews and these managers came from the areas of personnel and company development. The organisations surveyed are members of the programme advisory committee for continuing education at the Ravensburg-Weingarten University⁴⁸⁰.

The companies surveyed see the objectives of the entrepreneurial orientation of an organisation in particular as being the increase of innovativeness, the adaptation of existing business to changing framework conditions and an increase in the organisation's efficiency.

⁴⁷⁹ The study takes place on the basis of a guideline interview and questionnaire (see appendix).

⁴⁸⁰ The fact that the author of the study works together with these companies in various projects provided important access to high ranking representatives of these globally active companies.

6. Studies on the role of intrapreneurship

Innovation and the development of new business through new products and the conquest of new markets can be seen as levers for securing the organisation's long-term viability. The experts surveyed identified the segment knowledge manager and the synergy manager as the necessary development areas for implementation of the five roles of an entrepreneurial organisation⁴⁸¹.

The tasks of the knowledge manager are mostly located in the marketing function of the companies surveyed. Particularly in large companies, the central market research function works together with the research and development function when generating knowledge for company opportunities and company threats arising from the micro environment. Market research examines the relevant global market and industry trends or the current or future situation of international markets (on the level of the individual political economies) and assesses developments for top management. A flow of information ensues as a result of proactive information from central market research reaching top management and via reactive information from requests from top managers.

Analysis of the general macro environment and long-term trends, particularly in the technology and demography sectors, often takes place in top management strategy groups with reference to external (commercial) databases and analyses. Occasionally, the active influence of managers within associations and interest groups, as well as at trade fairs, is used as information sources. Learning at its strongest takes place at the individual level in such a way that loss of important knowledge often occurs when employees leave. As well as personal development programmes, godfather and mentoring models are also frequently used. For organisational learning, projects are often used as joint learning fields and experiences are documented in knowledge databases (see Baltzan and Phillips 2008)⁴⁸². Optimisation processes in the total organisation⁴⁸³ and within and between departments⁴⁸⁴ can be identified as further developed learning fields.

⁴⁸¹ This supports the survey results from the first study (see chapter 6.1).

⁴⁸² According to McDermott and Archibald (2010), self-organised groups can deal in a responsible way with the long-term development of a knowledge and experience stock taking into account future problems which had thus far not been recognised.

⁴⁸³ For example via processes for continuous improvement of production or quality management systems.

⁴⁸⁴ For example via process reviews or (cross-divisional) meetings.

6. Studies on the role of intrapreneurship

The collection and processing of knowledge from the business environment is often done by project teams which are additionally established alongside formal structures and which also are there to drive forward the identified innovation potential and the development of new business.

The tasks of the idea finder relate, in particular, to the assessment of ideas that are gained from the external business environment or which result from entrepreneurial actors and inventors created by the internal dynamic. In this process, ideas come from the systematic application of existing competencies in new markets. Instruments and methods for the creation of ideas often come from creative workshops, cross-divisional meetings and communication processes between managers and employees. Idea assessment often takes place in the context of a structured business development process based on business plans and feasibility studies carried out by steering groups and top management.

In this way, information processing and the decision process link strategic and operational planning. Entrepreneurial ideas are often developed in cooperation with customers and external network partners. Creativity techniques play a more subordinate role in the process of finding ideas. New entrepreneurial activities in existing businesses are sometimes derived from gaps in the market. Ideas for new business can result, for example, from gaps in the product portfolio, new trends and (imitable) market successes of competitors.

Innovation manager tasks are often achieved via (formalised) innovation processes and project teams. Larger projects and the associated resource commitment are approved by top management in accordance with current priorities and supported by a basic development programme. Smaller scale activities are the responsibility of company divisions. As well as market innovation projects, great value is placed on technological innovation projects and improvement projects for the achievement of competitive cost structures in operational practice. Innovations are also transferred into other areas using communication processes. Implementation of ideas is often supported by an innovation-friendly culture.

6. Studies on the role of intrapreneurship

The adaptation of products, the production process and working the market in consultation with top management are, in practice, the central tasks of entrepreneurial managers in existing businesses. Changes in the external business environment shorten the product life cycle and require flexible internal and external network structures⁴⁸⁵. Within this process, virtual teams and structures which span locations take on greater significance. Often, the necessary strategic adaptations are communicated by top management, and they also establish responsibilities and agree divisional objectives for implementation of the strategy.

Within this, optimisation processes, personnel development⁴⁸⁶ and the recruitment of employees from a variety of cultural environments when working successfully in global operational fields are central issues. Impulses for adaptation come especially from market research and the development of bureaucratic structures can hinder the necessary adaptations by actors and divisions. Uniform business processes promote efficiency and cooperation.

The tasks of the synergy manager are steered in practice by top management and sometimes indirectly steered by structural design. Experiences are shared cross-divisionally for existing and new businesses, development projects are initiated using synergies and improvements in the value chain are achieved via optimisation systems. Internal synergy potential are identified, in particular, via process analysis and with modularisation of products, use of the same parts becomes possible. By pooling in the purchasing process, better conditions can be achieved using market power.

