

The Anatomy of ICT and Life Science Boards in Southern Scandinavia

By a partnership of:

VÆKSTFONDEN

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December 2005

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1. Introduction

Venture-backed companies in the Information and Communication Technology (ICT) and Life Science industries are expected to play an important role in driving economic growth and the development of new technologies in the Nordic region.

What these companies need to fulfill their business plans are a commercially viable product idea, a strong management team, and adequate funding. Beyond this, it is important that management in these companies can draw on outside expertise to test their own business ideas and receive input from people who are knowledgeable about the technology and the market individual companies are trying to navigate in. The ideal framework for accessing such expertise may be achieved if the management and investors work together to form a company board that encompasses people who have industry experience from building and managing globally successful businesses. Thus, a company board with the right composition can be the decisive factor in determining whether a new company is able to grow or not.

Because of increasing competition for talent, the recruitment of boards of directors with the right balance of diversified and complementary competencies can be a great challenge for new high-tech companies. In the initial stage for a high-tech venture, there is a risk that the CEO, who is often also the founder, is overly self-confident and fails to recognize the value in bringing in outside experts on the board. When venture capital investors get involved, however, they generally make it a priority to recruit board members who can create value by helping to shape the business strategy and hiring the right management team to execute it.

As the company progresses through the various stages of development, the nature of its challenges changes, which further affects the types of expertise needed on the board. Thus, just like management may have to change as the company develops, so does the board. What matters is that the people who make up the board at any point in time have the skills and experience that are well suited for that particular stage in the company's development.

This begs the question of how good venture-backed companies are at combining talent on the board to make sure it is always adapted to the stage the company is going through. This report tries to give some part of the answer to this question for venture-backed ICT and Life Sciences companies in Denmark and Southern Sweden. The first part

of the report rests on new data from an online survey carried out by a partnership of Vækstfonden, Russell Reynolds Associates, and Industrifonden. The results are drawn from responses from 114 CEOs and Chairmen from a total of 85 ICT companies in Southern Scandinavia. The second part is based on a recent survey by Vækstfonden and Egon Zehnder International which solely focused on the anatomy of Life Science boards in the same region. Finally, the results from the ICT and Life Science industries are compared which produces a set of conclusions as regards the differences and similarities between the two technology segments.

In a broader context, identifying the characteristics of boards in Southern Scandinavia – Denmark and Southern Sweden – may provide some insight about the opportunities that might arise from a better integration of people networks and competencies in the two regions. Ideally, the combined region of Southern Scandinavia should function as one unified market that is able to attract high-class international resources to help grow the new business created here.

2. Method and sample

The aim of this study is to explore the anatomy of boards of directors in high-growth venture-backed companies in the Southern Scandinavia. The analysis distinguishes between the two major portfolio segments in the Venture Capital (VC) industry – Information and Communication Technology (ICT) and Life Sciences. The data were obtained through anonymous online surveys – one for each segment - where the Chief Executive Officer (CEO) as well as the Chairman of the board in each company was given a chance to participate.

Companies were invited to participate if they had received venture capital at some point. The interest of venture capital investors is viewed as a sign of high growth potential for these companies, which are all operating in the Southern Scandinavian region. In this context, Southern Scandinavia is defined to include Denmark and Southern Sweden – encompassing Medicon Valley and the region south of Gothenburg (including Gothenburg). Company contact data were sourced from Dow Jones VentureSource and Vækstfonden, both of which collect data from venture capital activities in the region.

In the ICT segment, 335 individuals representing 175 companies were contacted. Of these, 114 individuals replied, resulting in a response rate of 34%. Because only a few

CEOs and Chairmen from the same company responded, the response rate in terms of companies is significantly higher. 43% of the Swedish companies answered, while the share of Danish responding companies was 52%. The sample thus may be segmented into three overlapping groups – 85 companies, 53 Chairmen, and 26 paired CEO-Chairman samples.

Table 2.1 shows the most important characteristics of the sample of ICT firms in this survey. They will be analyzed more thoroughly in the following chapters. The table shows how the Danish and Swedish companies are drawn from similar samples, although the Swedish companies are slightly older than and twice as large as their Danish counterparts. In terms of technology areas, the most notable difference is a somewhat larger share of Software companies in the Danish sample.

Table 2.1: Characteristics of the ICT sample

ICT	Southern		All
	Denmark	Sweden	
Contacted	129	46	175
Number of observations	66	19	85
Response rate	51%	41%	49%
Age and Size			
Age of the firm	6,8	9,6	7,4
Number of full time employees	18	37	22
Listed companies	0%	10%	2%
Number of product launches	2,9	3,2	2,9
Industry segments			
Communications	20%	22%	21%
Electronics	11%	11%	11%
Information Services	13%	6%	11%
Other Technologies	14%	28%	17%
Semiconductors	2%	0%	1%
Software	41%	33%	39%

Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Similarly, the results for the Life Science segment were obtained through an online survey where 146 companies were contacted. In total 266 individuals received a questionnaire, while 97 replied, resulting in a response rate of 37%. Equal shares of Swedish and Danish companies answered. The data from the Life Science companies also allows for analyzing three segments based on 77 different companies, 38 Chairmen, and 20 paired CEO-Chairman samples.

Chapter 4 outlines the survey of Southern Scandinavian Life Science companies. Some of the results have previously been released in the report "The Anatomy of Life Science

Boards of Directors in Medicon Valley”, (Vækstfonden and Egon Zehnder International, 2005). To form a picture of this sample of respondents, table 2.2 presents the most important characteristics of the companies. The geographical focus corresponds to that of the ICT segment.

Table 2.2: Characteristics of the Life Science sample

Life Sciences	Southern		All
	Denmark	Sweden	
Contacted	116	30	146
Number of observations	65	12	77
Response rate	56%	40%	53%
Age of the firm)			
Age of the firm)	5,9	5,1	5,8
Number of full time employees	19	10	17
Listed companies	6%	8%	6%
Number of product launches	1,1	1,1	1,1
Industry segments			
Diagnostics (in vitro)	17%	9%	16%
Drug discovery and development	41%	36%	40%
Med-tech / Devices	28%	36%	29%
Other Biotech	14%	18%	15%

Source: Vækstfonden and Egon Zehnder International.

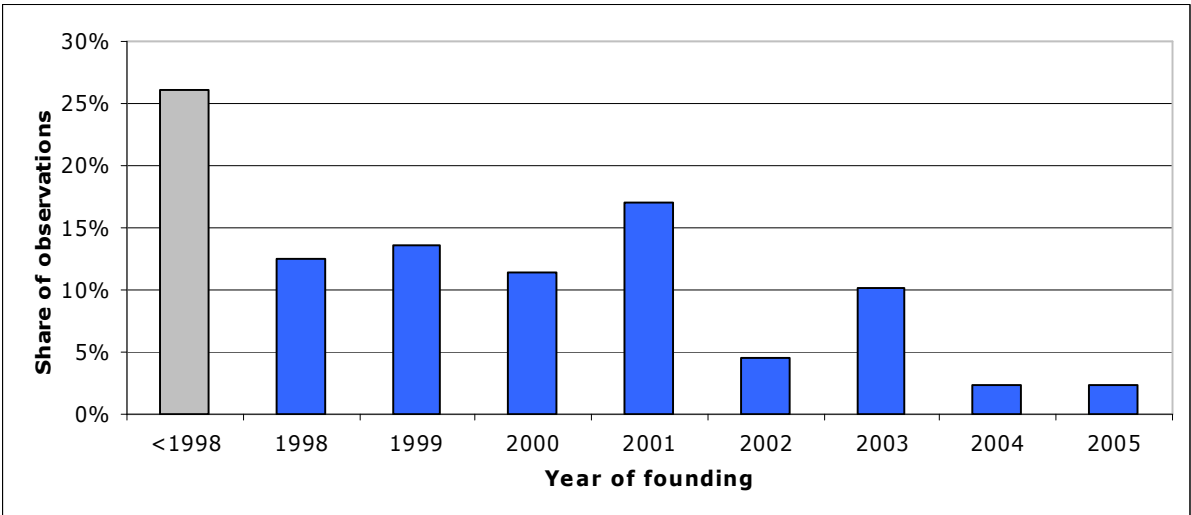
In terms of company age, the two samples are almost identical. The Danish companies are, however, close to twice as large as the Swedish companies on average, while the reverse was true for the ICT-samples.

3. The anatomy of ICT boards in Southern Scandinavia

3.1. Profile of the ICT companies

The ICT ventures in Southern Scandinavia that responded to the survey make up a relatively mature population, with a majority of 52% founded before 2000. However, only 26% of the respondents were established before 1998, see figure 3.1.

Figure 3.1: Year of Founding for Southern Scandinavian ICT Companies

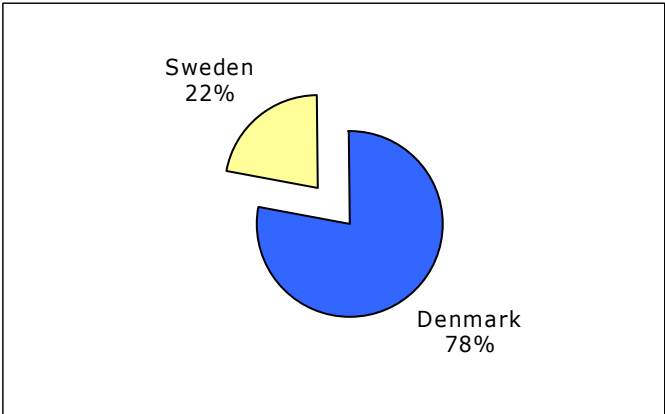


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The technology based companies in this survey are 8 years old on average. They have rolled out several product launches to date, while the average number of product launches is 2.

Swedish companies participating in the survey constitute 22% of the total number of respondents – close to the 26% share of Swedish firms in the population of firms that were contacted. Hence, the remaining 78% of the responding companies are Danish, see figure 3.2 (next page). Overall, the sample distribution of companies across Denmark and Southern Sweden is a good proxy of the entrepreneurial- and Venture Capital (VC-) activity in the combined region.

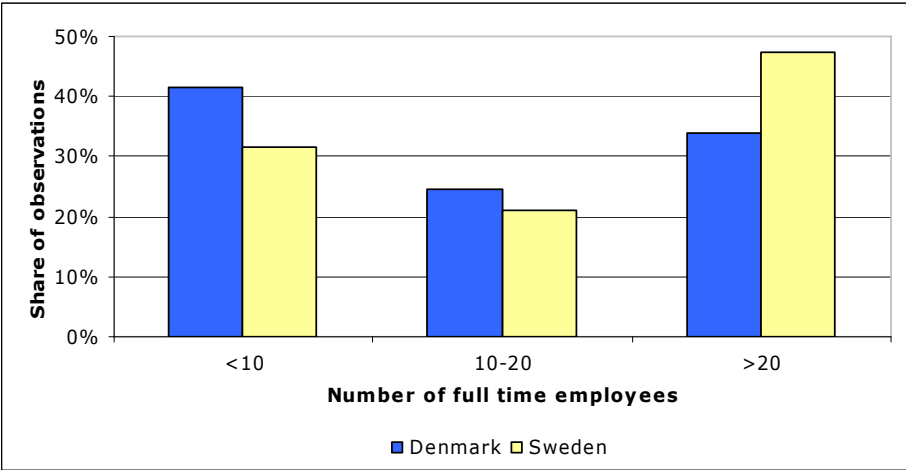
Figure 3.2: Location of Responding ICT Companies



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

In the total group of companies, 42% have less than 10 employees, while 35% have grown to more than 20 full time employees. However, the Swedish ICT companies are larger and more mature than the Danish counterparts. 47% of the Swedish firms employ more than 20 individuals, while only one third of the Danish firms have reached the same size. The number of employees is less than 10 in 42% of the ICT firms in Denmark, see figure 3.3.

Figure 3.3: Number of Full Time Employees



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Only a fraction (9%) of the companies has not yet launched a product, while 28% have launched more than five different products. The participating companies are located within three different industry segments; "Software" (47%), "Communications" (10%), and "Other Technologies" (43%).

3.2. Profile of the ICT board of directors

"A Board of directors is the sum of its parts," (Edelson, 1998). The composition of board members varies between technology segments and types of company, but it should generally consist of people with complementary skills and talents. Moreover, the company board should at any given point in a company's life reflect the anticipated challenges for that particular company. Thus, great effort should be expended to recruit the best person available for a particular expertise, and not settle for two or three directors with lesser stature.

Some venture-backed firms devote substantial funds early on to attract the most qualified individuals, while other entrepreneurs choose to save the money, relying instead on their own qualifications. Regardless of which approach is taken, it is beyond doubt that the competencies of board members play a crucial role in shaping new high-tech ICT and Life Science start-ups for success.

Fundamentally, the company board has two main functions. One is to monitor that the hired management perform in accordance with their fiduciary objectives and responsibilities. Secondly, the board should give constructive advice and guidance to management as to the overall business strategy the company should pursue. At the same time, the board should be equipped to make key strategic decisions as they appear.

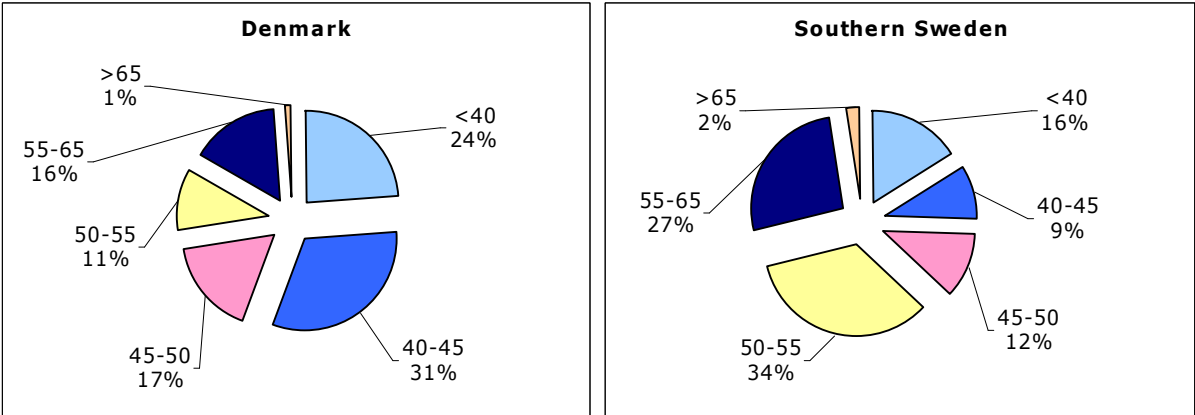
According to Johnson et al., 1996, directors who are involved in the day-to-day operations of a firm may be less effective monitors of firm management. For firms where the monitoring function is more important, the likelihood of success thus increases with a high level of independent directors (outsiders) compared to Boards with higher proportions of dependent directors (insiders).

However, for a fledgling start-up firm, the need for monitoring and control generally is overshadowed by a strong need for purpose and direction in the early stages. What this means is that boards in start-up firms should be prepared to give substantial strategic support and feedback to management in order to develop and constantly refine the business plan. Sometimes, external board members may even be involved in targeted operational activities until it is feasible to hire resources for full time duty. Finding the right match of directors is therefore crucial for the success of a venture-backed firm. Insiders and outsiders with a variety of references should supply the Board with a broad

set of skills and competencies. An individual’s skill-set generally evolves over time as he or she gathers experience and knowledge from working in different business contexts. The breadth of a board member’s skills therefore tends to be correlated with that person’s age.

The average age of Board members in the Southern Scandinavian region is 48. However, 36% of all directors are at least 50 years old, and 2 respondents are above 65 years of age. However, there is a significant divergence between Denmark and Southern Sweden. Overall, board members in the Southern Swedish region are older as 62% are over 50 compared to only 28% in the Danish companies – see figure 3.4.

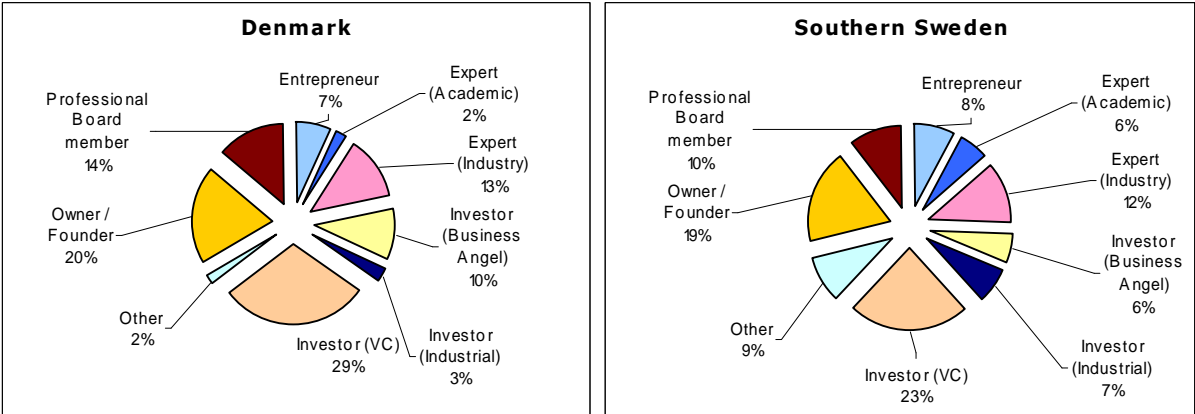
Figure 3.4: Age of Board Members in ICT Companies



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Diversity and versatility in the board are crucial to providing an ICT start-up with a broad range of insights about technology, market and finance. This means that board members should have different backgrounds and experience if the company is to succeed through all stages of development. Looking at the capacities in which board members are elected to the boards, Venture Capital investors emerge as the largest independent group, holding 29% of the seats. By comparison, 19% are owners or founders. However, the VC dominance is less pronounced among the Swedish firms as VCs command only 23% of all seats compared to almost a third in the Danish companies, following figure 3.5 (next page).

Figure 3.5: Background of Board Members in ICT Companies in Southern Scandinavia



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

In total, investors make up 42% in Danish ICT boards, whereas the share in southern Sweden is 36%.

Several corporate governance recommendations – the Danish Nørby-committee among others – call for more outsiders on the boards to better match management. This way, boards should become more powerful and effective. However, Lowler III & Finegold (2004) state the importance of obtaining the best composition of both insiders and outsiders to emphasize all board roles. Insiders often bring other important references to the board such as specific knowledge of the firms industry and operations. Furthermore, inside directors can educate the outsiders in firm specific matters.

3.2.1. Board size

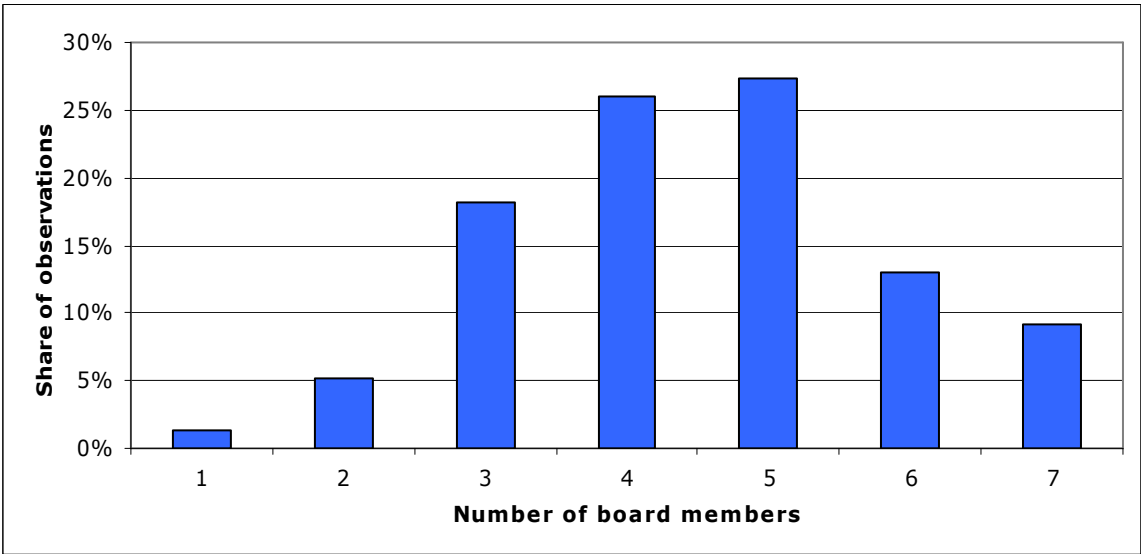
Board size is an important and much studied characteristic of the effectiveness and functioning of the board of directors. Large boards have advantages and disadvantages, and the optimal size depends on the members and the characteristics of the company. “Larger Boards are likely to have more knowledge and skills at their disposal, and the abundance of perspectives they assemble are likely to enhance cognitive conflict,” (Forbes & Milliken, 1999).

Venture-backed firms typically have larger Boards at their disposal than non venture-backed firms due to the fact that venture investors are highly involved in their portfolio companies. A survey of Swedish Small and Medium sized Entities (SMEs) by Gabriëlsson

& Huse (2001) shows that the average board size of venture-backed firms in Sweden was 4.8, while it was only 3.4 for non venture-backed firms.

The boards of venture-backed companies in the Southern Scandinavian region are quite similar in size to Swedish SMEs in general. This survey shows that the average size is 4.5, while the median firm has five directors on the board. 22% of the respondent companies had more than five board members, while one fourth had less than four members, see figure 3.6.