In order to improve external market opportunities and internal transfer of knowledge, internal experts, connections and cross-company networks and synergies are used. Figure 128 illustrates implementation of the entrepreneurial organisation's manager roles in globally active technology companies in the Bodensee-Oberschwaben region.

⁴⁸⁵ The dynamic design of the value chain requires continuous systematic decisions based on relevant criteria. For a complete illustration of criteria for outsourcing decisions see, for example, Krönes (2002).

⁴⁸⁶ For a reference model for the development of entrepreneurial managers, see, for example, Hohl and Knicker (1995) or Hohl and Platzek (2005).

6. Studies on the role of intrapreneurship

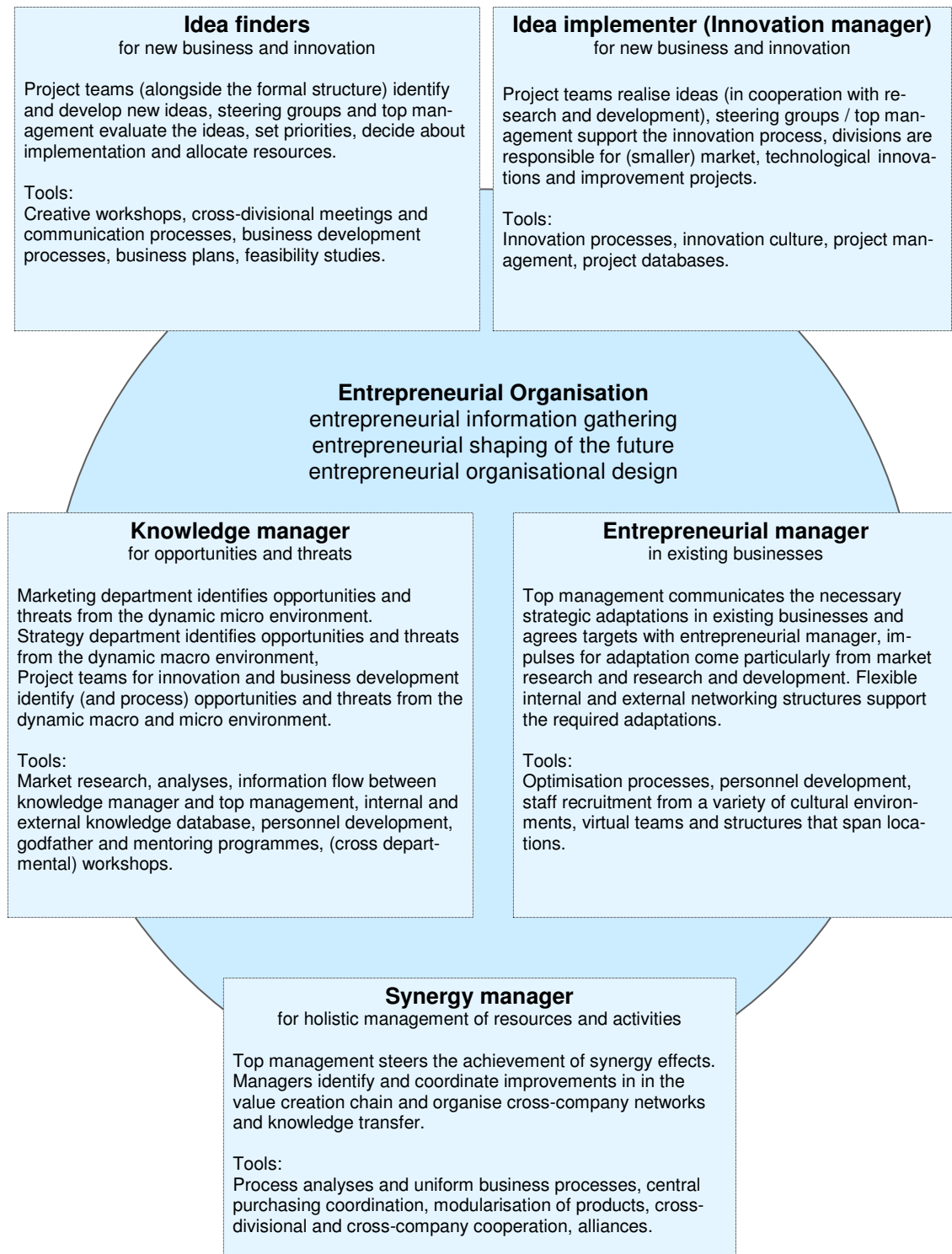


Figure 128: Implementation of the roles of the entrepreneurial organisation in practice

The outline for implementation of the entrepreneurial organisation's five manager roles developed in the theoretical analysis makes it possible to take a complementary look at the role model from the point of view of the practice.