Figure 3.6: Number of Board Members in ICT Companies in Southern Scandinavia



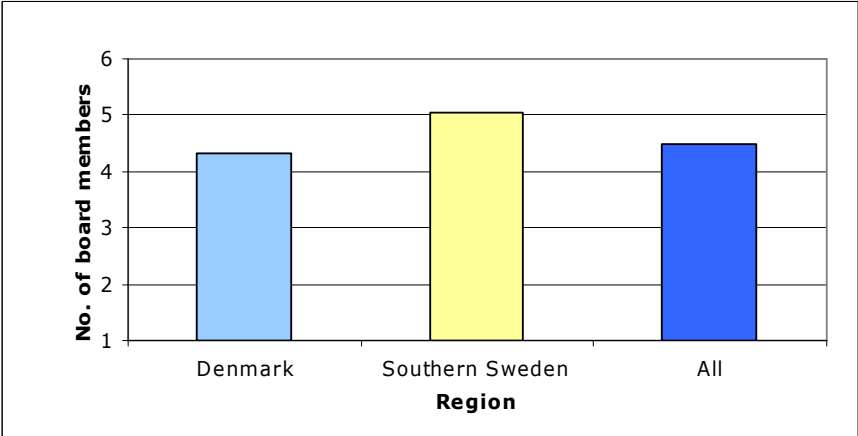
Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

A survey of American high-tech companies revealed that keeping the size of the company board small enhances the rate of success (Spencer Stuart, 2005). For this reason, five members on the board of directors in Scandinavia seem both reasonable and manageable for start-ups in the ICT-segment. More than five directors could make it difficult to reach agreement on important issues at the meetings, whereas fewer members make it exceedingly difficult to achieve the desired diversity in competencies and personal networks.

The company boards are slightly larger in Southern Sweden than in Denmark. The average board size in Sweden is 5.1 directors, while only Danish boards only muster 4.3 members, cf. figure 3.7 (next page). Recalling that the Swedish companies have a somewhat longer history on average, may explain why their boards tend to have more members. The complexity of company operations still remains much less than is the case

in, say, S&P 500 companies, where 69% of all boards of S&P 500 have 10 members or more.¹

Figure 3.7: Average Number of Board Members – by region

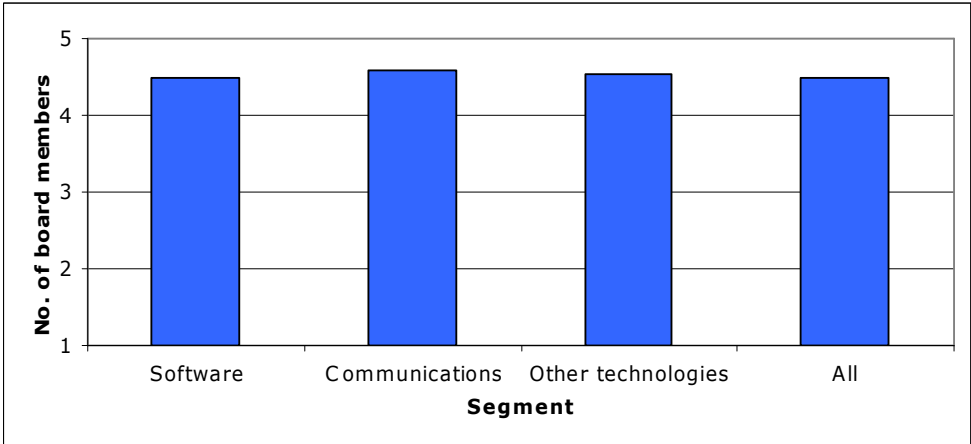


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Aside from the age difference among company samples, the larger number of board members in Swedish ICT firms may reflect a greater willingness to invest in outside members as investor representation is smaller.

The size of the board is roughly similar across technology segments. The number of directors in the Communications segment is 4.6, while it is marginally lower at 4.5 in the Software segment and Other technologies – including semiconductors, electronics and information services – see figure 3.8.

Figure 3.8: Number of Board Members – by technology segment



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

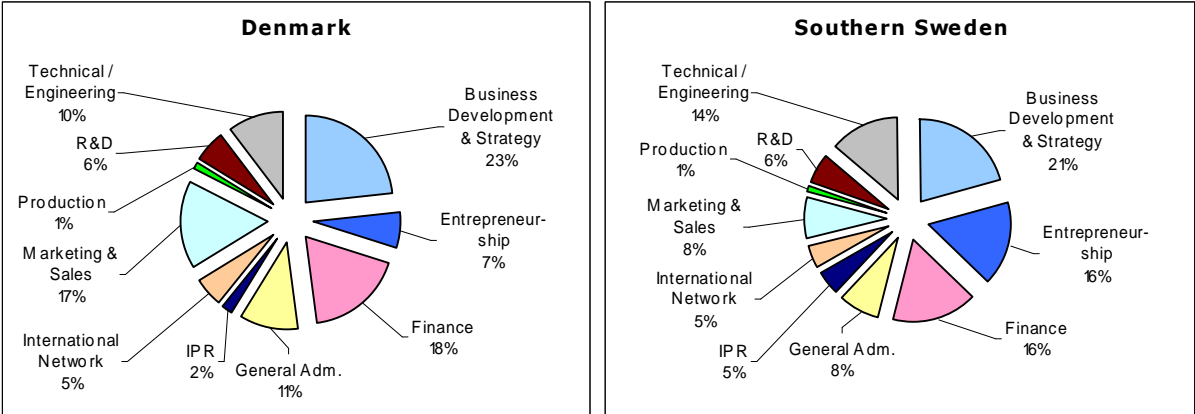
¹ Spencer Stuart (2005), *Building the venture-backed Board post Sarbanes-Oxley*.

3.2.2. Key competencies

Technology based companies depend on highly skilled board members to understand the business and define the strategy. The effectiveness and cohesiveness of the directors increases when the board serves together for a long time. Hence, their familiarity with one another is likely to enhance the synergies of complementary skills and competencies and improve the quality of the work on the board (Forbes & Milliken, 1999).

Board members in ICT companies in Southern Scandinavia are characterized by having their main key competencies within business development and strategy (23%) and finance (17%). Moreover, Danish boards are well endowed with key competencies within marketing and sales, whereas entrepreneurial skills are more frequent in Southern Sweden. The proportion of directors with entrepreneurship as a key competency is 16% in Swedish boards, while only 7% in the Danish ICT companies, see figure 3.9.

Figure 3.9: Key Competencies of ICT Board Members in Southern Scandinavia

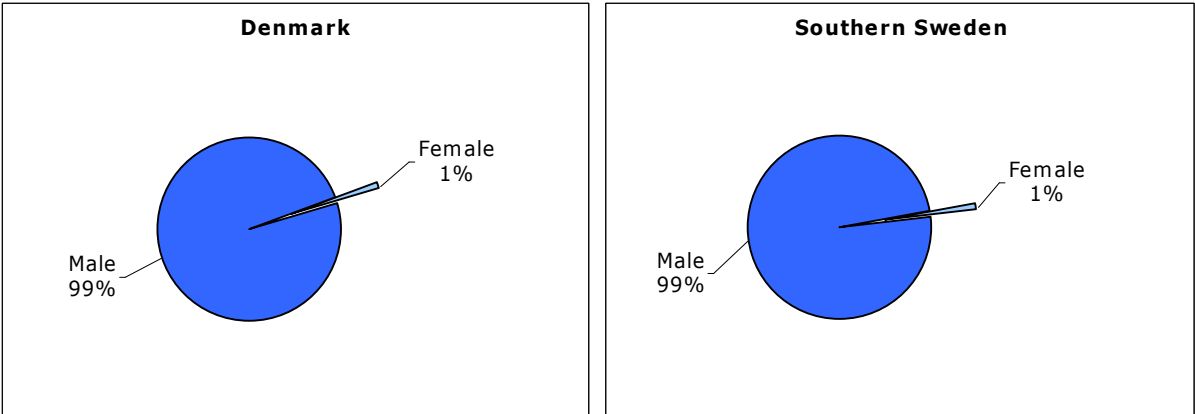


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

3.2.3. Gender

In general, women are a scarce resource in high-tech company boards throughout the world. The of women in ICT boards in Southern Scandinavia might even be more limited than elsewhere as less than 1% of board members are women. The absence of women applies to ICT companies in Sweden as well as in Denmark, see figure 3.10 (next page).

Figure 3.10: Composition of ICT Company Boards - by gender



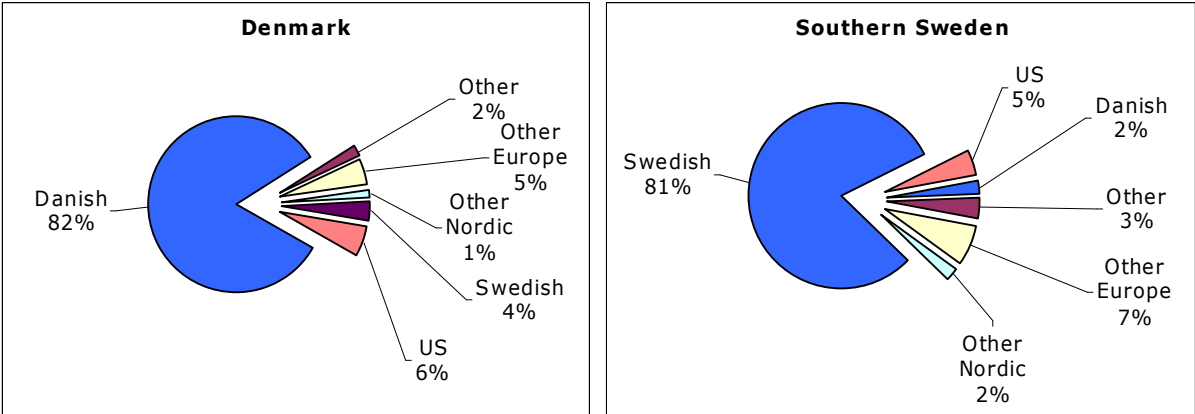
Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Only 4 of 336 board members in this survey are women. The low incidence of women stems from a shortage throughout the entire pipeline in the ICT industries. Women are outnumbered by men at technical universities and they are rarely found in the management or founding teams ICT start-ups.

3.2.4. Nationality

Many ICT companies are established with a global scope of the business. For ultimate success, these companies must look abroad to find key markets and customers – typically in the US. However, only a fraction of the board members in Southern Scandinavian boards of directors come from outside Scandinavia. In Sweden as well as in Denmark, the share of national directors is above 80%. In Denmark, the share of Danish board members in the ICT segment is 82% - slightly more than Swedish members of Swedish boards, see figure 3.11 (next page).

Figure 3.11: Nationality of Board Members in ICT Companies in Southern Scandinavia



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

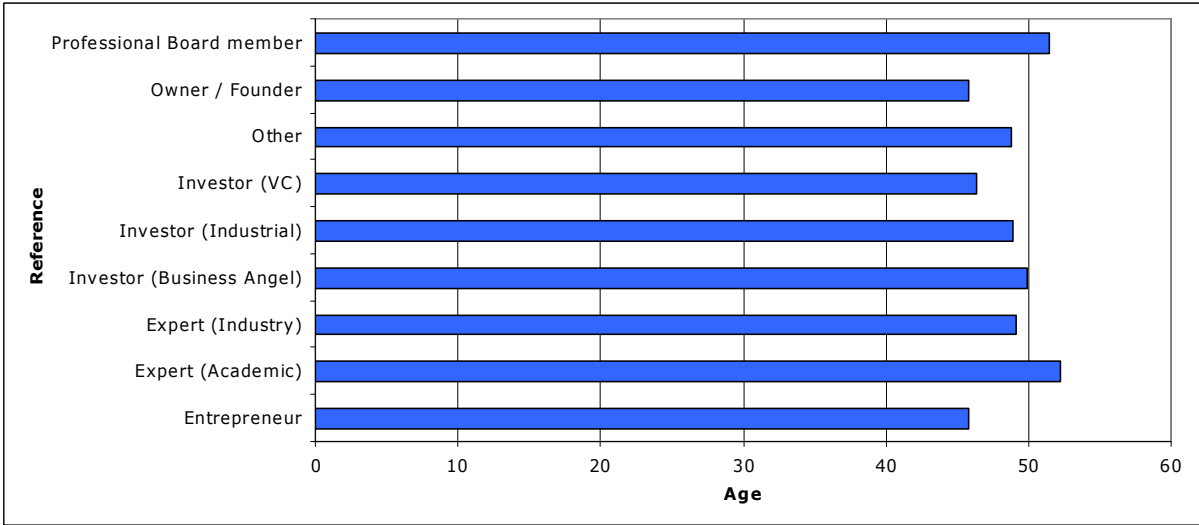
In Denmark, the share of board members from the Nordic region – Denmark, Sweden, Norway, Finland and Iceland – accounts for 87% of the total. This leaves only 13% for board members from outside the Nordic region of which only 6% are from the US, although this is typically the target market for companies in the ICT segment. If their business plans hinge on capturing market shares in the US market, Scandinavian ICT start-ups should seek to enlist board members early on, who can provide key insights and customer contacts in the US market.

3.2.5. Experience

Companies can benefit greatly from having directors on board with prior experience in all aspects of business development. Board members with a corporate background and/or exit experience can be of great benefit for the future success of ICT firms with extensive growth potential.

The average age of board members in ICT firms is 48 – as mentioned earlier – and their professional backgrounds vary across a wide range of references. Academic experts and professional board members are generally the most senior group with an average age above 50. By contrast, the youngest members of the boards are the owner/founder, the entrepreneurs and the VCs – all averaging 45 years of age, see figure 3.12 (next page).

Figure 3.12: Board Member Experience (distributed on age and reference)



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Securing diversity in the experience base of board members is key to successfully establishing a value-creating board. However, several of the reference groups can be overlapping. For instance, VC investors typically draw from previous experience in a financial institution or industrial firm when overseeing their investment on a company board. As regards entrepreneurs serving on company boards, several of these individuals have a background as academic or industry expert. Hence, their knowledge and experience from former positions will be beneficial for new start-up firms.

Directors bring different types of competencies to the board. Entrepreneurs mainly bring key competencies within entrepreneurship, business development and strategy to the Board. VCs possess a variety of skills and competencies, though the primary competency is finance. Business development constitutes their other major area of support. Industrial investors are relatively more important in supplying the company with an international network, see table 3.1 (next page).

Table 3.1: Key Competency and Background of Board Members

Key-competency	Reference								
	Entrepreneur	Expert (Academic)	Expert (Industry)	Investor (Business Angel)	Investor (Industrial)	Investor (VC)	Other	Owner / Founder	Professional board member
Business Development & Strategy	24%	0%	23%	27%	17%	33%	7%	17%	16%
Entrepreneurship	24%	0%	9%	10%	0%	2%	21%	18%	2%
Finance	0%	10%	5%	10%	8%	41%	29%	5%	14%
General Administration	4%	30%	2%	13%	8%	6%	29%	3%	27%
Intellectual Property Rights	0%	30%	0%	0%	8%	2%	0%	2%	7%
International Network	4%	10%	7%	10%	17%	2%	0%	3%	7%
Marketing & Sales	20%	10%	21%	17%	8%	5%	14%	17%	23%
Production	0%	0%	5%	0%	8%	0%	0%	2%	0%
Research & Development	12%	10%	9%	7%	8%	2%	0%	11%	0%
Technical / Engineering	12%	0%	19%	7%	17%	6%	0%	23%	5%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

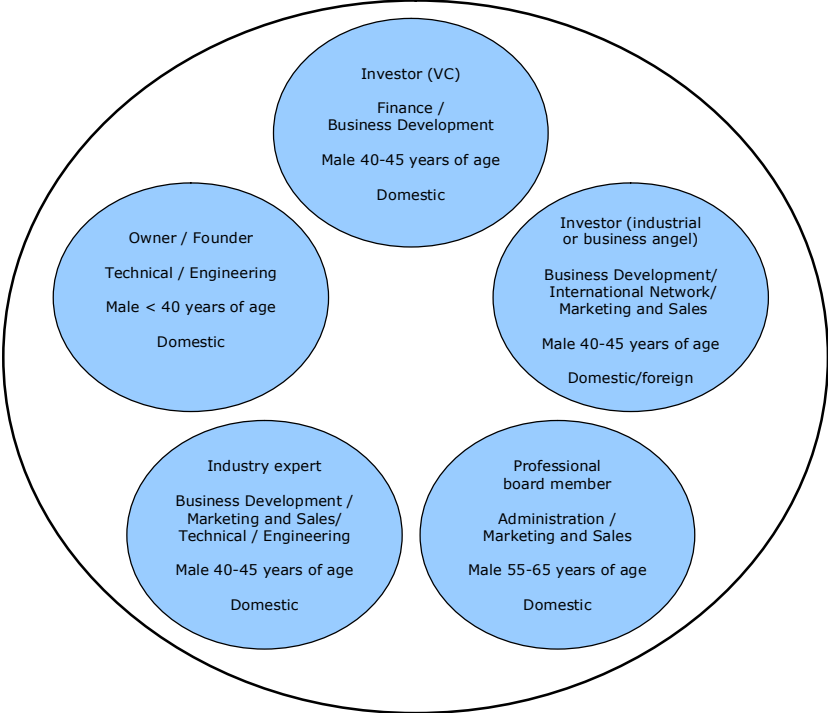
Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

On the surface, no directors are engaged due to their international network. Industrial investors are evaluated to possess 17% of their key competencies in international network. Unsurprisingly, the owners or founders – which often constitute an important part of the boards – are well endowed with technical/engineering skills. Typically, they developed the new product came up with the business idea, whereof they have the deepest insight into the underlying specifications of the actual technology or product. Meanwhile, the professional board members – who are generally occupying several board seats – have their main competencies within superior fields – general administration and marketing and sales.

Though research from the leading VC clusters in the US shows, that venture investors don't bring more "value added" to a high-tech company than other outside investors (see Rosenstein et al., 1993), the results indicate that they are important benefactors in the area of finance and business development – with shares of total key competencies of 41% and 33% respectively.

Summing up on the anatomy of an ICT board of directors makes it possible to define the typical composition of the board of directors. The composition of the stylized ICT board is shown in figure 3.13 (next page), and involves 5 male Directors with main competencies within business development.

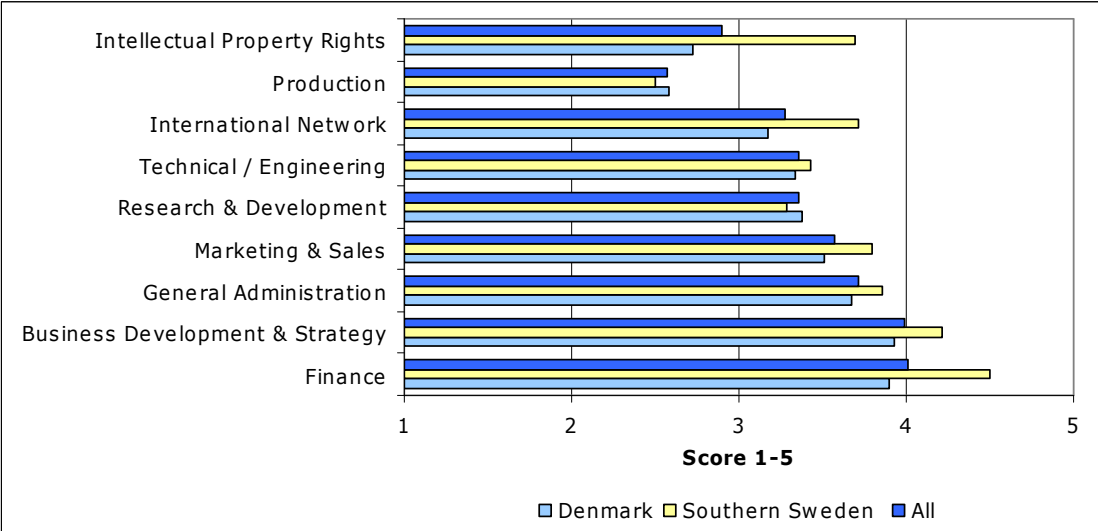
Figure 3.13: Typical composition of an ICT Board – for each type of reference



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The level of competencies on the board differs notably across the two regions. Southern Swedish boards generally obtain significantly higher scores than their Danish counterparts. Most noteworthy is competencies within Intellectual Property Rights (IPR), where Swedish boards obtain a score of 3.7, on a scale from 1 to five, where 5 is best, compared with a score of only 2.7 in Danish boards, following figure 3.14.

Figure 3.14: Competencies on the Board – across regions



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Danish boards obtain the highest score in two out of 9 categories – production and R&D. The higher score of competencies in the Swedish boards most likely is the result of those companies having started earlier. A cross-tabulation of age and competencies shows a significant correlation of these two variables, following table 3.2. Additionally, older companies possess a higher degree of core competencies to build a successful firm than their younger counterparts. To this issue the oldest companies give the board a score of 4.1, while the score is only 3.4 among the youngest companies. Hence, since Swedish companies are three years older than Danish firms on average, and 10% are listed in Sweden, the board competencies naturally obtain higher score.