6. Studies on the role of intrapreneurship

Within this, there is evidence in the cultural background selected of a potential for development, particularly in terms of combining knowledge on the level of the whole organisation. Organisational learning from experience and collective learning from individual entrepreneurial activities could thus be a focus of future efforts by the companies surveyed.

In terms of finding ideas and implementing of ideas, top management takes on a strong regulatory role. Here, it may be necessary to have a greater tolerance of emerging activities by decentralised managers together with greater structural management (instead of direct management), intensive communication processes between the entrepreneurial actors, along with a stronger involvement of customers in innovation processes.

In terms of strengthening entrepreneurial orientation in existing businesses, entrepreneurial personnel management can take on a more important role. Personnel selection and personnel development could make an important contribution to strengthening adaptability. There also appears to be potential for development within the holistic and long-term direction of the organisations.

The empirical studies show that the role model can also offer a basis for the analysis of entrepreneurial orientation in specific (cultural) contexts and that the identification of development potential for strengthening entrepreneurial orientation and thus, the long-term viability of an organisation in a dynamic business environment, appears possible.

Taking into account the theoretical findings of chapters 3 to 5, the empirical studies also thus give pointers for design elements for developing and strengthening a vital entrepreneurial learning organisation that can overcome the (future) challenges of a global and dynamic business environment. The following chapter 6.4 outlines five design elements with which entrepreneurial orientation can be developed or strengthened, depending on the context.

6.4 Conclusion: Elements for development and strengthening entrepreneurial orientation

In this chapter, on the basis of the literature analysed and the findings of the empirical studies, five elements are outlined which can help to develop and support individual and organisational entrepreneurial orientation (see also McGinnis and Verney 1987, Prosek 2011). With a view to strengthening entrepreneurial culture and common mental models, the first element is a cultural analysis and an entrepreneurial cultural design involving managers and employees as cultural agents.

The cultural agents analyse the development history of the organisation, check which values and assumptions for securing viability have to be adapted, develop common mental models of the organisation and the external business environment and thus strengthen adaptability and an innovation-supportive culture.

A workshop for entrepreneurial shaping of the future is proposed as a building block for the holistic development of a vital entrepreneurial learning organisation (element 2). In the workshop for entrepreneurial shaping of the future (see also figure 129), it is about the long-term viability of companies.

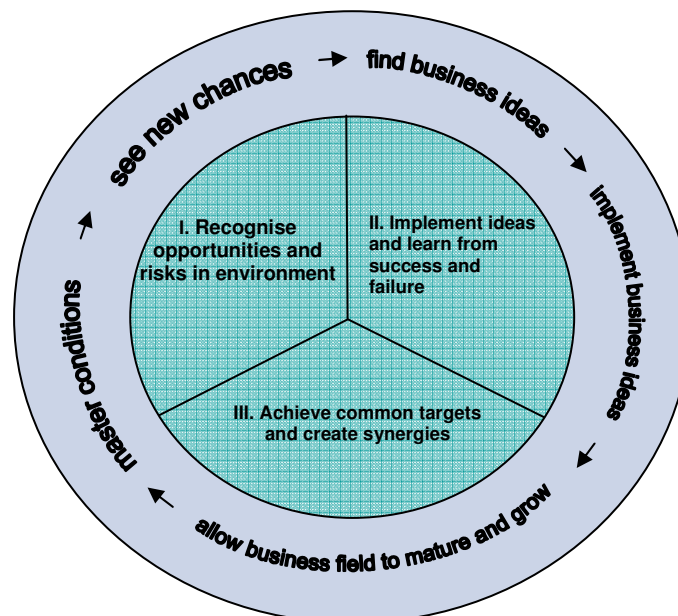


Figure 129: Workshop for entrepreneurial shaping of the future

6. Studies on the role of intrapreneurship

In order to secure this long-term viability, companies have to achieve a consistently entrepreneurial approach in competitive markets, that is to say, in particular, to recognise opportunities and threats from the business environment, to identify and put into place business ideas and synchronise and harmonise the interests of the company and the individual employees such that successful collaboration within the company is achieved and synergies between the company divisions are created. Managers as change agents analyse and discuss implementation of these aspects of an entrepreneurial organisation, learn and develop common ideas for improvements that will strengthen holistic intrapreneurship. The development of the three areas in the management workshop for entrepreneurial shaping of the future is an important element in developing the entrepreneurial potential of managers and a strategic building block in the achievement of a vital entrepreneurial learning organisation. Central to this is the identification of opportunities, threats and potential synergies along with learning from each other and with each other - particularly from mistakes, so that organisational learning from entrepreneurial activities can ensue. In addition to technical learning and the question of *what* was done incorrectly or correctly, one can also ask *why* mistakes were made and why these were not corrected early enough⁴⁸⁷.