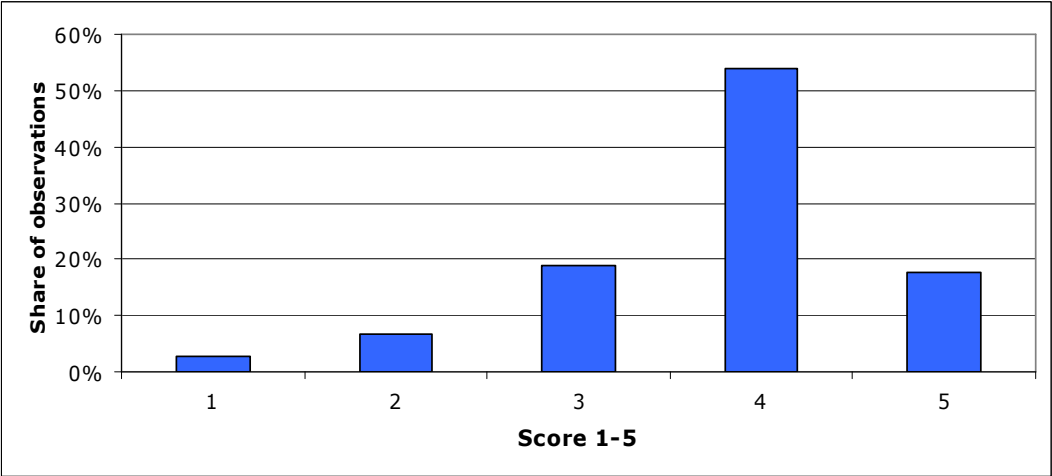
Table 3.2: Cross-tabulation of Age and Competencies among ICT Companies

Competencies	Young companies	Old companies
Finance	3.9	4.1
Business Development & Strategy	3.9	4.1
General Administration	3.6	3.8
Marketing & Sales	3.4	3.6
Research & Development	3.1	3.6
Technical / Engineering	3.3	3.5
International Network	3.1	3.5
Production	2,5	2.7
Intellectual Property Rights	2.7	3.1

Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The combination of different competencies on the board of directors in Southern Scandinavian boards is appreciated differently among the respondent companies. Most boards are however judged to have the ability to build a successful company as a majority of respondents rank board competencies at 4 on a scale from 1-5 , see figure 3.15 (next page).

Figure 3.15: Board Competency Rankings

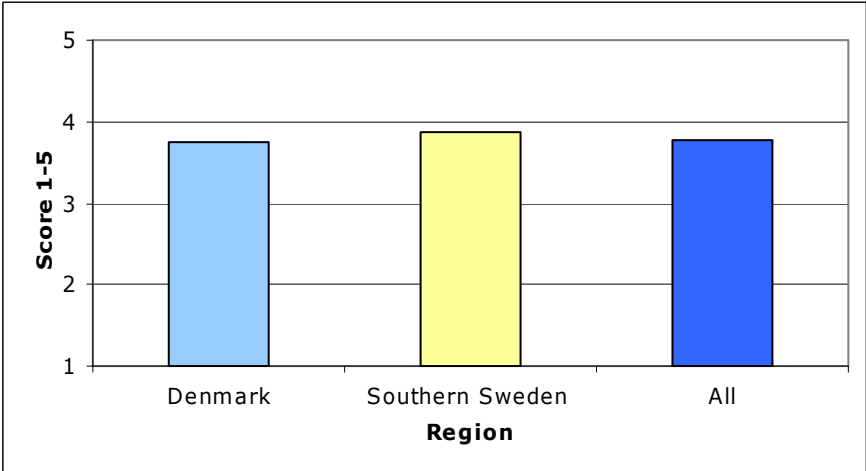


Note: Boards are ranked on a scale from 1-5, where 5 is the highest
Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

70% of the respondents are convinced that they have a board that is sufficiently capable of building a successful firm – with a score of 4 and 5. The average score of all companies is 3.8, indicating a high level and a reasonable match of competencies. However, a minority of 10% do not believe that they have adequate board competencies to lead the company to success as they have given rankings of 1 to 2.

Swedish boards appear slightly better equipped to build successful firms than Danish counterparts. The average score of the Southern Swedish boards is 3.9, while their Danish counterparts obtain a score of 3.7 for, cf. figure 3.16. Once again, the slightly higher score for Swedish boards stems from the greater maturity of the Swedish firms.

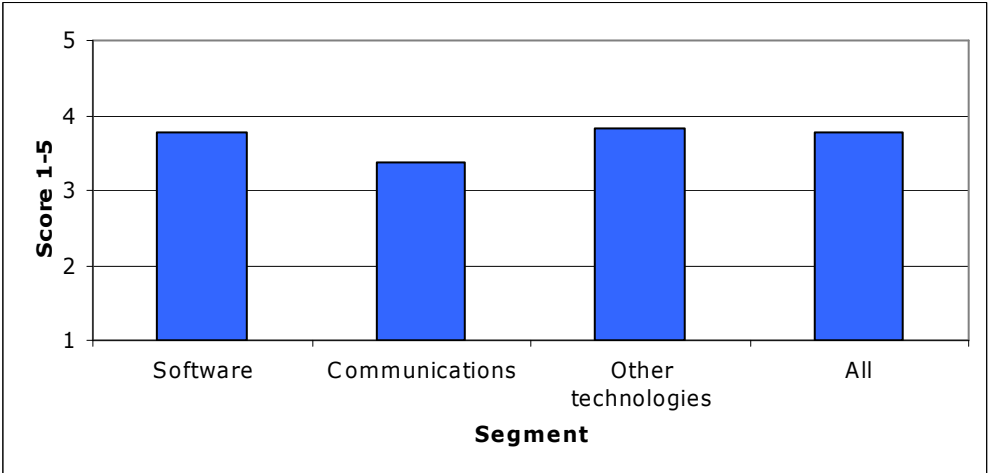
Figure 3.16: Board Competency Rankings – across regions



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Board competencies are also considered to be different across industry segments. The boards in the Communications segment are significantly less likely to build a successful firm – according to the respondents – than are boards in Software and Other technologies. With an average score of 3.4, the boards in the Communications segment are valued significantly below the total average of 3.8, see figure 3.17.

Figure 3.17: Board Competency Rankings – by technology segments

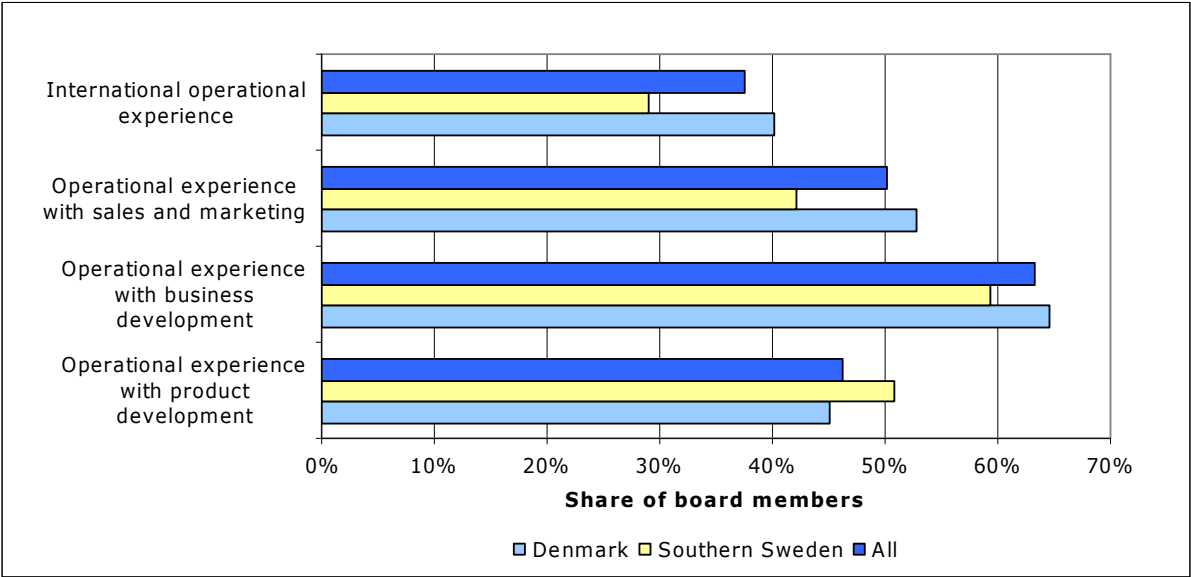


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The deviation of competency evaluation is caused by a significantly younger population of firms in the Communications segment. The average age of the Communications firms is 4 years compared to an average age of 8 years for all ICT firms.

The endowment of competencies on the board is related to the experience of individual members. A new start-up firm should, among other things, draw on the operational experience of board members to develop its own business processes. Operational experience in business development is available with almost two thirds of the board members, while 38% of the total number of board members has international operational experience, following figure 3.18 (next page).

Figure 3.18: Experience of Board Members in ICT Companies

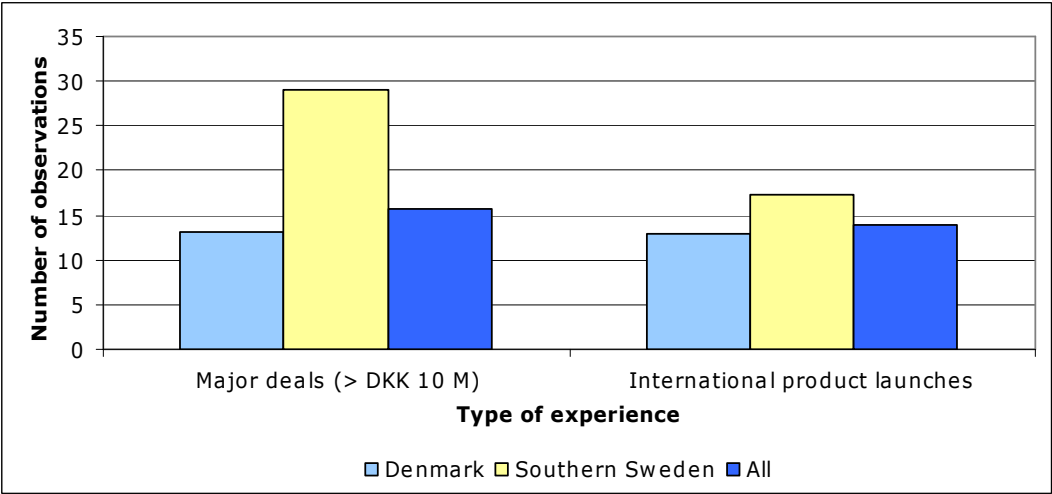


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Danish boards generally possess relatively more operational experience than their Swedish counterparts. 65% of the board members in Denmark have operational background in business development – compared to 59% of the Swedish boards – while 40% have worked with international operations. In Southern Sweden less than one third of directors have international operational experience. However, experience within the field of product development is more prevalent in the Swedish region.

Commercial experience among board members may serve as a powerful knowledge pool as the company tries to identify the best distribution channels and key customers. Hence, commercial experience on the board will facilitate and strengthen the go-to-market strategy. Swedish directors are generally more experienced in commercialization than their Danish counterparts. The average number of major deals – larger than DKK 10 M – per board member is 29 in Sweden, while Danish directors have participated in just 13. Additionally, Swedish board members have more experience with international product launches, cf. 3.19 (next page).

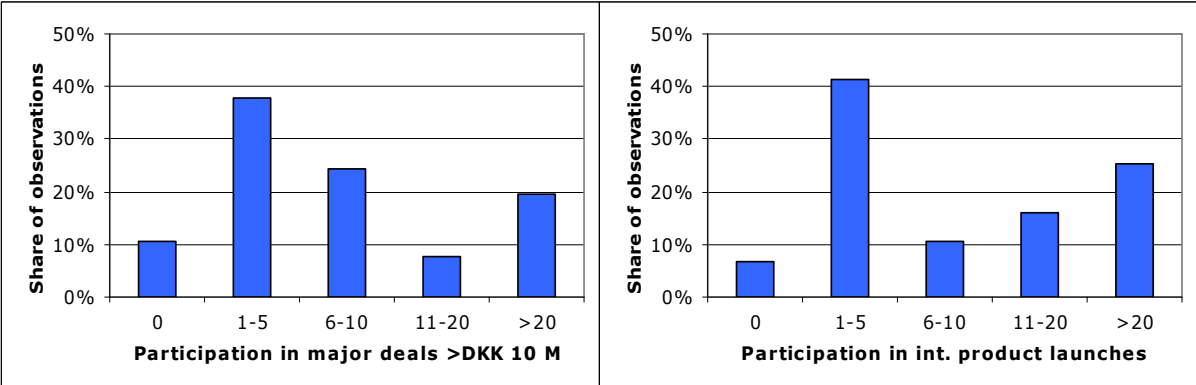
Figure 3.19: Commercial Experience in ICT Company Boards



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The distribution of experience in completing major deals is fairly wide. The number deals per ICT board in this survey ranges from 0 to 100 – with a majority of boards having closed less than 10 major deals. 37% of the boards have participated in 1-5 major deals of more than DKK 10 Millions, while 19% have taken part in more than 20 deals, cf. figure 3.20. The average number of deals in Southern Scandinavian boards is 15.7 – strongly influenced by three boards having participated in more than 100 deals.

Figure 3.20: Experience with Major Deals and International Product Launches



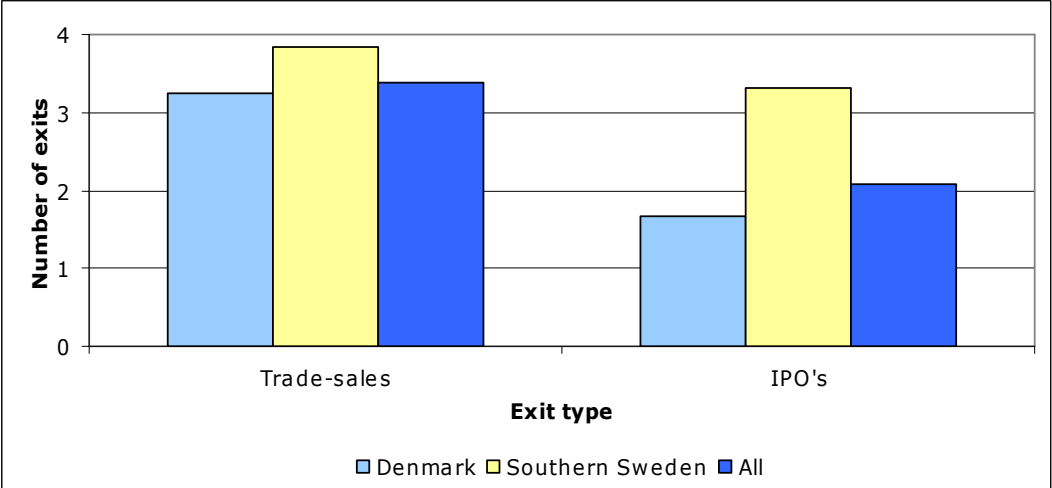
Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Also in relation to international product launches, less than half of the boards have participated in more than 10. Yet, 25% of the members have participated in over 20 international product launches. The average number of international product launches in venture-backed ICT companies in Southern Scandinavia is 13.8, indicating that boards

are well endowed with experience within international product launches as well as participation in major deals.

Besides operational and commercial experience, exit experience is another important competency for board members in high-tech ICT start-ups. 57% of all board members in the ICT segment have exit experience in relation to trade-sales or Initial Public Offerings (IPOs). Danish board members have on average participated in 3.2 trade-sales, while the Swedish board members have participated in slightly more – 3.8 trade-sales – see figure 3.21.

Figure 3.21: Company Board Experience with Trade-sales and IPOs



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Swedish directors have participated in significantly more IPOs than their Danish counterparts. The average number of IPOs per board is 3.3 in Southern Sweden, while the number is only 1.7 in Denmark. This result is influenced by the higher number of listed Swedish companies, which raises the number of IPO participants. However, taking this into account, Swedish board members still have taken part in more IPOs.

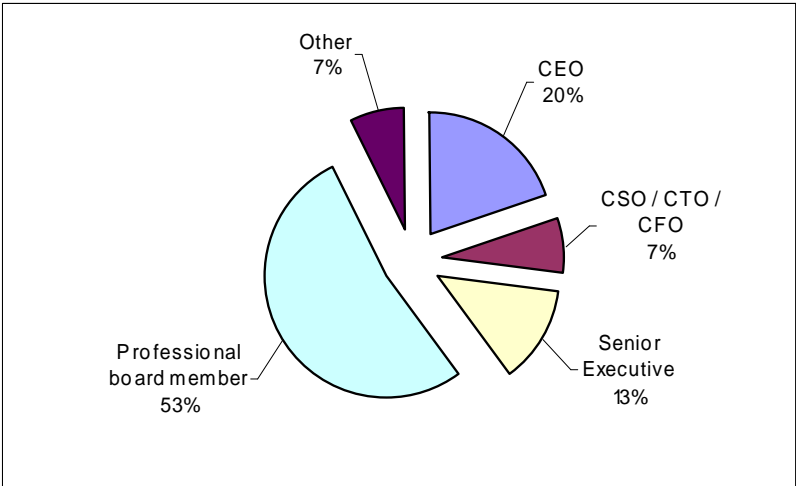
3.2.6. Profile of the Chairman of the board

Presiding over the company board, the Chairman plays a crucial role in the development of venture-backed ICT start-ups. The Chairman ideally possesses a variety of skills and competencies which allow him to guide the company towards its business objectives in the best possible way. The Chairman must have a close relationship to the CEO and a

good feeling of the day-to-day routines of the company to fully understand its potential and the barriers to unleashing it.

The Chairman of the board typically holds other positions outside the firm. In Southern Scandinavian ICT firms 53% of the Chairmen are professional board members, while another 20% hold a position as the CEO of a company (see figure 3.22).

Figure 3.22: Current Position of the Chairman

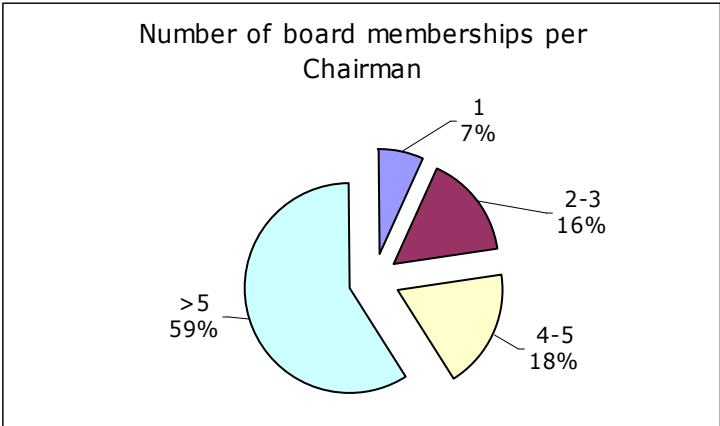


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

60% of the total population of Chairmen enjoys a full time occupation besides their position as Chairman. One third of the Chairmen work part time. Many board members are business angels, and their focus on nurturing portfolio companies has higher priority than assuming a full time position in one company. A fraction of 6% is retired or holds other occupations, which indicates that retirement does not necessarily mean exit from company boards. Rather, start-up ICT firms should try to hold on to board members with extensive track records as long as they add value.

Unsurprisingly, the large share of professional board members implies that the majority of Chairmen are involved in several boards. Nearly half (41%) of the population of Chairmen hold board positions in up to five companies, while 37% are involved in more than five boards, see figure 3.23 (next page). Only a fraction of the Chairmen hold only one board membership.

Figure 3.23: Number of Board Memberships

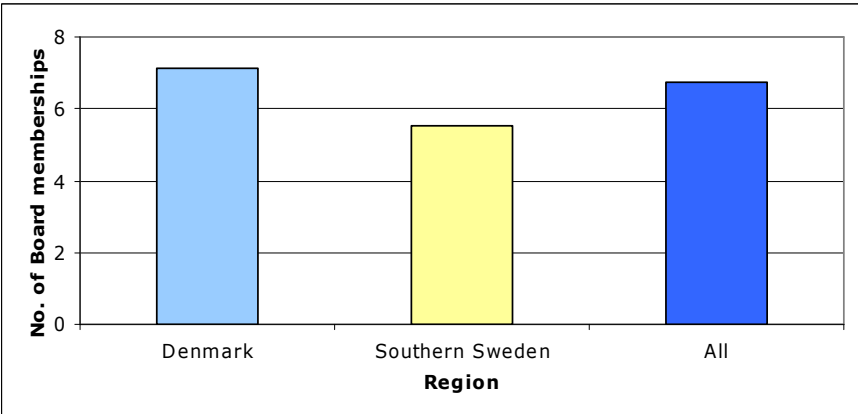


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Board members with the right set of skills and qualifications are in high demand in the Southern Scandinavian region. For this reason, many qualified board members hold more than one seat. Overall, Chairmen in Denmark take up more board seats than their Swedish colleagues. However, Jaffe and Levensohn (2004) point to a common pitfall of venture boards, which is the problem of over-commitment. This occurs when Chairmen serve on a large number of boards thus spreading their resources too thin.

Each Chairman in the Southern Scandinavian region holds 6.8 board seats on average. Danish Chairmen drive up this number with an average number of board memberships of 7.2, see figure 3.24.

Figure 3.24: Number of Board Memberships for Chairmen – across regions



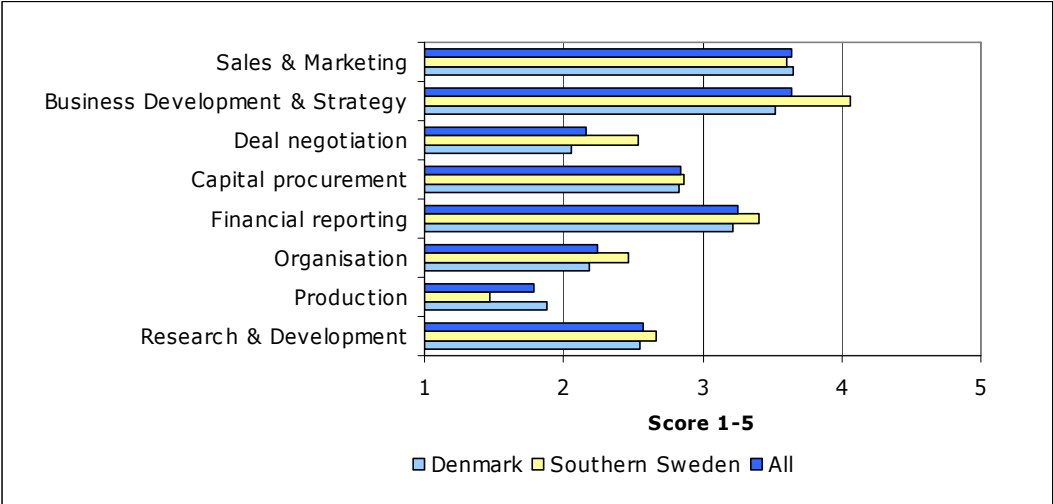
Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

3.3. Board meetings in ICT companies

The board of directors generally meets several times a year to discuss and define strategic objectives of the firm. An optimal composition of the board does not produce a good board automatically, though it provides a strong foundation. To bring the success home, the board meetings must be well organized, and each board member must be highly motivated and committed to helping the company move forward. Because board members typically have several other commitments besides sitting on a particular company’s board, they must be sufficiently committed to getting and staying involved if they are supposed to create value for the company.

One indication of the level of commitment is the time spent on different subjects during board meetings. This reveals a great deal of variation, although board meetings in general deal with overall business objectives and strategic decision making. In the ICT segment in Southern Scandinavia, the topics that enjoy the highest priority are sales and marketing, business development, and strategy, see figure 3.25.

Figure 3.25: Priority of Subjects during Board Meetings



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Predictably, the least discussed subject on the board meetings is production. The majority of the respondents work within the software segment, where production accounts for only a small part of the business. The large share of investors on the boards explains the high level of focus on financial reporting.

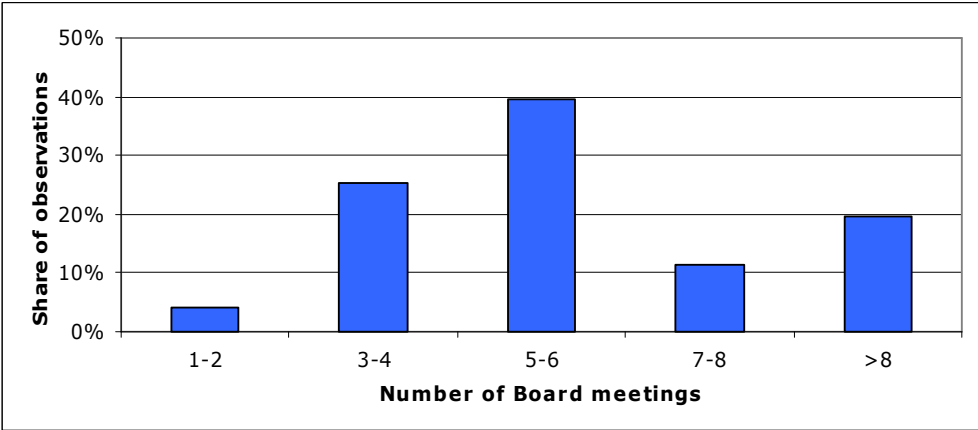
The prioritization of subjects at board meetings does not vary significantly across the two regions. The business development and strategy focus is somewhat higher on the agenda in Swedish boards, while the focus on production is less than that found in Danish boards.

3.3.1. Number of board meetings

The boards of venture-backed ICT firms generally are more involved in day-to-day operations than are boards in large publicly held companies. For this reason, the number of board meetings only partly reflects the total amount of effort expended by each board member.

The responses from companies reveal how boards in ICT firms in Southern Scandinavia meet on average 6.2 times per year – or once every other month. 28 (39%) of the boards meet five to six times a year, while boards in 14 (19%) of the companies hold more than 8 meetings annually, see figure 3.26.

Figure 3.26: Number of Board Meetings Annually in ICT Companies

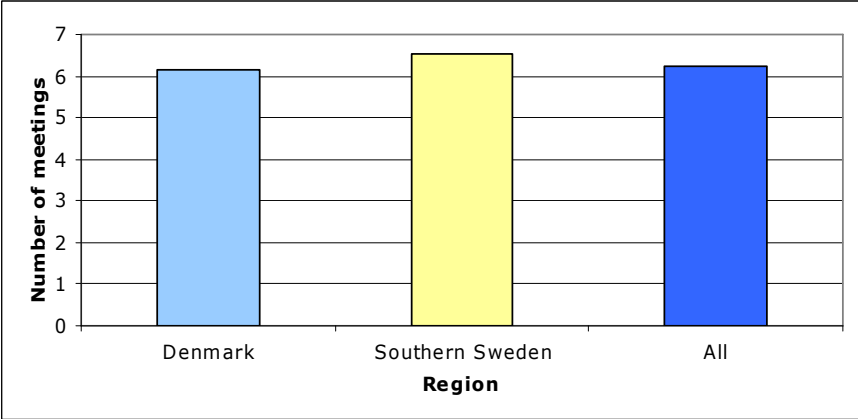


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Given that the average number of board meetings among S&P 500 companies is 8 (see Spencer Stuart, 2005), 6.2 in the ICT segment of the Southern Scandinavian region might seem moderate on the surface. However, the high degree of hands-on involvement from many board members means that they tend to be more engaged than the number of board meetings indicates. Furthermore, the limited size of many of these companies sometimes makes it a rather cumbersome task to prepare board meetings, including putting together and distributing meeting material.

The number of meetings annually is slightly higher in Southern Sweden. As outlined above, the greater number of board seats for each board member in the Danish companies may be behind the lower average number of meetings annually, which is 6.1. By comparison, the Swedish boards meet 6.5 times a year, see figure 3.27.

Figure 3.27: Number of Board Meetings Annually – across regions



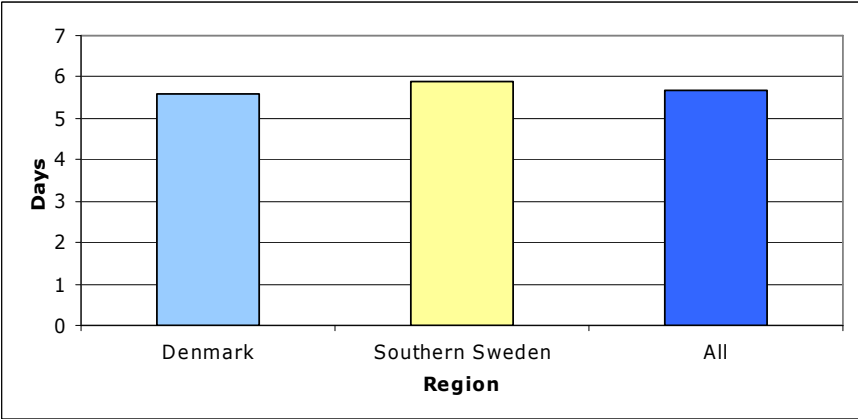
Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

3.3.2. Board meeting preparation

Board members in these companies typically are very busy individuals, but they can add no value unless they are sufficiently committed to their assignments. To allow for adequate preparation, board members receive the meeting material some time in advance. The time of distribution prior to the meetings gives an indication of the preparation conditions.

Overall, the boards in the Southern Scandinavian ICT firms receive the meeting material 5.8 days in advance. Southern Swedish directors have slightly more time to prepare themselves for the board meetings, see figure 3.28 (next page).

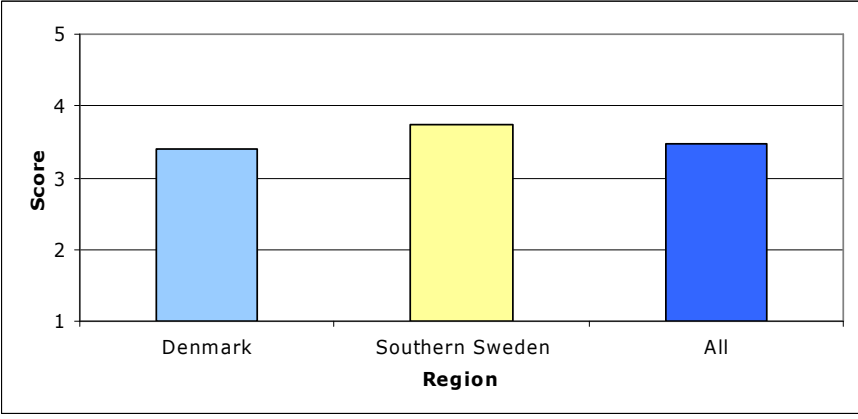
Figure 3.28: Distribution of Meeting Material Prior to the Meetings – across regions



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The marginally longer time they have to prepare themselves could be one factor to explain why Swedish board members receive a higher score on their level of preparedness than their Danish colleagues. Overall, Southern Scandinavian ICT firms achieve an average of 3.5 on a scale from one to five, where five is high. Meanwhile, Swedish directors obtain a high score of 3.7, compared to a low of 3.4 for their Danish colleagues, cf. figure 3.29.

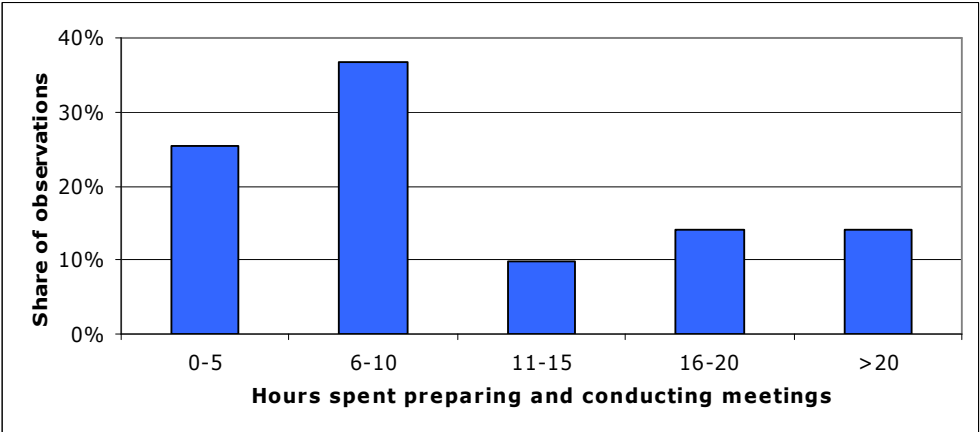
Figure 3.29: Board Member Preparedness – across regions



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

At a minimum, board members should have read the meeting material before each meeting, if they are supposed to contribute valuable insights to the company. However, the time dedicated to the preparing for board meetings varies greatly among board members. Board members spend on average 14.6 hours preparing for and participating in each meeting. 36% of the respondents spend 6-10 hours, while 14% spend more than 20 hours, see figure 3.30 (next page).

Figure 3.30: Time Spent on Board Meeting – preparation and participation

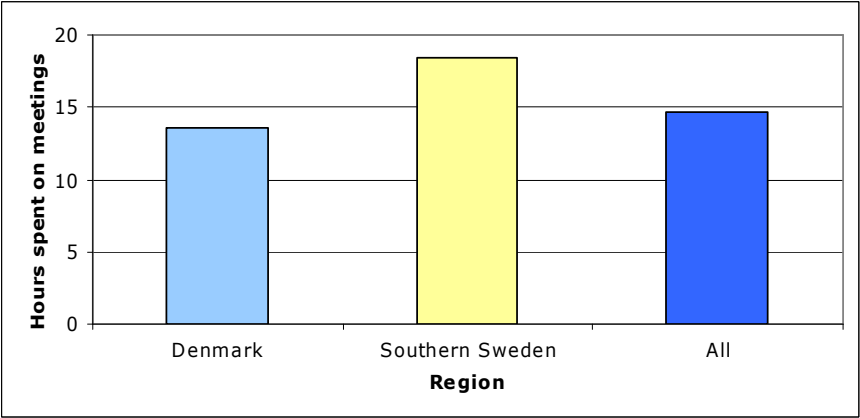


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Even though the average time spent on each meeting may seem reasonable, more than 50% of board members spend 8 hours or less. This indicates that many board members spend fairly little time preparing for meetings which might cause the meetings to be less productive for the company and its management. However, it is important to keep in mind that many board members – especially investors – work very closely with this type of high-tech venture-backed companies, which might reduce the time needed to prepare for the board meetings.

In Denmark, the board members spend significantly less time on board meetings. The average time spent on preparing and participating in meetings in this region is 13.5, while Swedish directors spend 18.5 hours, following figure 3.31.

Figure 3.31: Time Spent Preparing and Participating in a Board Meeting – across regions



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The results underline the fact that Swedish directors spend more time preparing for board meetings than their Danish counterparts. Thus, fewer board seats for Swedish board members allow them to put more effort into each board.

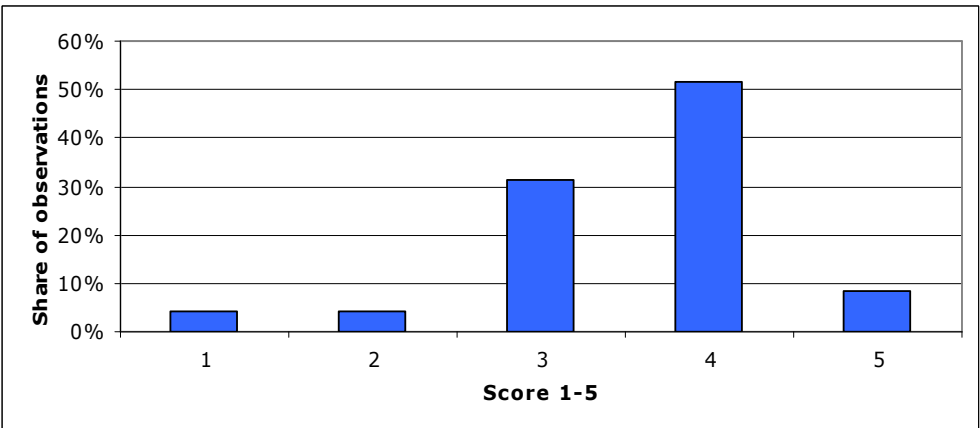
Even though the population of ICT firms is older in the Southern Swedish region, the results show that there is no difference in the degree of preparation between the younger and older firms. This conclusion indicates that the level of preparation does not depend on the properties or history of the firm, but rather on the attitude of the group of members who serve on the board.

3.3.3. Quality of meetings

Highly qualified directors are one way to ensure productive meetings. To produce a beneficial outcome of the board meetings, the directors need to acquire a high level of firm specific knowledge and skills.

Overall, directors of Southern Scandinavian ICT boards are satisfied with the quality of the board meetings. The respondents of this survey assessed the quality of the board meetings to an average score of 3.6 on a scale from 1 to 5, where 5 is the highest (see figure 3.32).

Figure 3.32: Quality of Board Meetings



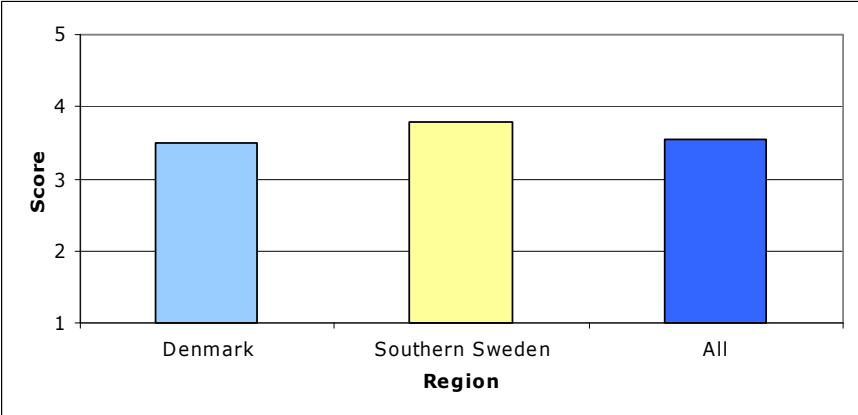
Note: Boards Meetings are ranked on a scale from 1-5, where 5 is the highest

Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The degree of satisfaction differs across the two regions. In general, Swedish board members are more satisfied and assess the quality higher than is the case on Danish

company boards (see figure 3.33). This is another result that clearly shows the benefits of more extensive preparation for board meetings in the Swedish companies.

Figure 3.33: Quality of Board Meetings – across regions



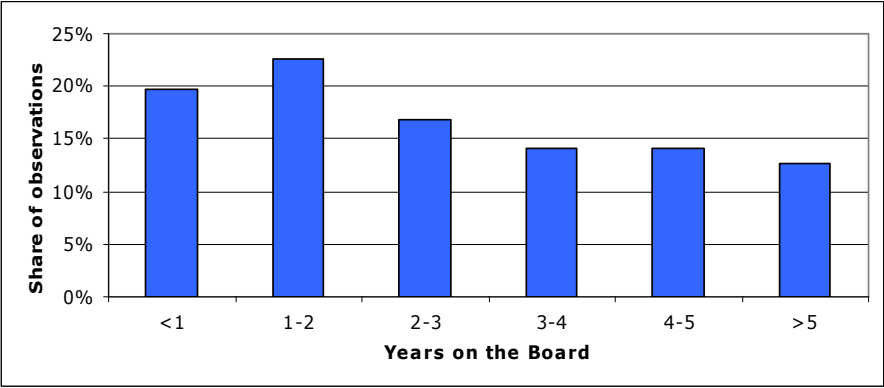
Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

3.3.4. Board tenure

Board members that have served together for a long time are likely to better understand one another and the business they work with. The number of years on the board is thus correlated with the accumulation of firm specific knowledge and skills. The marginal rate of return from keeping a board member on should increase over time until the point, where the company enters a new stage, where his or her specific competencies need to be replaced by other competencies. Board members therefore should be mindful of their own ability to consistently create value in a company and be prepared to step down when necessary.

How long the optimal board term might be is, however, difficult to say anything general about as it depends very much on the individual business situation. For Chairmen in ICT firms in Southern Scandinavia it appears that most of them have only had their positions for a relatively short period of time. In fact, 59% have served on the board in less than 3 years, and 20% have been on the board for less than one year, see figure 3.34 (next page).

Figure 3.34: Years on the Board for Chairmen

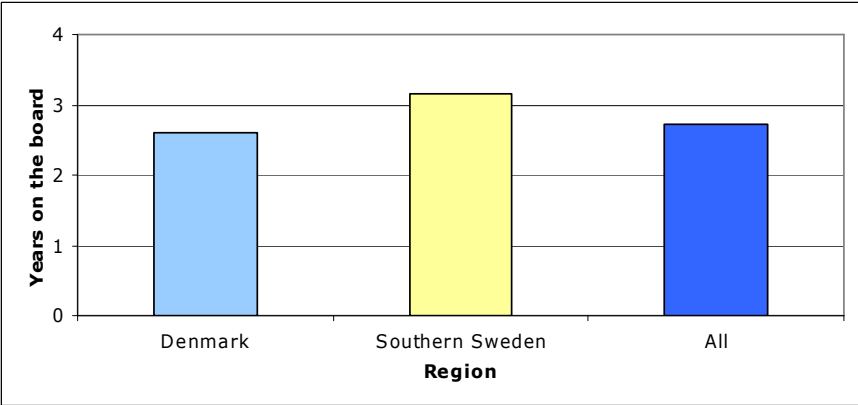


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The average number of years spent on the board for Chairmen in the ICT segment in Southern Scandinavia is 2.7 years. Only 12% of the respondent companies have had their Chairman for more than five years.

The Chairmen of the board in Southern Swedish ICT companies have held their seats longer than their Danish colleagues. Swedish Chairmen have on average held their positions for 3.2 years, while their Danish counterparts on average have had their positions for 2.6 years (see figure 3.35). This disparity may be due to the fact that Swedish respondent companies on average are 3 years older than the Danish companies.

Figure 3.35: Years on the Board for Chairman – across regions

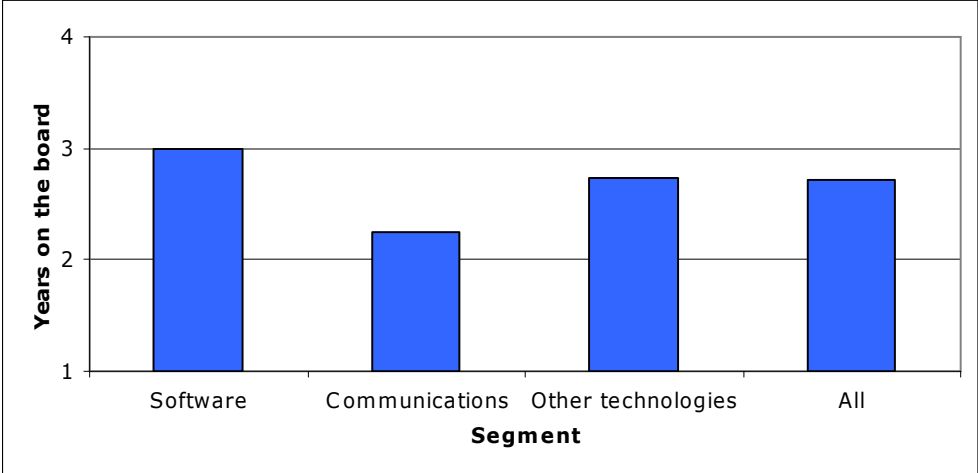


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The survey shows that the Chairman does not serve the same period of time in all industry segments. The Chairmen in the software segment have been on the boards for the longest period – averaging three years. By contrast, in the Communications segment, the Chairmen have stayed for the shortest period of time – averaging 2.3 years – see

figure 3.36. Once more, the significant difference in duration of board tenure for a Chairman in the Communications segment is due to a significantly younger population of firms in this industry.