Block and MacMillan (1995) propose four working steps for individual and collective learning from entrepreneurial activities⁴⁸⁸ (element 3). In the first step, documents and information (e.g., reports, minutes, budget plans) relating to the most important events of an entrepreneurial activity⁴⁸⁹ are collected and chronologically documented in a log book (by entrepreneurial agents). In this way, the entrepreneurial activity can be characterised (see table 12). Subsequently, in the second step, the manager who is responsible for the activity or who had conducted it for management, can be questioned with a view to establishing the origin of the business idea and its evaluation and record the market research process, the product development, the creation of the business plan, organisation of the activity, incentive components, and the forming of basic assumptions about the environment.

⁴⁸⁷ For so-called *Double Loop learning* see, in particular Argyris, (1999).

⁴⁸⁸ For opportunity-driven capability formation see Autio et al (2011).

⁴⁸⁹ According to Morris et al (2012), entrepreneurial experience create a cyclical relationship between the emergence of the entrepreneurial activity (venture) and the emergence of the entrepreneurial agent. Thus, the learning process from the entrepreneurial activity complements the previous acquired knowledge and skills.

6. Studies on the role of intrapreneurship

Character of Business	Product	Market	Technology
PMT-Venture Business Blue sky: New Product, in new markets, using new technology Learning field: operations, marketing and development	Lack of expertise Low product relatedness	Lack of expertise low market relatedness	Lack of expertise low technology relatedness
PM-Venture Business Technology commercialisation: New Product, in new markets, using known technology Learning Field: operations and marketing	Lack of expertise Low product relatedness	Lack of expertise low market relatedness	Knowing well High technology relatedness
PT-Venture Business Product development: New Product, in existing market, using new technology Learning field: product and technology	Lack of expertise Low product relatedness	Knowing well High market relatedness	Lack of expertise low technology relatedness
MT-Venture Business Vertical integration: Existing product, new market, new technology Learning field: market and technology	Knowing well High product relatedness	Lack of expertise low market relatedness	Lack of expertise low technology relatedness
P-Venture Business product augmentation: New Product, in existing market, using known technology Learning field: production, operations	Lack of expertise New-Product-Learning Low product relatedness	Knowing well High market relatedness	Knowing well High technology relatedness
M-Venture Business Market augmentation: Existing products, in new markets, with existing technology Learning field: Marketing	Knowing well High product relatedness	Lack of expertise New-Market-Learning low market relatedness	Knowing well High technology relatedness
T-Venture Business Technology innovation: Knowing product and markets well, using new technology Learning field: technology development	Knowing well High product relatedness	Knowing well High market relatedness	Lack of expertise New-Technology-Learning low technology relatedness
Established Business Maturing: Existing products, in existing markets, with existing technology Learning Field; optimize processes, cooperation and synergy seeking	Knowing well	Knowing well	Knowing well

Table 11: Characterisation of business activities according to level of experience in the divisions of product, market, technology as per Block and MacMillan (1995:222,223)

In the third step, a chronological history on the development of the entrepreneurial activity as well as of the main activities and critical decisions and events (for example, personnel changes, processes and procedures, which assumptions have changed in time) can be drawn up. In the fourth step, conclusions can be drawn for the future: what can be learned from the experience for future entrepreneurial activities?

6. Studies on the role of intrapreneurship

To strengthen the outward orientation of an organisation and its entrepreneurial actors, managers and employees can be deployed as country agents in the identification of opportunities and threats in the general macro environment (element 4) and also as industry agents in the development and analysis of strategic options in the specific micro environment (element 5).

Industry agents can analyse the current and future competitive situation (see Porter 2004a) and the industry life cycle and also investigate industry-specific success factors (see Andrews 1987). The country agents (or even teams) can specify and evaluate a country (or several countries or economic regions) with the most important characteristics and fundamental framework conditions for globally active companies (see Morrison 2006) and with a global mindset (Srinivas 1995). Using mutual information, it is then possible to assess opportunities and threats jointly and develop organisational competencies (see Dess and Lumpkin 2003) for various countries and from different economic regions. This analysis can be carried out using the *PEST*-framework⁴⁹⁰ introduced in chapter 3 (see Fahey and Narayanan 1986). Thus, it is possible to assess the political-legal systems, analyse the main political economic factors and growth opportunities using economic indicators, or identify dynamic economic regions (clusters). Demographic or technological developments as well as social trends and cultural aspects can be evaluated (see Rugman and Collinson 2006) bearing in mind potential entrepreneurial activities.

The five elements presented here (see figure 130) strengthen the future development of a holistic entrepreneurial orientation and start with the roles which need strengthening in the future as identified in the empirical studies, namely *knowledge manager* and *synergy manager*. Entrepreneurial organisations pursue an entrepreneurial strategy and should clear away structural constraints. Holistic intrapreneurship is then supported by an entrepreneurial culture and entrepreneurial managers⁴⁹¹.

⁴⁹⁰ See chapter 3.2.2.1

⁴⁹¹ Seufert and Diesner (2010) see a high degree of responsibility for managers and employees in the implementation of specialist and cross departmental learning in practice, especially by designing appropriate framework conditions for organisational learning which strengthens the adaptability of the organisation.