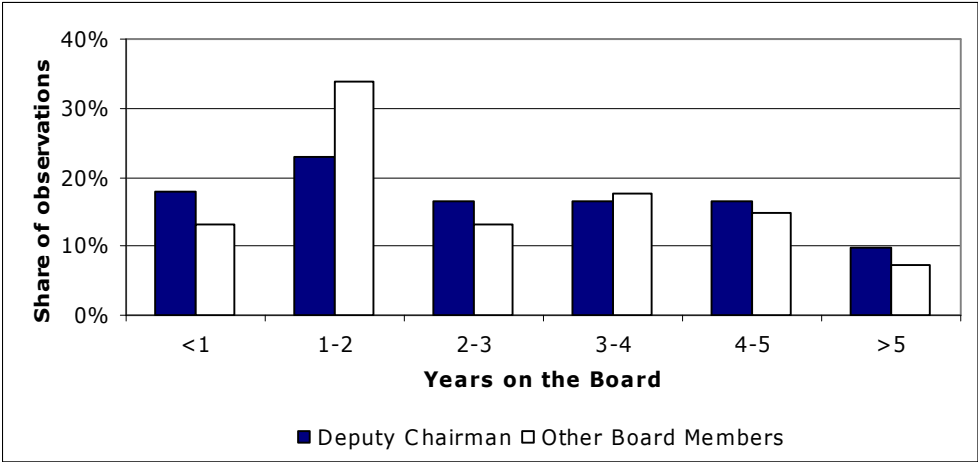
Figure 3.36: Years on the Board for the Chairman – by technology segments



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The results show no significant differentiation between the Chairmen and other directors - Deputy Chairman and outsiders - in relation to the average number of years on the board. However, Deputy Chairmen are more widely distributed, while outsiders are concentrated at around two years, cf. figure 3.37.

Figure 3.37: Years on the Board for the Deputy Chairman and Other Board Members



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

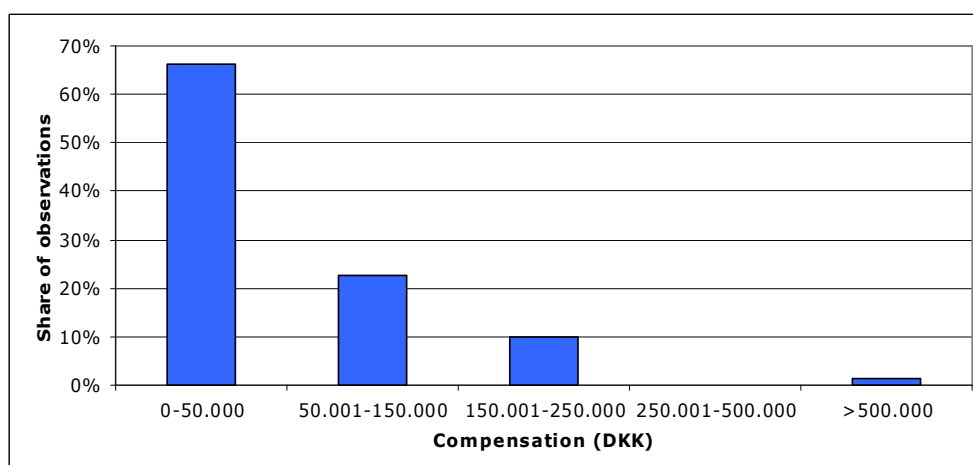
3.3.5. Board compensation

External board members are important for a firm to bring in new ideas and challenge the business strategy. For this reason, they should receive adequate compensation to remain committed to creating value for company. Insiders – investors, founders, and the CEO – typically do not receive compensation for the work they do as members of the board, because they gain from increases in the value of the company through their ownership stakes and, in the CEO’s and sometimes the founders’ case, they are on the payroll in the company. By contrast, outside board members generally receive board compensation.

Edelson (1998) and Fernandes (2005) argue that the compensation of directors in start-up companies should involve stock options. “It is obvious that a Director will be motivated to help a company if a financial interest is involved, so companies should pay directors in stock options or stock options plus cash, but not in cash alone,” (Edelson, 1998).

Because start-ups are continually competing with larger, publicly traded companies for the most qualified board members, they should be prepared to pay the market price for such talent. Strikingly, an overwhelming majority of companies in the survey pay the Chairman DKK 50.000 or less per year, following figure 3.38. This amount includes annual board member fee as well as individual meeting fees.

Figure 3.38: Annual Compensation - Chairman



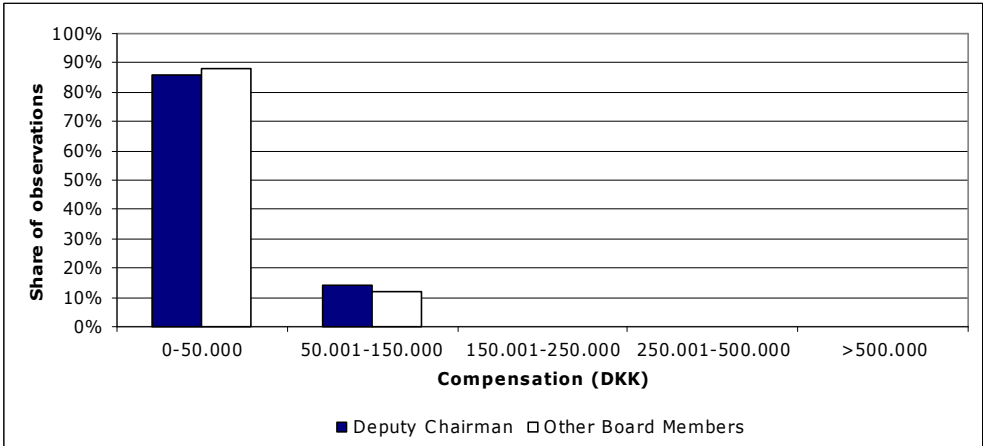
Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Only 44% of the Chairmen surveyed receive more than DKK 50.000 a year in compensation of their work for an ICT venture-backed company. Hence, the average

annual retainer is around DKK 66.000. Compared to compensation levels in listed companies, the modest board compensations paid in Southern Scandinavian ICT start-ups suggest that it may difficult to attract Chairmen, who are top notch.

Other board members receive even less than the Chairman in annual compensation in the ICT segment. Nobody obtains more than DKK 150.000, while 87% of the other board members receive DKK 50.000 or less on an annual basis (see figure 3.39).

Figure 3.39: Annual Board Compensation – Deputy Chairman and Other Board Members



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Combining data on compensation with board sizes shows that the boards are larger in companies paying their board members more than DKK 50.000. This might indicate that those companies that focus on attracting external board members, do not do so at the expense of company insiders on the board.

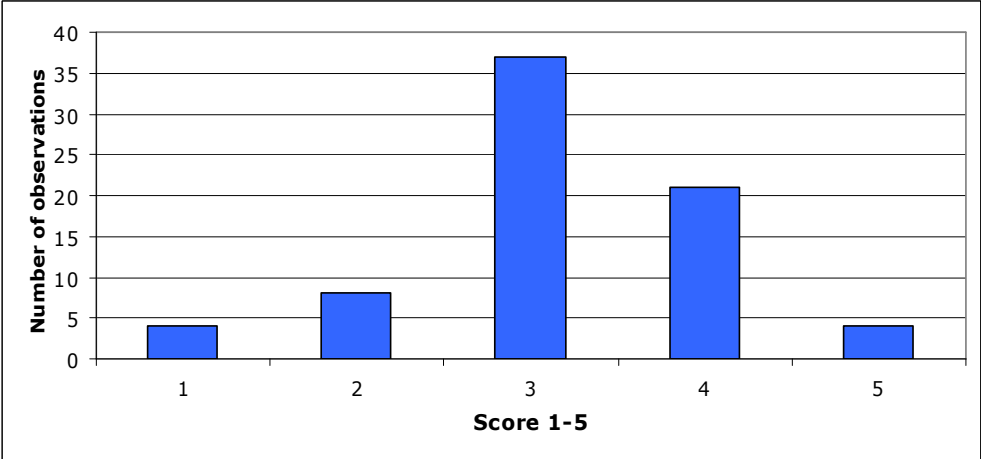
The level of compensation found in ICT start-ups in Southern Scandinavia is well below board compensation in the leading ICT-cluster, Silicon Valley. Here, the smallest firms – with revenues less than USD 250 Millions – pay an annual fixed retainer of USD 20.000 plus meeting fees of more than USD 2.000 on average per meeting – totalling more than DKK 130.000.² Because boards in ICT firms in Southern Scandinavia ought to include more people from the US, which is the leading technology market in the World, it appears that they need to substantially improve compensation packages.

The inferiority of board compensations in Southern Scandinavia is surprising given that respondents agree that board compensation has a discernible impact on the ability to

² Spencer Stuart (2004), *Spencer Stuart Silicon Valley Board Index 2004*.

attract the right board competencies. However, an average score of 3.2 on a scale from one to five indicates that other things matter as well, cf. figure 3.40.

Figure 3.40: Importance of Board Compensation in Recruiting Competencies



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Following the respondents, board compensation is only of moderate importance in recruiting the right board competencies. Board members also emphasize the attractiveness of other factors relating to the firm such as the business idea, networking opportunities, and reputation. However, compensation is one way to attract key individuals that makes it attractive for other personalities to join the board.

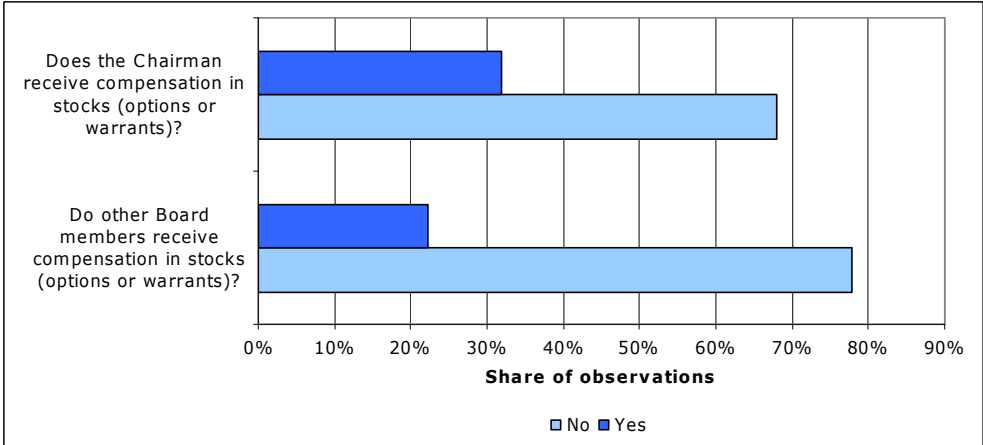
Interestingly, the results show that there is virtually no difference in the level of satisfaction with board member performance and competencies between companies paying high and low annual retainers. One area of divergence is that directors getting a higher retainer seem better prepared for the board meetings – indicating a higher degree of commitment.

An annual retainer is the traditional way to incentivise board members. In the last decade, the world of board compensation has witnessed the emergence of more sophisticated compensation packages, which including the granting of shares, options, and/or warrants. The use of share-based mechanisms to remunerate board members has, however, been widely debated from a corporate governance perspective. A specific example is the Danish Nørby Committee, which – in its recommendations on good corporate governance – recommends that companies refrain from using options-based incentive programmes for board members.

However, these recommendations were intended for large publicly traded companies and therefore do not necessarily apply equally well to high-growth ICT start-ups.. Nevertheless, the modest level of board compensations found in the survey may suggest that the Nørby Committee and similar advisory bodies have had an impact on this segment after all.

Just 32% of the Chairmen receive compensation in stocks in Southern Scandinavian ICT firms. The share is even smaller for other board members, where only 22% are compensated with options or warrants, see figure 3.41.

Figure 3.41: Compensation in Stocks



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

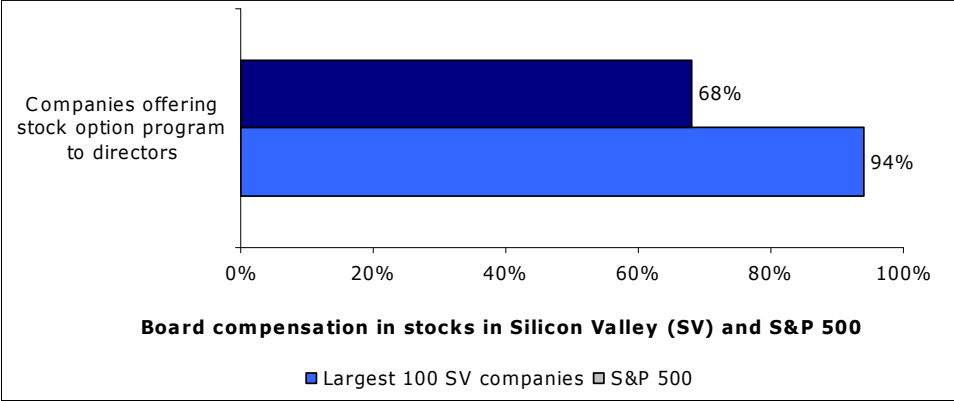
Interestingly, boards in which directors get paid with stock, have on average one more member than boards with no compensation in stocks. However, in the assessment of respondents, the boards with share based programs are not better qualified to run a successful company. However, board meetings are rated as more effective in companies offering compensation in stocks.

3.3.5.1. Findings from Silicon Valley and S&P 500

In the US, there is widespread use of cash compensation schemes for board members. The use of annual retainer schemes among Silicon Valley companies, with revenues less than USD 250 Millions, makes it possible to compare it to the findings from the Southern Scandinavian companies surveyed here.

In the US, the prevalence of incentive (stock) compensation schemes is very strong, especially among the 100 largest Silicon Valley companies, where 94% compensate board members by using stock schemes, see figure 3.42. In comparison only 22%-32% of the Southern Scandinavian ICT firms pay their directors by stocks.

Figure 3.42: Prevalence of stock compensation schemes in the US



Source: Spencer Stuart (2004).

In Southern Scandinavian ICT companies, which are in a comparable size to Silicon Valley companies with revenues less than USD 250 Millions, the annual compensation (before stocks) is on average between USD 8.000 and USD 11.000. Hence, approximately one fourth of the board compensation paid in Silicon Valley companies – with revenues less than USD 250 Millions.

Contrary to the Nørby-recommendations, two-thirds of the S&P 500 companies, which are large, publicly traded corporations, have implemented stock option programs for board members.

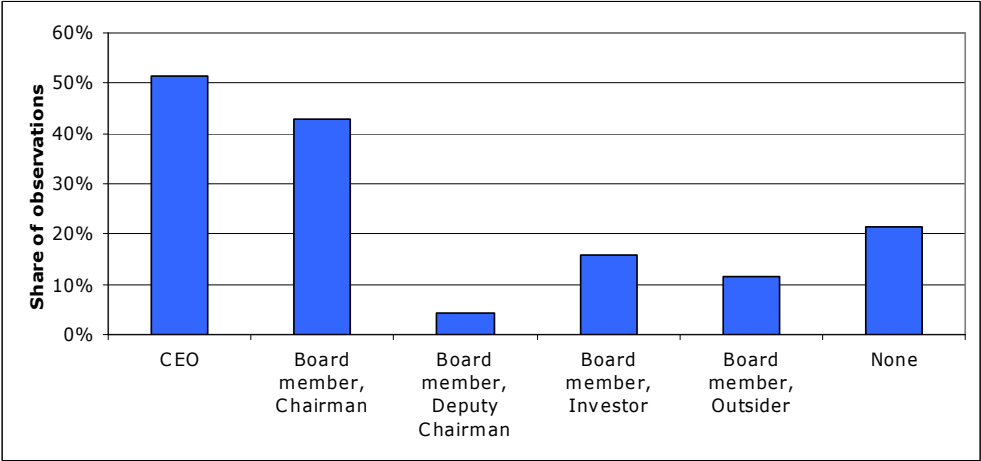
3.3.6. Who is in charge?

The board of directors consists of a group of people with great influence on the business development and strategy of the company. However, the Chief Executive Officer (CEO) – who in some cases is identical to the founder - has the most hands-on involvement in managing the company, while the Chairman’s responsibility is to run the board efficiently. For this reason, the Chairman and CEO sometimes undergo a power struggle. “A little tension is desirable because management should not believe that the board is a rubber-stamp push-over. Management should be open to ideas and criticism from its

board. After all, management runs the company, but in the end board has the power to replace the management,” (Edelson, 1998).

The survey shows that the CEO and the Chairman unambiguously are the most dominant figures on the board. 51% of the respondents considered the CEO to dominate the board meetings, while 43% thought the same of the Chairman, see figure 3.43.

Figure 3.43: Directors to Dominate the Board Meetings



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

It is somewhat surprising that a majority of respondents consider the CEO as the dominant figure on the board, when the Chairman ideally should be presiding over both the board and management.

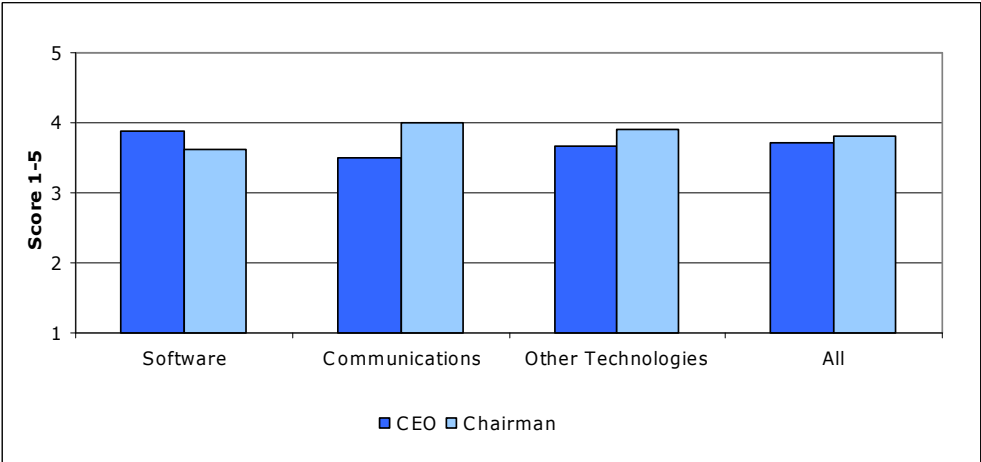
3.4. The Chairman-CEO relationship

In order for the board to work productively with the management it is important that the ground rules are clear and that they clearly demarcate areas of responsibility between the Chairman and the CEO. In new small ICT firms the CEO is often the founder, and thus a major shareholder. As the company grows, the founder will typically need to be replaced with a new CEO and the Chairman may also have to be changed. This is why it is important for both parties to be aware of personal strengths and weaknesses and recognize when a transition is required in a key position.

The two dominant directors on the boards of ICT companies – the Chairman and CEO – do not always agree on the presence and composition of key competencies on the board.

Generally, for those companies where the CEO and the Chairman have both replied, CEOs in Software firms rate the availability of key competencies higher than the Chairman. The reverse is true for the two other technology segments, see figure 3.44.

Figure 3.44: Board Members’ Possession of Key Competencies

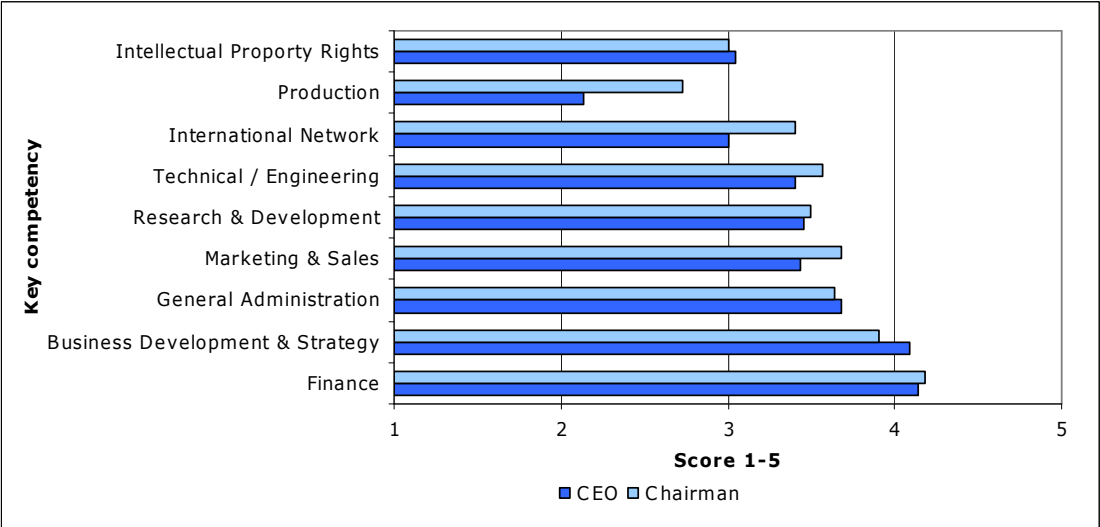


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Overall, the two parties almost agree entirely on the possession of key competencies. However, in the Communications segment, the Chairman rates the board’s overall qualifications substantially higher than the CEO. Hence, this industry shows the most profound disagreement of the ICT industry.

In general, the Chairman rates the board competencies higher than the CEO. Especially as they apply to international network and production skills, the disagreement is profound. Conversely, the CEO rates competencies within business development and strategy higher than the Chairman does, see figure 3.45 (next page).

Figure 3.45: Directors Endowment of Key Competencies to Reach Strategic Objectives

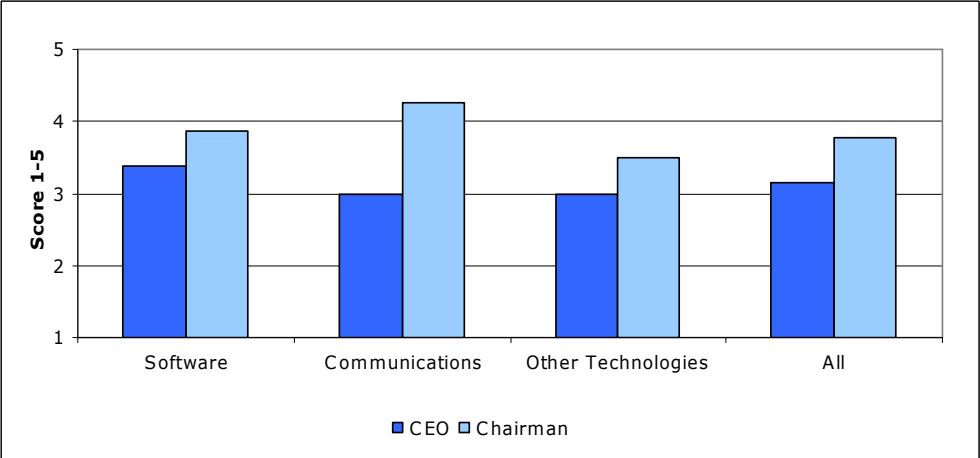


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

According to the figure, both parties agree that the boards are best equipped with financial competencies. This result is due to the high representation of investors on the ICT company boards.

As regards the question of whether compensation matters as an instrument to recruit the right competencies, the Chairman and the CEO disagree. Especially in the Communications segment, the Chairman attributes more importance to compensation than the CEO, see figure 3.46.

Figure 3.46: The Importance of Compensation in Recruiting Competencies to the Board

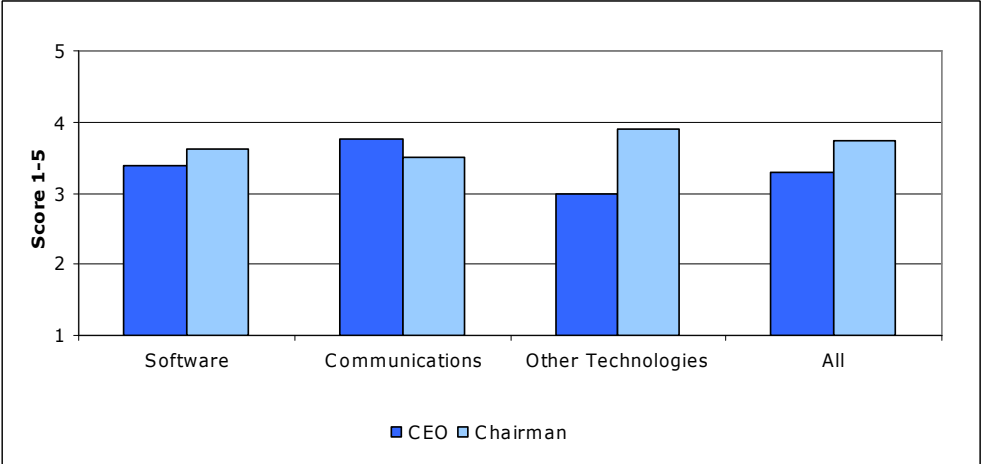


Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Overall, the Chairman rates the importance of compensation at 3.8 on a scale from one to five, while the CEO gives a score of 3.1. The CEO generally considers it less important to achieve a diversified set of competencies on the board. This result may be driven by those cases, where the founder is also the CEO. Believing that they know all there is to know about the company, founders sometimes underestimate the value in receiving input from competent people outside the company,,

The Chairmen are generally more pleased with the efficiency of the board meetings. Particularly companies within Other technologies are characterized by a high level of efficiency according to the Chairman, whereas the CEO gives the lowest score in the exact same segment, see figure 3.47.

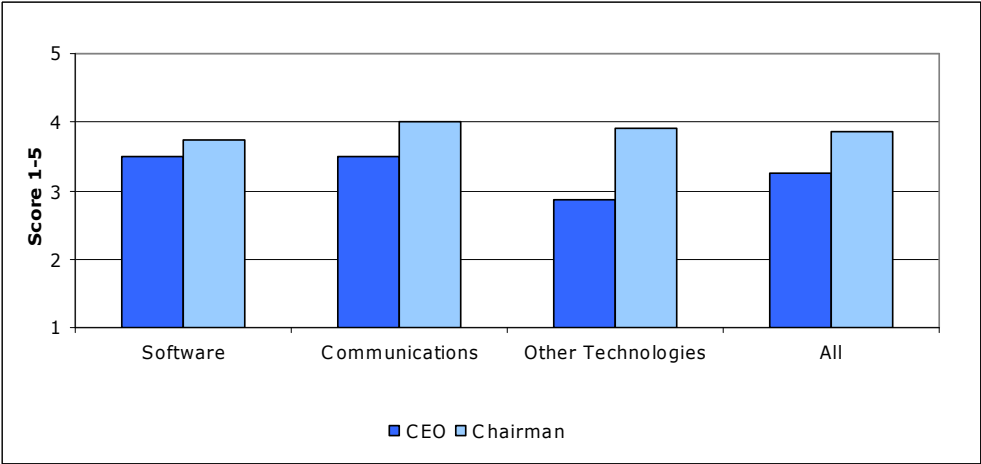
Figure 3.47: The Efficiency of Board Meetings



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Perhaps it is not so surprising that the Chairman of the board estimates the directors' level of preparation higher than the CEO does, following figure 3.48 (next page). The management – with the CEO in front – prepares the board meeting material, and therefore has the biggest insight into the contents of each meeting.

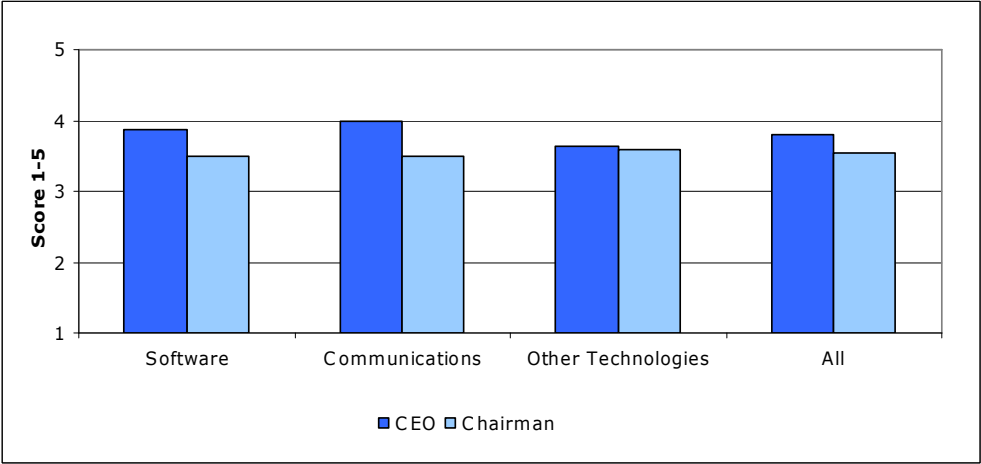
Figure 3.48: Board Members’ Level of Preparedness for Board Meetings



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

Equally unsurprising is the observation that CEOs in all segments estimate the quality of the meeting material to be higher than the Chairmen, following figure 3.49.

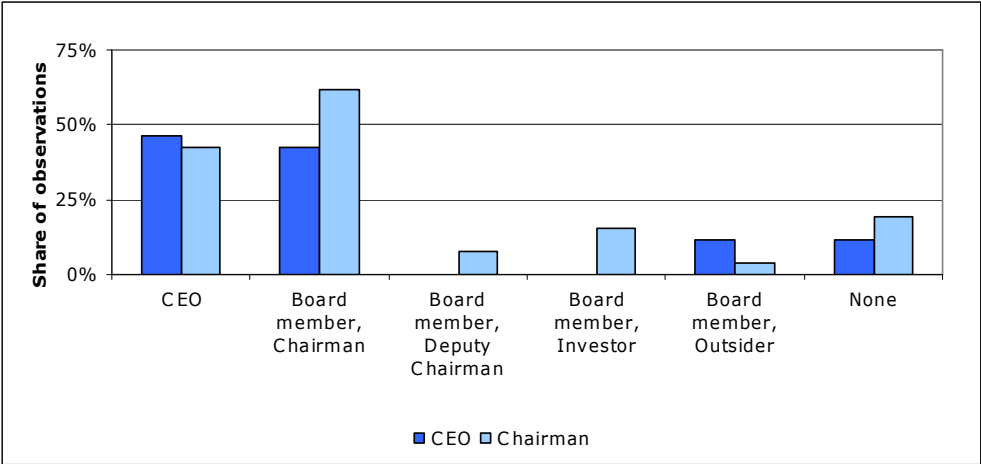
Figure 3.49: Quality of the Board Meeting Material



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

The CEO and the Chairman should interact on a regular basis and share sensitive information. In order to have a balanced relationship, both parties should know which role to assume during board meetings. Strikingly, the Chairman and the CEO, respectively, seem to think of himself as the person who dominates board meetings. Chairmen, in particular, believe that they dominate the board meetings even though a significantly smaller share of the CEOs seem to agree, see figure 3.50 (next page).

Figure 3.50: Dominant Members at Board Meetings



Source: Vækstfonden, Russell Reynolds Associates and Industrifonden.

3.5. Board members’ wish list

Only a very few respondents consider the endowment of board competencies and the outcome of board meetings to be optimal. Hence, several responding CEOs and Chairmen in this survey have added the top priorities to make the boards more effective – a wish list. A large number of CEOs as well as Chairmen consent that the investors play an excessively large role. In the words of some respondents, investors sometimes spend more time controlling management than supporting the development of the business.

Generally, the CEOs in the survey ask for the board members to put more resources and effort into the board meetings as well as the daily operations. When the level of preparation and involvement is substandard, it entails inefficient board meetings and leaves most of the decision making to the CEO rather than with a knowledgeable and collaborating board. In this context, some respondents ask for a clearer objective from the owners of the company. A significant number of CEOs also highlight a lack of competencies on the board, especially in terms of International network and firm specific knowledge. However, they emphasize that the level funding is not enough to cover the cost of attracting the best board candidates.

A predominance of the responding Chairmen agree that there may be a lack of knowledge and competencies on the board of directors. To improve matters, some of them suggest that the board size be enlarged to bring all people with skills and experience in a broader range of business disciplines. In addition, the Chairmen call

attention to the need to improve communication between the CEO and board members in general – not just the Chairman.

3.6. Summing up – ICT boards

The average venture-backed ICT firm in Southern Scandinavia has been in operation for 8 years and boasts a track record of three product launches. Several indicators point to the fact that Swedish directors are more committed to their boards than their Danish counterparts, while board members in Denmark are significantly younger and involved in more boards. Unsurprisingly, a large share of the board members are investors who serve on the board to monitor their investment while striving to contribute to the overall value creation.

The average board size across is 4.5 members, while Swedish boards seem to have slightly larger boards than is found in the Danish companies. The Swedish companies surveyed are also twice as large on average, which is partly because they are older and more mature companies, and partly because 10% of them are listed on a stock exchange. The typical composition of an ICT board consists of two investors, one owner/founder, an industry expert and a professional board member – all men and the majority of domestic origin. A rather low level of board compensation relative to venture-backed ICT companies in Silicon Valley suggests that it may be difficult to attract international directors with broad competencies and knowledge of key markets.

Nonetheless, the overall appraisal of board members in the region is that they possess a satisfactory level of competencies to build successful firms – mainly within “Business development” and “Finance”. However, the level of commercial experience is significantly more prevalent in the Swedish more mature ICT companies.

The board meets 6 times annually. Prior to the meetings, the majority of the directors spend less than 8 hours preparing and conducting meetings. A lower number of board seats in Sweden imply that the Swedish directors spend more time on each meeting potentially benefiting the companies more.

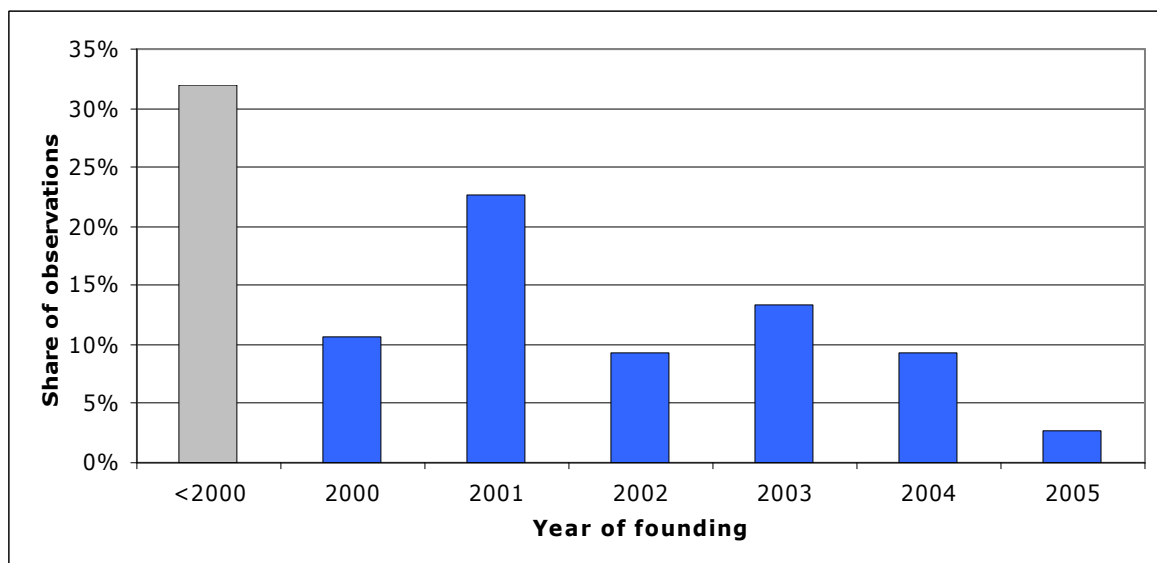
4. The anatomy of Life Science boards in Southern Scandinavia

Because many small Life Science companies in Denmark and Southern Sweden are funded initially by venture capital investors they have virtually the same start-up conditions as the ICT start-ups in the region. This makes it interesting to compare and contrast the composition and history of company boards in the two technology segments.

4.1. Profile of the Life Science companies

The respondent Life Science ventures in Southern Scandinavia are characterized by a young population, with a majority of firms started after 2000. Most firms in the survey of Life Science ventures in Southern Scandinavia were established in 2001, while 2 (3%) set up shop in 2005, see figure 4.1.

Figure 4.1: Year of Founding for Southern Scandinavian Life Science Companies



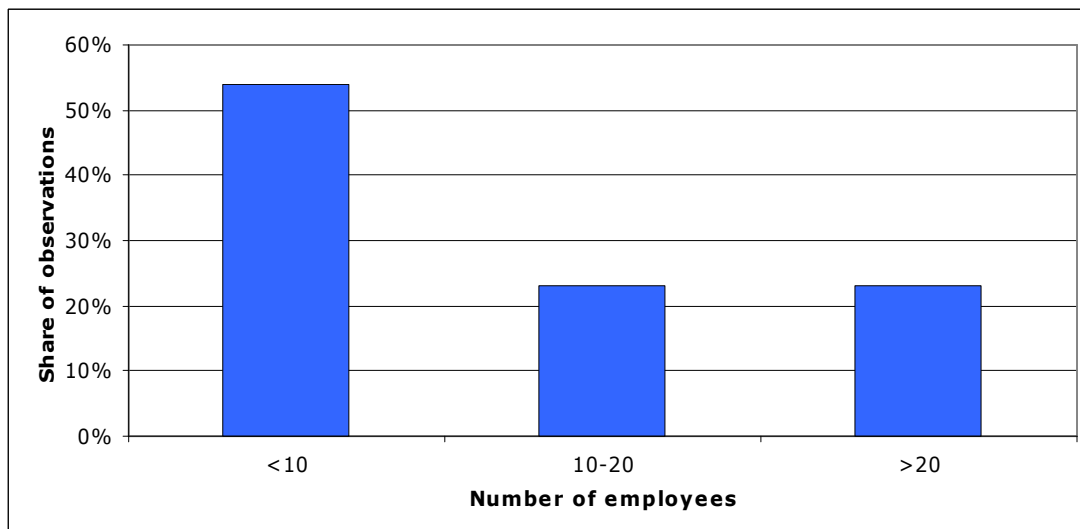
Source: Vækstfonden & Egon Zehnder International.

32% of the Life Science firms were established before 2000. All firms have at one point in time received venture capital, and are expected to have a significant growth potential. The average company was founded in 1999 – and is thus currently 6 years old.

Only a minor share (7%) is listed on a stock exchange – and, unlike the ICT companies, the main part (60%) of the Life Sciences companies is characterized by never having launched a product.

The majority (53%) of the companies have less than 10 employees, while only 22% of the Life Science companies in this analysis have more than 20 employees, see figure 4.2.

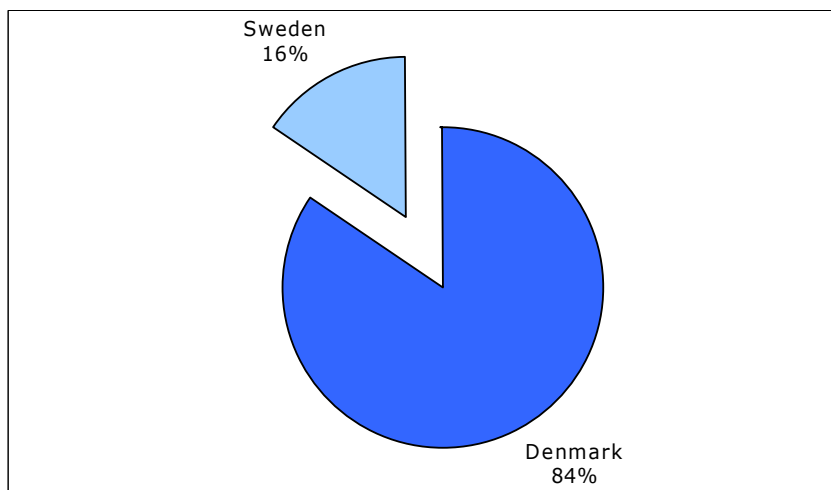
Figure 4.2: Number of Employees in Life Science Companies



Source: Vækstfonden & Egon Zehnder International.

The majority (84%) of the sample is Danish companies, while the remaining 16% are located in Southern Sweden, see figure 4.3.

Figure 4.3: Country of Origin for Life Science Companies



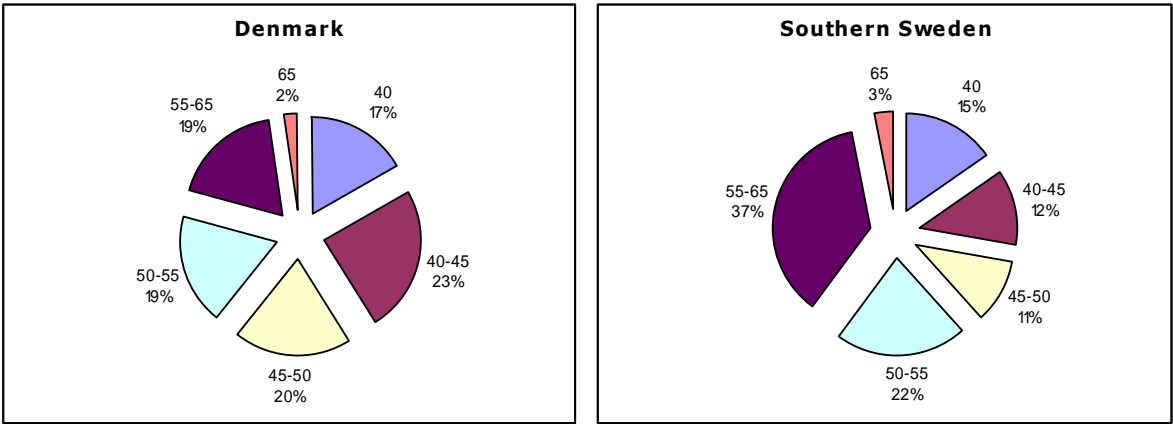
Source: Vækstfonden & Egon Zehnder International.

The participating companies are grouped in four different industry segments; "Diagnostics (in vitro)" (16%), "Drug discovery and development" (40%), "Med-tech" (29%), and "Other biotech" (5%).

4.2. Profile of the Life Science board of directors

The average age of a board member of a life science company is 49.2 years. However, there are some differentiations across regions. In Denmark the majority of the board members are 40-45 years of age – while the majority of board members in Southern Swedish life science companies are 55-65 years old. Hence, the average age of a board member is thus lower in Denmark than in Southern Sweden - 49 years in Denmark compared to 52 years in Southern Sweden, see figure 4.4.