6. Studies on the role of intrapreneurship

Using the five development-oriented building blocks presented here, collective entrepreneurial information gathering and processing can be achieved, the necessary outward orientation can be developed, individual learning and organisational learning can be fostered, synergies can be created thus enabling the development and strengthening of holistic intrapreneurship in the context of the design concept that has been developed here for a vital entrepreneurial learning organisation.

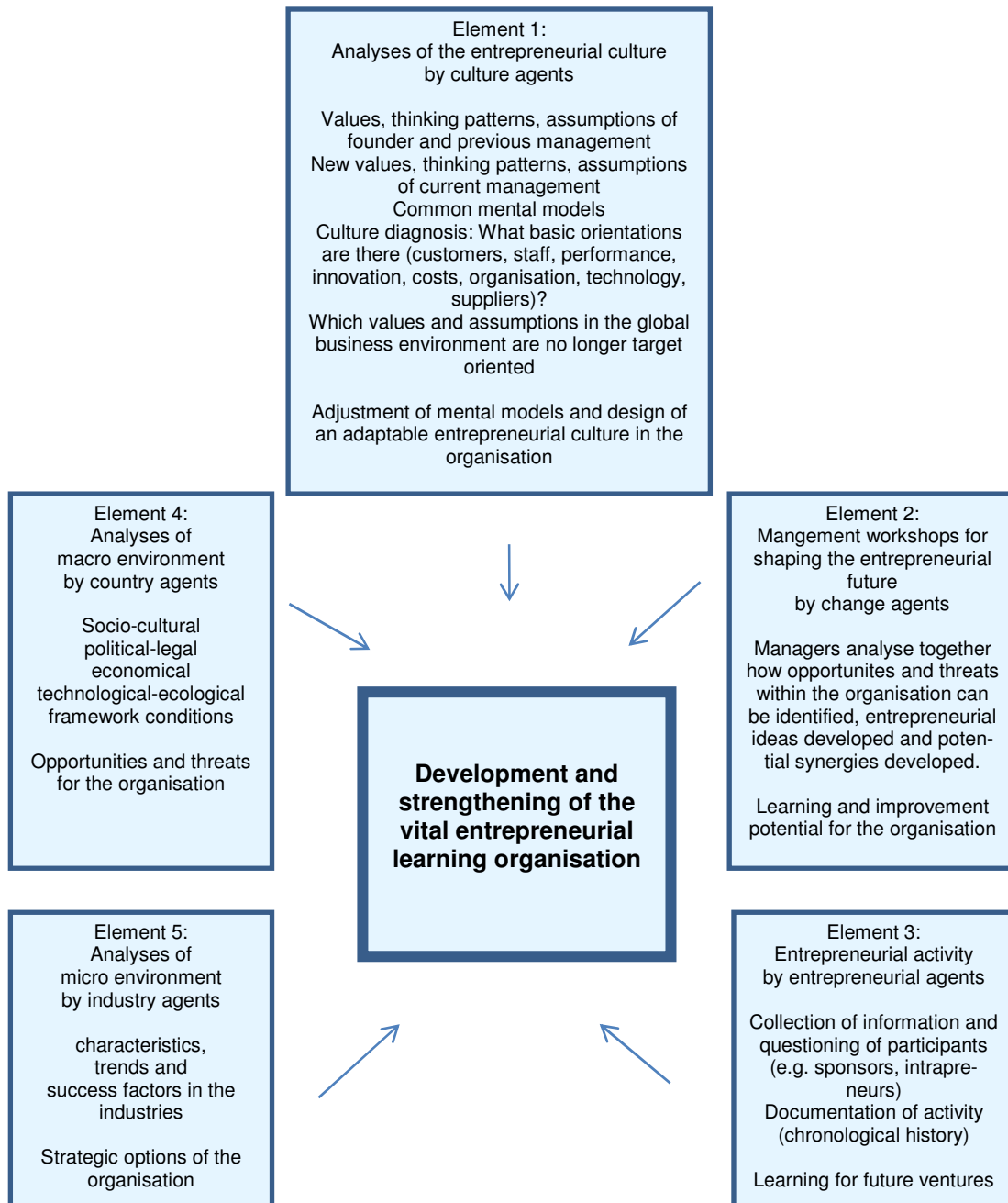


Figure 130: Five elements for the development and strengthening of a vital entrepreneurial learning organisation

6. Studies on the role of intrapreneurship

Following the outline of the five development-oriented building blocks for individual, collective and organisational learning in a vital entrepreneurial learning organisation⁴⁹² (Platzek et al 2011b) as a conclusion drawn from the theoretical and empirical insights, chapter 7 (see figure 131) reflects on the core thoughts of the examination and provides notes and links for future research.

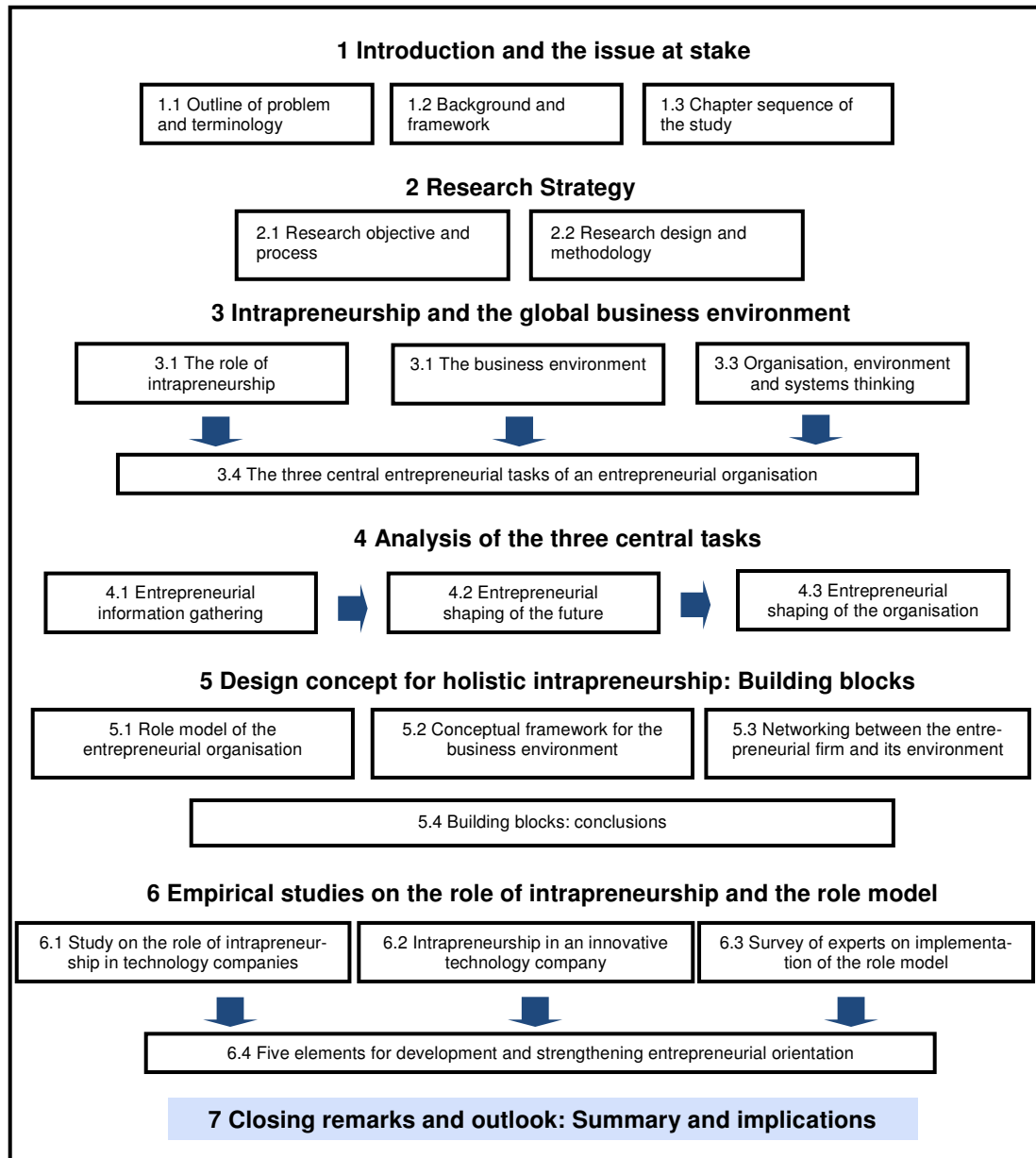


Figure 131: Closing remarks and outlook

⁴⁹² The concept of a Vital Entrepreneurial Learning Organisation (VELO) was discussed and presented at the International Conference on Industrial Engineering, Systems Engineering and Engineering Management for Sustainable Global Development, September 21-23, 2011, Stellenbosch / Spier, South Africa.

7. Closing remarks and outlook

This chapter summarizes the major issues and contributions of this work with its implications for a better understanding of holistic intrapreneurship and for the design of vital entrepreneurial learning organisations in specific business environments. It proposes also valuable areas for future research. The literature gives us no clear picture of intrapreneurship in a global, dynamic and complex business environment. One can find countless interpretations of intrapreneurship in the literature (see chapter 3). Many approaches deal with individual aspects of entrepreneurial thinking and action in and pertaining to the organisation. The established derivation of the role of intrapreneurship in a global, competitive business environment in which technology and innovation represent important drivers of internal and external change and of increasing networking, contains a gap of considerable relevance. The present examination of the role of intrapreneurship concentrates on the entrepreneurial creation of interaction between the organisation and the environment to secure the company's viability. This leads to the development of a holistic concept of intrapreneurship (Platzek et al 2011a). This work provides new insights into the nature of intrapreneurship and the global environment for a better understanding of holistic intrapreneurship in today's business environment and for some implications for management practice.