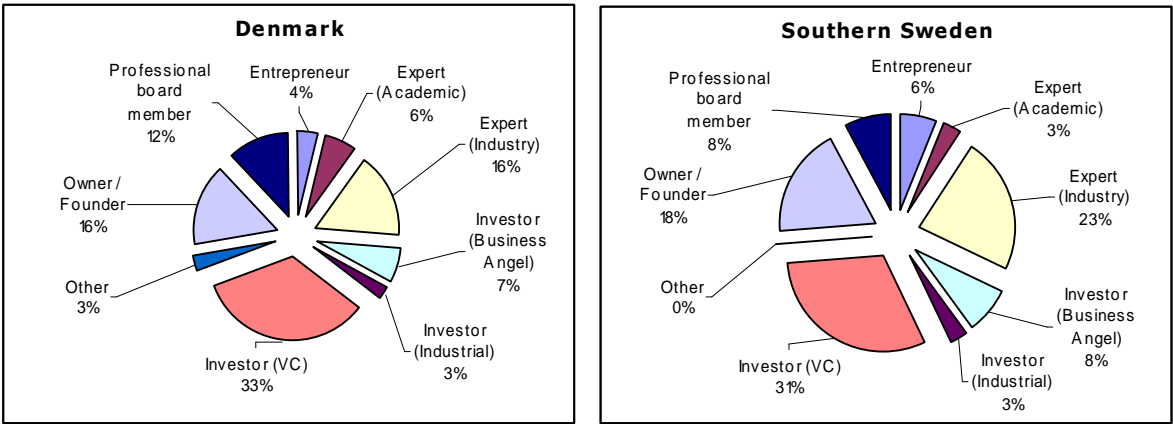
Figure 4.4: Age of Board Members in Life Science Companies



Source: Vækstfonden & Egon Zehnder International.

The reference or background of the board members is almost identical across regions. In both Denmark and Southern Sweden investors account for slightly more than 40% of the board members, see figure 4.5.

Figure 4.5: Reference of Board Members in Life Science Companies

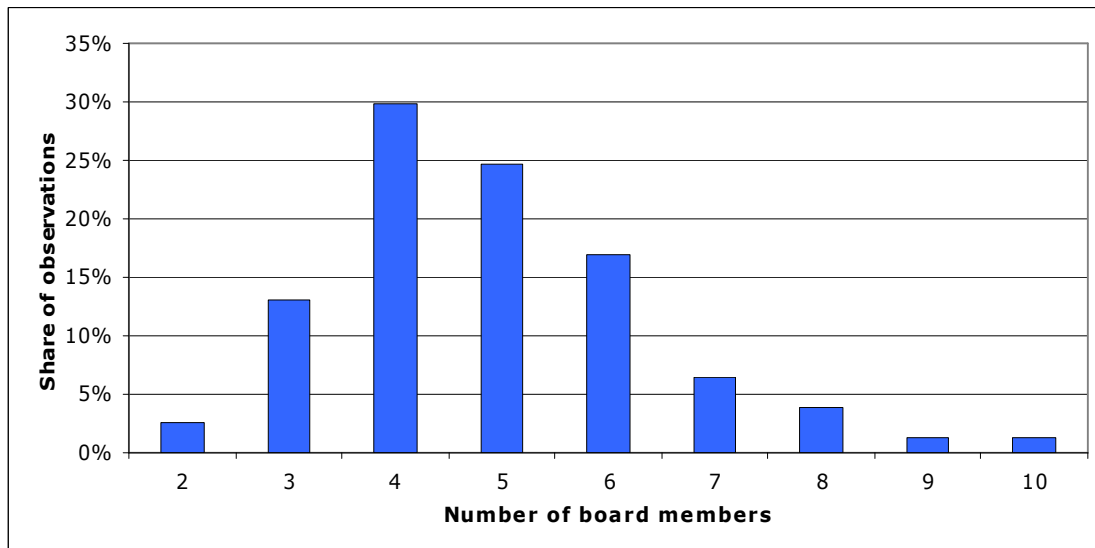


Source: Vækstfonden & Egon Zehnder International.

4.2.1. Board size

A board of directors in a Life Science company typically consists of four board members (30%), while 25% of the boards have five members, see figure 4.6.

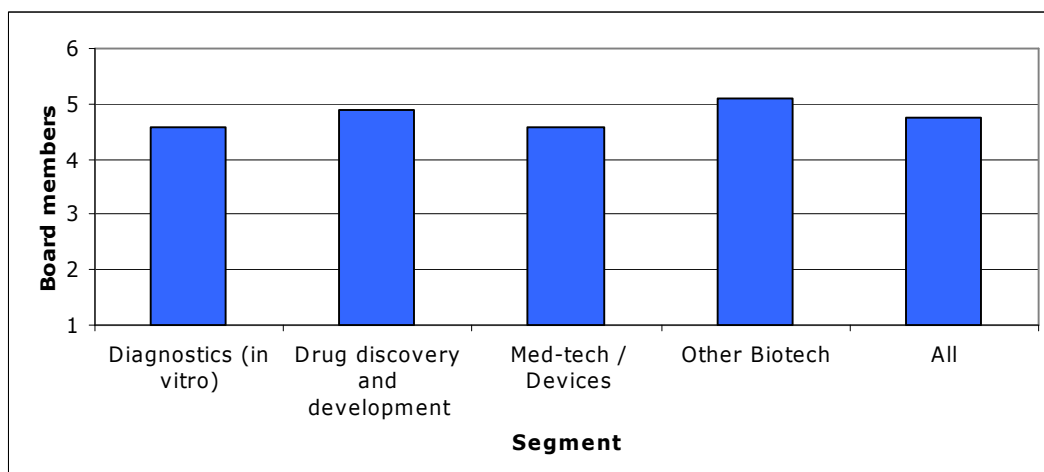
Figure 4.6: Number of Board Members in Life Science Companies



Source: Vækstfonden & Egon Zehnder International.

The average number of board members in Life Science companies is 4.9, see figure 4.7. Companies within diagnostics and med-tech devices have slightly fewer board members than the average Life Science firm – while companies within drug discovery and other biotech are endowed with more than average - 4.9 and 5.1 respectively.

Figure 4.7: Number of Board Members – by technology segments



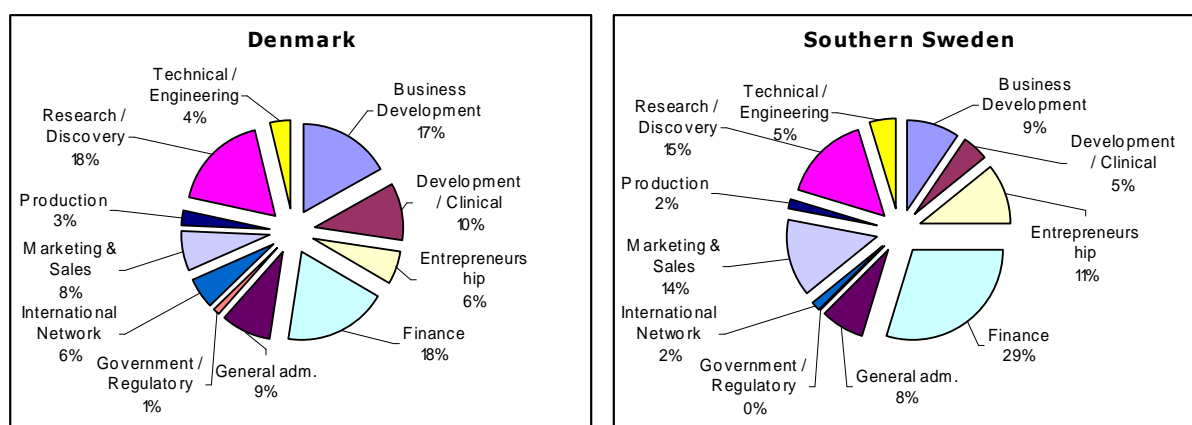
Source: Vækstfonden & Egon Zehnder International.

4.2.2. Key competencies

As more than 40% of the board members are investors it is not surprising that “finance” is the key competency most often represented on the board. In Denmark 18% of the board members have finance as their key competency – while the corresponding figure for Southern Sweden is 29%, see figure 4.8.

Competencies within “Research/Discovery” are also fairly well covered as 18% of the board members in Danish companies and 15% of the board members in Southern Sweden possess this skill as a key competency.

Figure 4.8: Key Competencies of Life Science Board Members in Southern Scandinavia



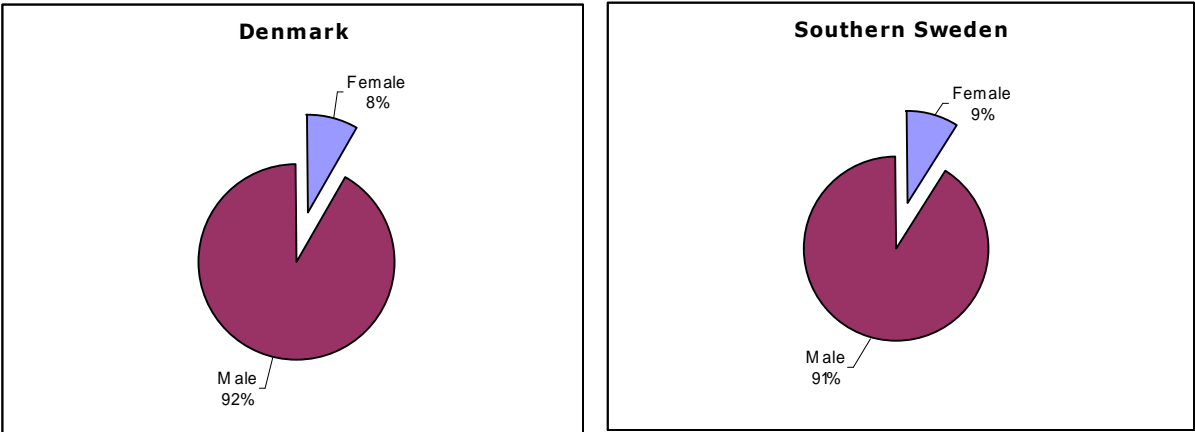
Source: Vækstfonden & Egon Zehnder International.

Most other skills like “Business Development”, “Marketing & Sales” and “Development/Clinical” are represented to some degree. However, only a very small fraction of the board members have important skills as “International Network” and “Government/Regulatory” as their key competency.

4.2.3. Gender

Females only represent 8% of the board members in Danish companies, while the corresponding figure for Southern Sweden is 9%, see figure 4.9 (next page). Thus, the results correspond well with other surveys of Danish companies. For the top-100 Danish companies the share is also just 8% (EZI, 2004).

Figure 4.9: Gender of Board Members in Life Science Companies



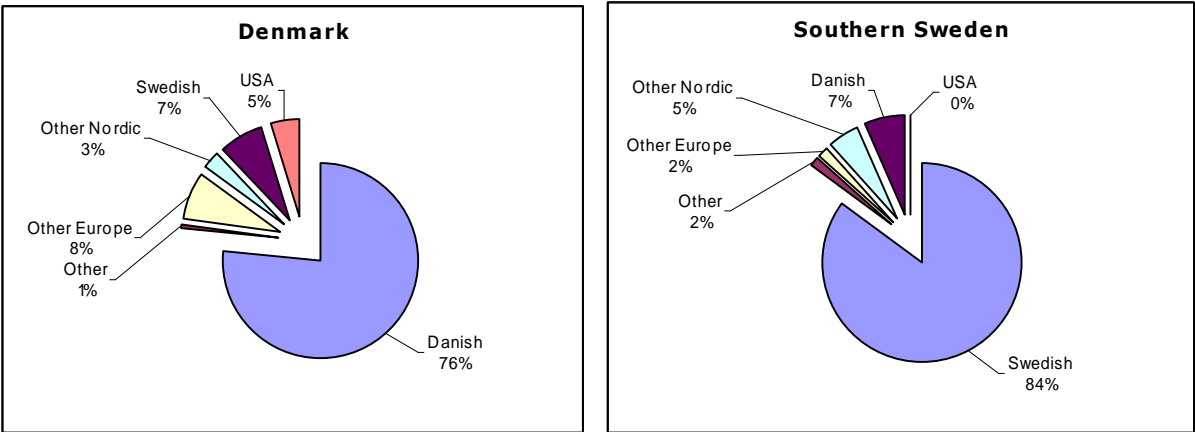
Source: Vækstfonden & Egon Zehnder International.

4.2.4. Nationality

Since the market for the Life Science companies is global, the boards of these companies should include people with global networks. These could be foreigners.

76% of the board members in Danish companies are of Danish descent, while 7% are Swedish and 3% come from another Nordic country. Hence, 86% of the board members in Danish companies come from the Nordic region. Meanwhile, only 5% of the board members originate from the US, see figure 4.10.

Figure 4.10: Nationality of the Board members in Southern Scandinavian Boards



Source: Vækstfonden & Egon Zehnder International.

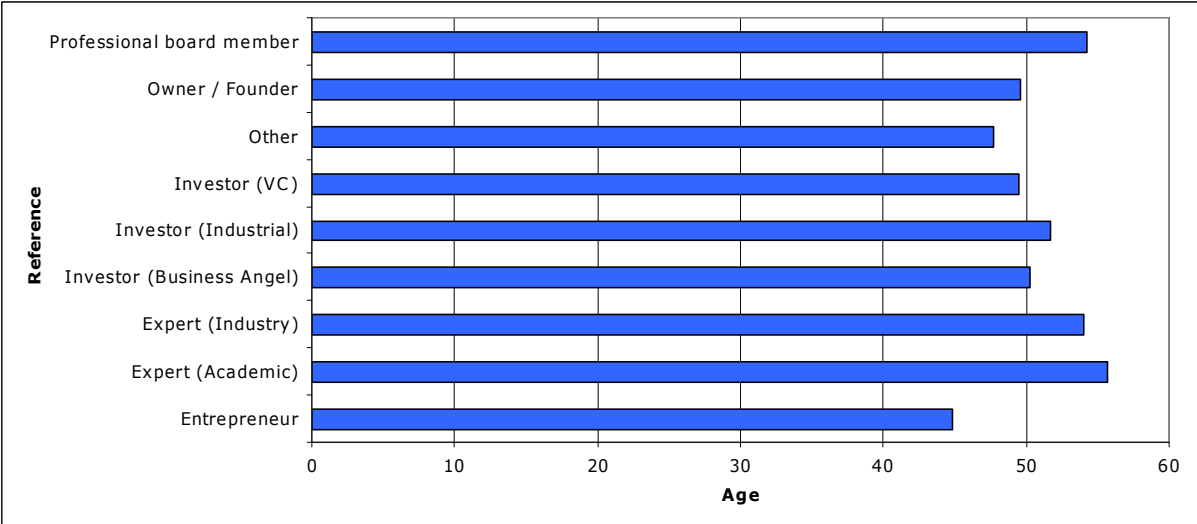
In Southern Swedish Life Science companies, 84% of the board members are of Swedish nationality, while 7% are Danish and 5% come from another Nordic country. Hence, only 4% of the board members thus come from outside the Nordic region.

Neither Danish nor Southern Swedish Life Science companies thus seem able or willing to attract foreigners to their board of directors. Thus, the vast majority of the board members, in Denmark as well as in Southern Sweden, are of domestic nationality.

4.2.5. Board member experience

For the board members to contribute to the development of the company, it is necessary that they possess experience within the industry of the company. Age can to some extent be a proxy for experience – and the results show that there are substantial differences between the average age of the different types of board members. Entrepreneurs make up the youngest group of board members (averaging 45 years of age) – while the academic experts are the oldest, with an average of 56 years, see figure 4.11.

Figure 4.11: Board Member Experience – by age and professional background



Source: Vækstfonden & Egon Zehnder International.

When looking at what kind of key competencies the different board members possess, it is no surprise that the main competency of investors is financial knowledge. Hence, 50% of the venture investors have Finance as their key competency. However, the industrial investors possess equal knowledge of both Finance and Research/Discovery – while the

primary competency of the business angels lies within Business development (27%), see table 4.1.

Table 4.1: Professional Backgrounds and Key Competencies

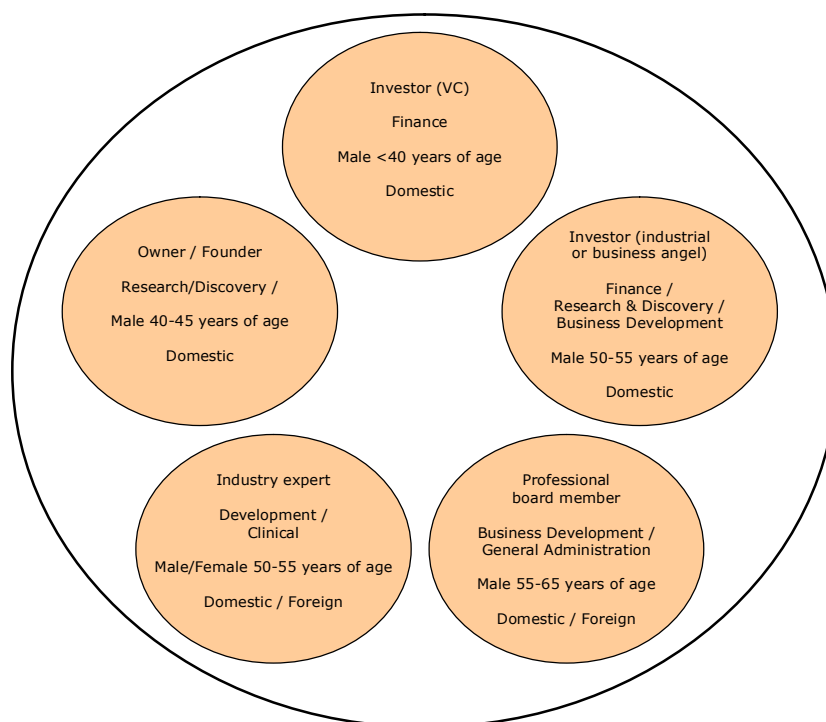
Key competency	Reference								
	Entrepreneur	Expert (Academic)	Expert (Industry)	Investor (Business Angel)	Investor (Industrial)	Investor (VC)	Other	Owner / Founder	Professional board member
Business Development	25%	5%	17%	27%	10%	14%	10%	8%	26%
Development / Clinical	19%	18%	21%	0%	0%	6%	10%	6%	5%
Entrepreneurship	0%	5%	6%	12%	10%	5%	0%	16%	2%
Finance	0%	0%	6%	12%	30%	50%	10%	3%	14%
General Administration	0%	9%	6%	15%	10%	7%	20%	0%	26%
Government / Regulatory	0%	0%	2%	0%	0%	0%	10%	0%	5%
International Network	13%	5%	6%	4%	0%	3%	0%	3%	10%
Marketing & Sales	19%	0%	17%	19%	10%	3%	10%	6%	10%
Production	0%	5%	3%	8%	0%	1%	10%	2%	2%
Research / Discovery	19%	55%	14%	0%	30%	9%	10%	42%	0%
Technical / Engineering	6%	0%	0%	4%	0%	3%	10%	13%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Vækstfonden & Egon Zehnder International.

The owners/founders ensure that skills within research and discovery are also present on the board – as this is their primary competency (42%). Experts from academia also have very strong competencies within this area. However, they only constitute 6% of the board members (see figure 4.5). Business development skills are primarily provided by the professional board members – who also possess extensive knowledge of general administration.

By combining the results above, it is possible to sum up the typical composition of a life science board regarding parameters such as reference, key competency, gender, age and nationality, see figure 4.12 (next page).

Figure 4.12: Typical Composition of a Board of a Life Science Company

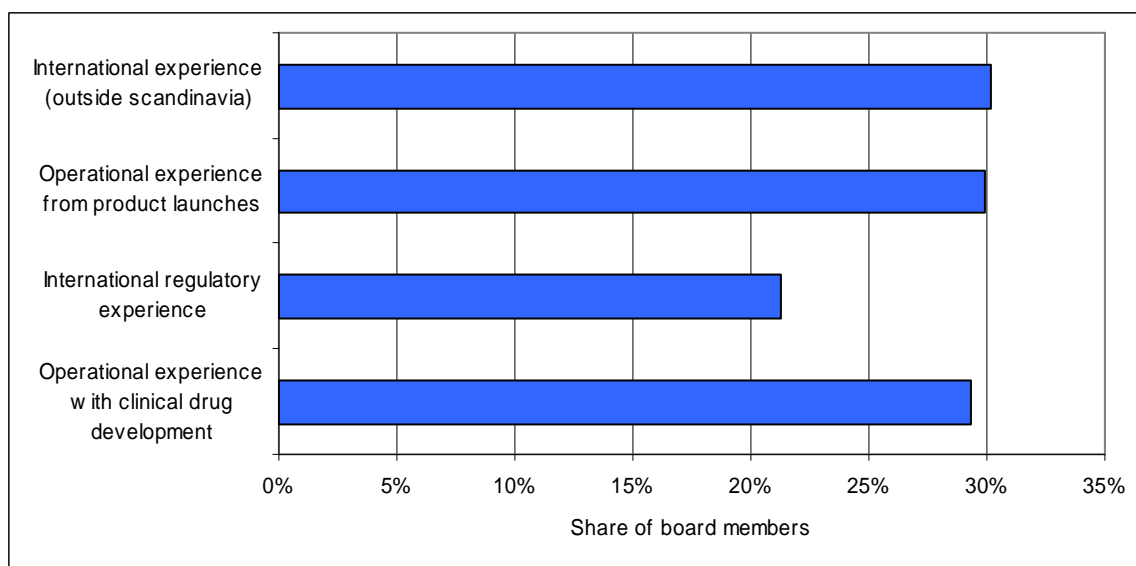


Source: Vækstfonden & Egon Zehnder International.