7.1 Summary and contributions of the study

Based on a well-founded theory analysis and a synoptic illustration of the theoretical constructs examined, the various theoretical fragments of intrapreneurship have been carried over by a theoretical exploration into an integrated framework with nine design elements for holistic intrapreneurship and three central tasks for the entrepreneurial organisation. The three entrepreneurial tasks identified, that is entrepreneurial information gathering, shaping of the future and of the organisation, are analysed and defined in chapter 4. The entrepreneurial collection of meaningful information with four key activities (scanning, monitoring, forecasting, assessment) focuses on the four dimensions of the business environment already identified: character, diversity, geographical dimension and segments.

7. Closing remarks and outlook

Individual and collective learning are defined as dynamic components of entrepreneurial information gathering. For entrepreneurial shaping of the future seven key competencies for entrepreneurial organisations, three innovation areas, ten systems theory principles for interaction of the organisation with the environment, and central entrepreneurial decisions in new and existing business can be derived.

For entrepreneurial shaping of the organisation four central levers can be defined: Entrepreneurial strategy, structure, culture, resources and competencies. Within this, five central dualities should be taken into consideration: Short and long-term viability, optimisation and renewal, flexibility and operational stability, centralised and decentralised decision structures, interests of the organisation and interests of the individual actors⁴⁹³.

On the foundation of theoretical analysis of the three entrepreneurial tasks identified, there follows in chapter 5 the formulation of an explanatory and specifying framework model (theoretical constructs) which together form a concept for holistic intrapreneurship⁴⁹⁴. The role model of the entrepreneurial organisation (see chapter 5.1) as a synthesis of the individual and collective approaches of intrapreneurship that are contained in the literature can provide the design of the entrepreneurial organisation with an important orientation framework. The conceptual framework developed here for the specification and analysis of the business environment (see chapter 5.2) can guide entrepreneurial gathering of information. The qualitative systems model (see chapter 5.3) focuses the understanding to help with entrepreneurial shaping of the future. In implementing the three entrepreneurial tasks via the developed process model (see chapter 5.2), the entrepreneurial organisation must fulfil as a whole unit the roles of knowledge manager for opportunities and threats, idea finder, idea implementer (innovation manager), entrepreneurial manager in existing businesses and synergy manager.

⁴⁹³ Harmonisation of the interests of the individual actors with the interests of the organisation can be defined as a necessary and fundamental design target for the entrepreneurial organisation.

⁴⁹⁴ The basic theoretical constructs of the vital entrepreneurial learning organisation are: nine design elements of holistic intrapreneurship, three entrepreneurial tasks and process model, role model, conceptual framework of the business environment and qualitative systems model. As a consequence of the empirical study, one more theoretical construct is developed; the five elements to develop and strengthen the vital entrepreneurial learning organisation (see chapter 6.4). The theoretical constructs lay down a theoretical foundation for holistic intrapreneurship (see figure 34).

7. Closing remarks and outlook

The conceptual framework for specification and analysis of the business environment can help to define the relevant areas of analysis of the business environment in specific situations such that future opportunities and threats can be proactively detected with an inside-outside-inside approach. The qualitative systems model sharpens the understanding of the elementary interaction between the entrepreneurial organisation and the external environment in existing and new businesses. As a result, internal and external impulses for the design of interactions on an aggregated level can be examined.

This integrated concept of the vital entrepreneurial learning organisation (ultimate objective) derived from theory-based exploration thus focuses on the entrepreneurial action of the organisation as a whole, and the achievement of viability in a global and dynamic environment. Entrepreneurial organisations achieve this by entrepreneurial decisions in new and existing businesses and for adaptation, innovation and efficiency.

Holistic intrapreneurship requires learning by the actors, the teams and the whole organisation and enables the necessary proactive, dynamic and creative adaptation to changes in the global environment, in particular by the realisation of entrepreneurial opportunities and the processing of threats. Thereby, efficiency and flexibility must be strived for in existing businesses and new business and innovations must be developed in synergy with the external environment.

In empirical studies (see chapter 6), the theoretical findings were reflected in the practice of global technology companies. Within this, it was possible to identify hints from the quantitative and qualitative empirical exploration on how strong the individual roles of an entrepreneurial organisation in a specific cultural environment are featured and how the implementation of roles on the basis of a sharing of tasks actually happened in the firms surveyed. From this it is possible to glean initial recommendations for action fields for the development and strengthening of a vital entrepreneurial learning organisation.

7. Closing remarks and outlook

Based on theoretical and empirical findings, five development-oriented learning elements are proposed: Management workshop for entrepreneurial shaping of the future by agents of change, analysis of individual entrepreneurial activities by entrepreneurial agents and teams, analysis of entrepreneurial culture by culture agents, analysis of the macro environment by country agents, analysis of the micro environment by industry agents.

Using a diagnosis of the entrepreneurial profile, based on the role model, and the five development-oriented learning elements outlined in chapter 6.4, country-specific cultural orientations (see Stewart et al 2008) can be supplemented by actively shaping the organisation culture in order to develop a holistic entrepreneurial orientation based on the presented role model (chapter 5.1)⁴⁹⁵.

7. 2 Implications and some directions for further research

In the theoretical analysis, the research process explored models, concepts and findings for the central questions presented in chapter 1 and also reinforced and specified these further with empirical studies. The study succeeded in explaining and analysing the role of intrapreneurship in securing the viability of organisations. The characteristics of the business environment, in particular the degree of uncertainty and the cultural aspects (see Lee and Peterson 2000) can be given thorough consideration using the concept of the vital entrepreneurial learning organisation, defined by the presented theoretical constructs: design elements of holistic intrapreneurship, entrepreneurial tasks and process model, role model, framework for the business environment, qualitative model, and the five learning elements⁴⁹⁶.

On this basis, it is possible to give consideration to the specific design of an entrepreneurial organisation in a specific context. In this respect, there emerge important research fields for future research projects.

⁴⁹⁵ Thus, entrepreneurial thinking and action can be promoted on the level of the individual as well.

⁴⁹⁶ According to Kuratko (2010), the impact of environment, related to corporate entrepreneurship strategy is an important area for research as well as learning by individuals and organisations from specific corporate entrepreneurial projects. The theoretical constructs presented in this thesis give basic implications and directions for further research in these areas and for the combination of micro and macro perspectives (see table 1) on corporate entrepreneurship.

7. Closing remarks and outlook

This would make it possible to investigate general design principles in specific environmental situations, particularly taking into account the dynamic, the complexity and cultural features of alternative external environments and also giving consideration to organisation types and company politics as elements of the internal business environment.

An in-depth examination of the transformation process for developing an entrepreneurial orientation and a study of the performance (see Mohamad et al 2011) vital entrepreneurial learning organisations achieve in different business environments and in relation to organisations with other management concepts can also provide important clarification for practical implementation of a holistic concept of intrapreneurship.

As part of company research projects (see Cooper and Schindler 2010), specific implementation concepts could be developed on the basis of the theoretical concept of the vital entrepreneurial learning organisation, and these could show entrepreneurial managers the way on how to translate individual entrepreneurial activities into collective entrepreneurial power (see Baghai and Quigley 2011). Case study research can analyse practical problems in implementing and developing the vital entrepreneurial learning organisation in a specific context. The compilation of a company specific system and the consensus about the interactions and strength of the influencing factors can be developed with brainstorming sessions involving all concerned (see Vester 2005), based on the basis of the total system presented in section 5.3.1.1. Thus, it is possible to identify firm-specific levers in business research projects to strengthen the entrepreneurial orientation and to meet the innovation challenges that differ from firm to firm (Hansen and Birkinshaw 2007).

On the global level, intrapreneurship can help to overcome the challenges of sustainable development (see Glenn and Gordon 2002, Meadows et al 2004, Grunwald and Kopfmüller 2006, Weizsäcker 2010) in that innovative actions (Kralj 2008) as life-cycle analysis (to look at lifelong environmental impact of a product), technology cooperation (between companies in developed and developing countries) or industrial ecology can reduce waste, minimise environmental impact or transfer environmental technologies (see Lawrence et al 2010).

7. Closing remarks and outlook

For example, businesses can use wastes from one process as materials for others and new products can be developed which use resource-friendly technology in their manufacture (see Meyer 2008:23-26).

The view on the global challenge of a sustainable development shows the entrepreneurial organisation opportunities to achieve and sustain vitality proactively at the company-level: The vital entrepreneurial learning organisation as a good corporate citizen (Makipere 2008) can contribute to a global sustainable development (Becke 2010) via innovation in new and established businesses to maintain their own competitiveness, reputation, and economic substance (Lash and Wellington 2007, Lubin and Esty 2010, Platzek et al 2012).

In addition, various stakeholders like government, investors, customers, competitors, and the networked society pressure organisations to implement reactively sustainability (Paramanathan et al 2004, Garvare and Johansson 2010). As stated by O'Neill et al (2009), sustainability-driven entrepreneurial activities to exploit sustainability issues, innovation, and emerging markets (Dunphy 2007, Nidomulu et al 2009, Kotler 2011) become the engine which transforms the global system towards sustainability.

Especially with regard to a sustainable global development, there emerge future fields of action for entrepreneurial organisations that are able to establish future research projects on the role of intrapreneurship from the viewpoint of systems thinking (Knez-Riedl and Mulej 2006) on the macro, meta and micro levels (see table 1) with much (global) social relevance (see also Kuratko 2010).