A board member in a Life Science company should ideally have some experience with clinical drug development, international regulatory work, product launches and international experience in general depending on the stage of development of the company.

In Danish and Southern Swedish companies, approximately 30% of the board members have international experience outside of Scandinavia, see figure 4.13 (next page). As shown earlier for Danish and Southern Swedish companies, the share of board members from outside the Nordic region is 14% and 4% respectively (see figure 4.10). Moreover, 12% of the board members actually come from outside Scandinavia. If these foreigners are assumed to have international experience, the result implies that only 20% of the domestic board members have international experience that extends outside Scandinavia.

Figure 4.13: Experience of Board Members



Source: Vækstfonden & Egon Zehnder International.

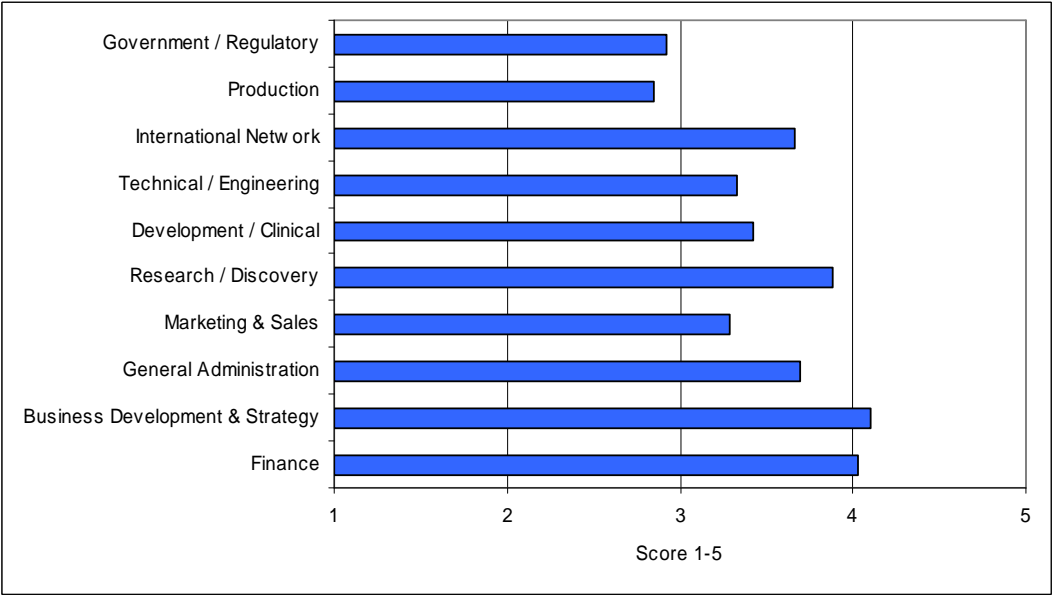
Operational experience with clinical drug development is also possessed by 30% of the board members, this corresponds well with the fact that 40% of the companies in the sample focus on drug discovery. In addition, 40% of the companies have already launched a product, which corresponds well with the fact that 30% of the board members have operational experience from product launches.

Key competencies within "Government/Regulatory" were almost non-existent in the companies. This is also reflected by the experience of the board members as only 20% have international regulatory experience. The missing international regulatory experience is critical, when considering that the majority of a given market always will be outside Scandinavia. Specifically, knowledge of the Federal Drug Administration (FDA) in the US is of high importance in order to gain access to the lucrative US market.

In a challenging and high-risk business such as Life Sciences, some skills are essential in order for a start-up to become successful. In general, the expertise of the board members is fairly good according to the respondents - although there are obvious differences across the various types of competencies.

The board members, as a group, possess very strong skills within "Research/Discovery", "Business Development & Strategy" and "Finance", see figure 4.14 (next page). These results correspond very well with the key-competencies of the board members - see figure 4.8 (chapter 4.2.2).

Figure 4.14: Rating of Competencies on the Board



Source: Vækstfonden & Egon Zehnder International.

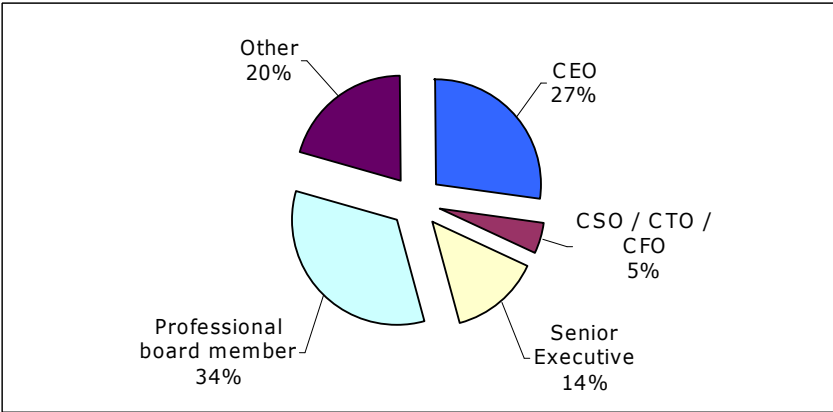
In contrast, the board could improve their skills and competencies within “Government/Regulatory”, “Production” and “Marketing & Sales” which overall can be described as lack of industry related experience. Equally, the skills within “Technical/Engineering” and Development/Clinical are below average.

Other areas where improvement is required are international network and experience, technical knowledge, and industry experience (including product development, regulatory know-how, and production).

4.2.6. Profile of the Chairman of the board

Most Chairmen are either professional board members (34%) or CEOs (27%) in the same or other companies. Furthermore, a large group of Chairmen (20%) describe their position as “Other” - these are expected mainly to be investors, see figure 4.15 (next page).

Figure 4.15: Current Position of the Chairman

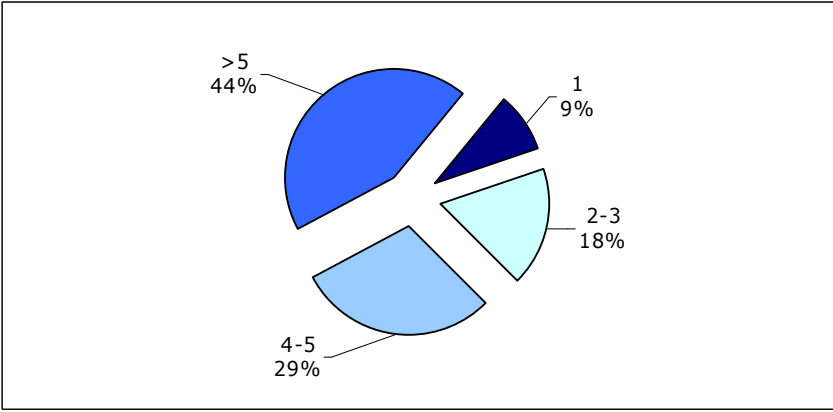


Source: Vækstfonden & Egon Zehnder International.

In the collected group of Chairmen, only 29% do not have full time occupation which corresponds well to the approximately one third that work as professional board members.

Most of the Chairmen (73%) are members of 4 boards or more, see figure 4.16. On average, the Chairmen take up 6.4 board seats including the one in the responding company.

Figure 4.16: Number of Board Memberships



Source: Vækstfonden & Egon Zehnder International.

The number is higher than in previous studies (EZI, 2004) on this subject. One explanation could be that the companies participating in this survey are start-ups where venture investors are often appointed Chairmen.

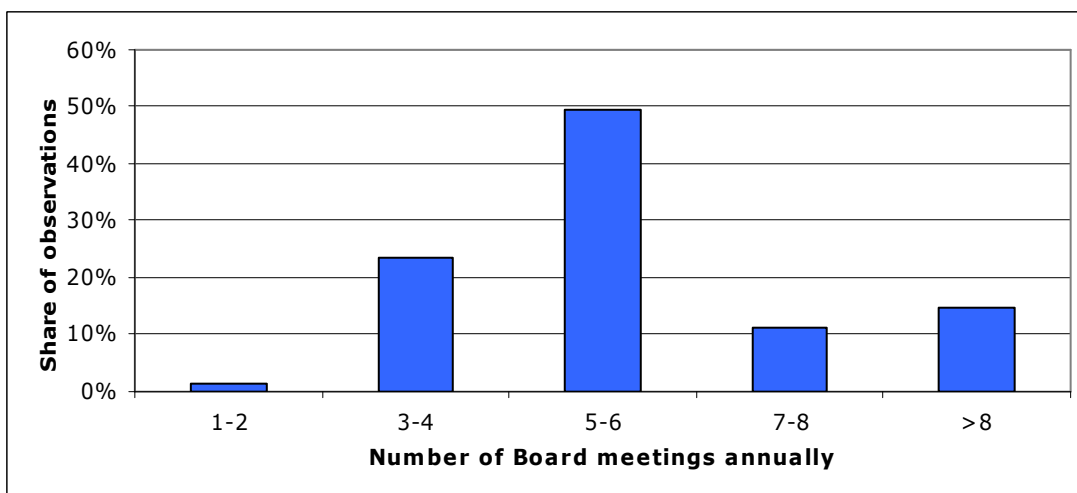
4.3. Board meetings in Life Science companies

At board meetings, the CEO has a possibility to receive feedback from his board of directors – and for the investors to monitor their investment.

4.3.1. Number of meetings

The number of board meetings in Danish and Southern Swedish Life Science companies varies from 2-15 annually. However, most boards (50%) meet 5-6 times per year, see figure 4.17.

Figure 4.17: Number of Board Meetings Annually



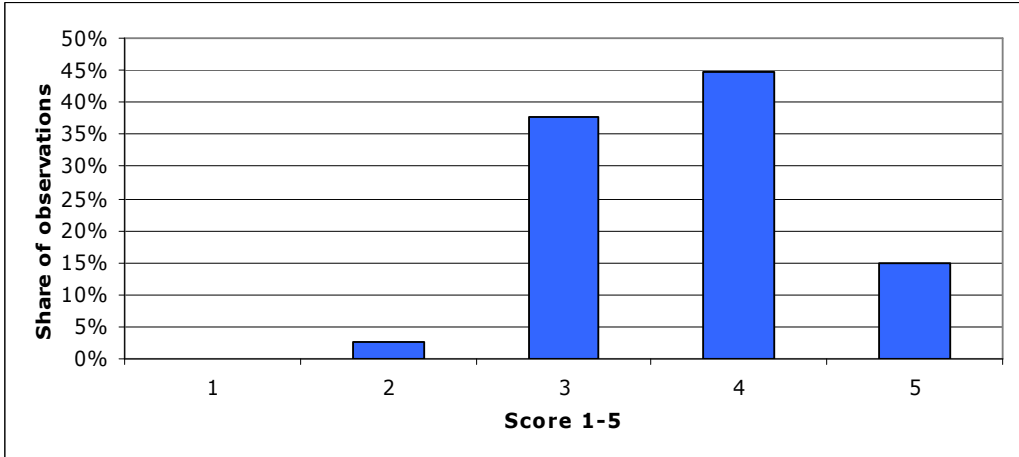
Source: Vækstfonden & Egon Zehnder International.

On average, a Life Science company in Denmark and Southern Sweden has 5.8 Board meetings annually.

4.3.2. Quality of meetings

According to 60% of the respondents, the quality of the board meeting material is estimated to be fairly good with a ranking of 4 or higher (on a scale from 1 -5), see figure 4.18.

Figure 4.18: Quality of the Board Meeting Material



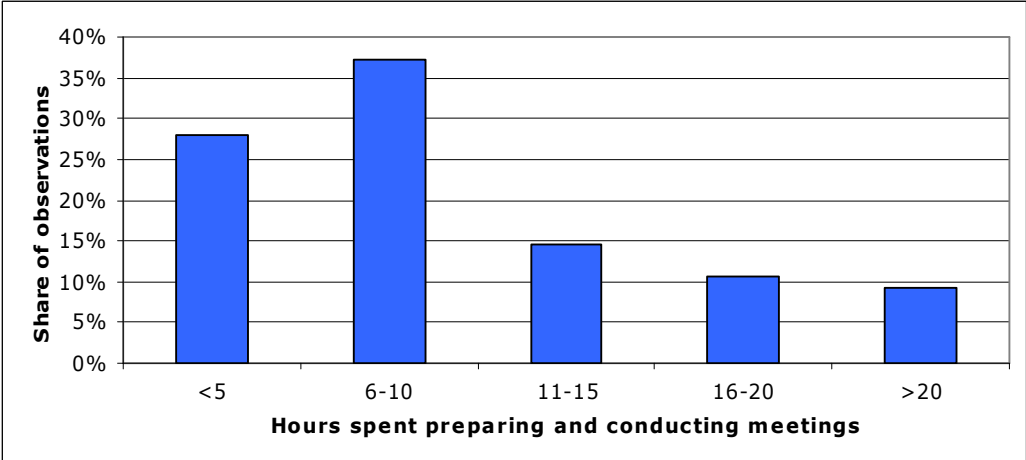
Source: Vækstfonden & Egon Zehnder International.

The average quality of the board meeting material of a Life Science company in Denmark or Southern Sweden is 3.7.

4.3.3. Board meetings preparation

When it comes to time expenditure for either CEO or Chairman, the median time for preparing and conducting a meeting is 10 hours or less per board meeting, see figure 4.19. However, the average time used for preparation and conducting meetings is 12.4 hours.

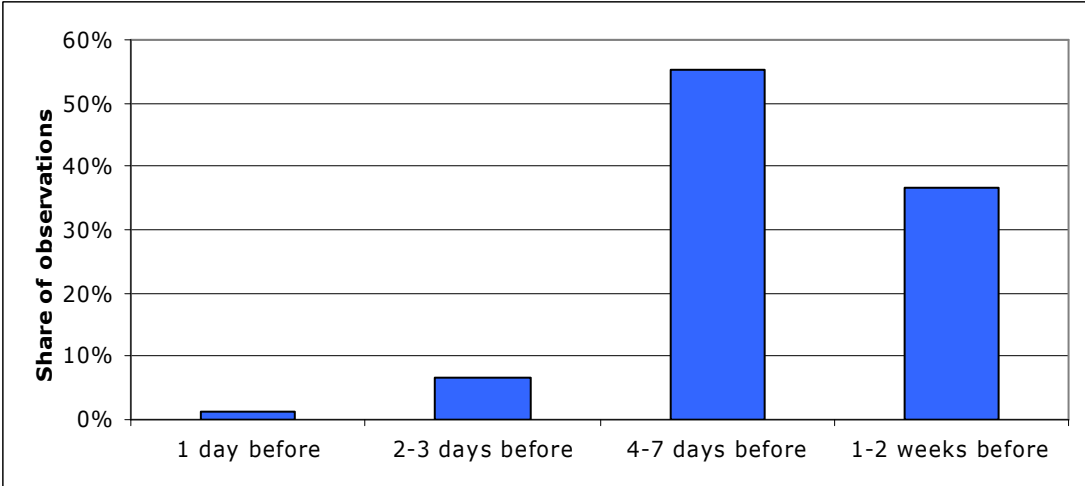
Figure 4.19: Time Spent on Board Meeting – preparation and participation



Source: Vækstfonden & Egon Zehnder International.

The board meeting material is in 60% of the cases send out 4-7 days prior to the board meetings, see figure 4.20. The average time is 7 days, which should give adequate time for preparation.

Figure 4.20: Distribution of Board Meeting Material (time in advance)

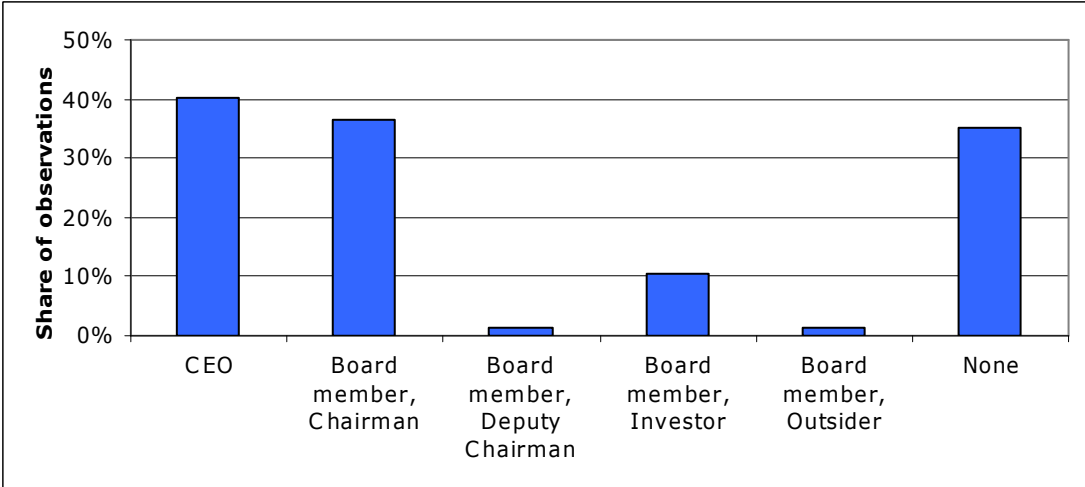


Source: Vækstfonden & Egon Zehnder International.

4.3.4. Who is in charge?

When asked who dominates the board meetings there is general agreement that it is either the CEO or the Chairman, if any, who dominates the meetings, see figure 4.21.

Figure 4.21: Most Dominant Member of the Board in Life Science Companies

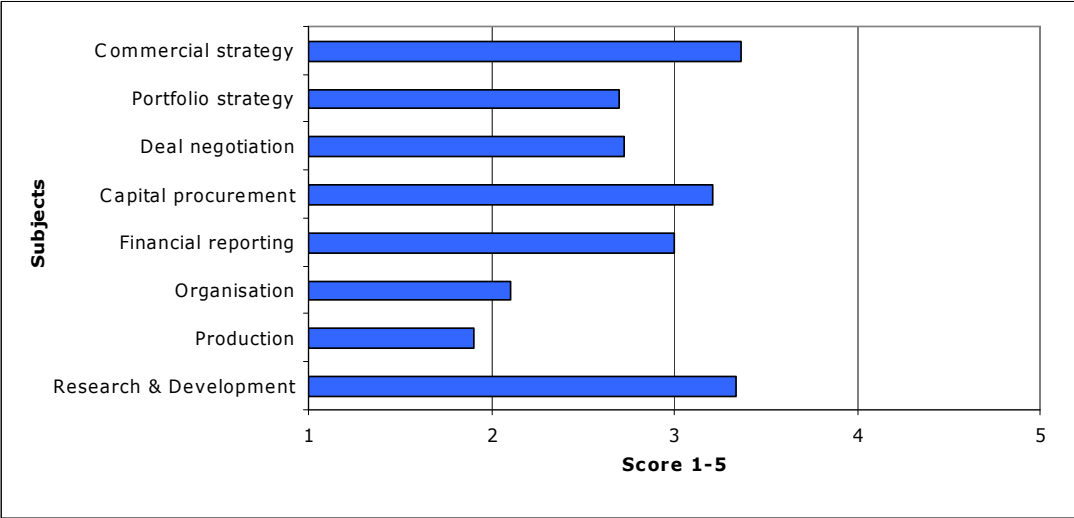


Source: Vækstfonden & Egon Zehnder International.

4.3.5. Subjects discussed and efficiency of meetings

At the board meetings, three subjects, in particular, are discussed: Commercial strategy, capital procurement, and research and development, see figure 4.22. In contrast, other issues such as organisation and production receive much less attention.

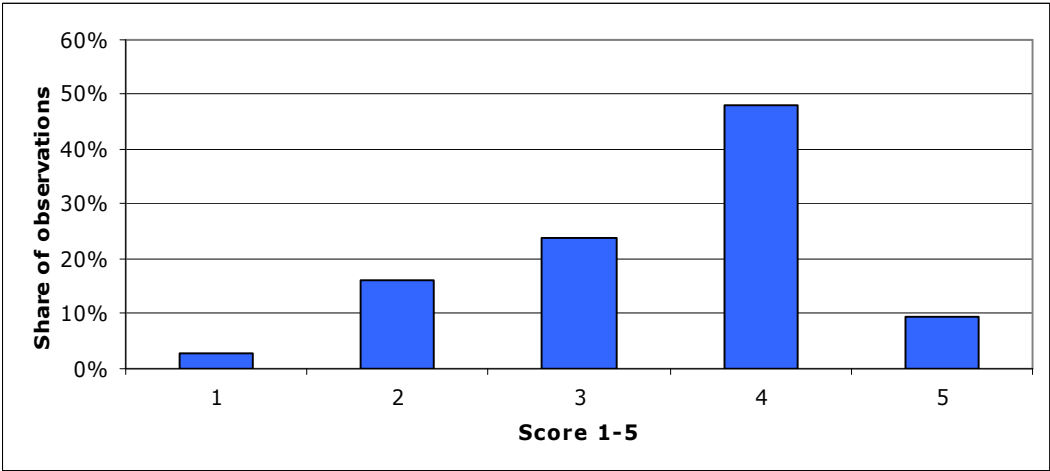
Figure 4.22: Subjects Discussed at Board Meetings in Life Science Companies



Source: Vækstfonden & Egon Zehnder International.

Most CEOs and Chairmen are generally satisfied with the efficiency of their board meetings. 50% of the respondents give a score of 4, on a scale from 1-5, see figure 4.23.

Figure 4.23: Efficiency of Board Meetings in Life Science Companies

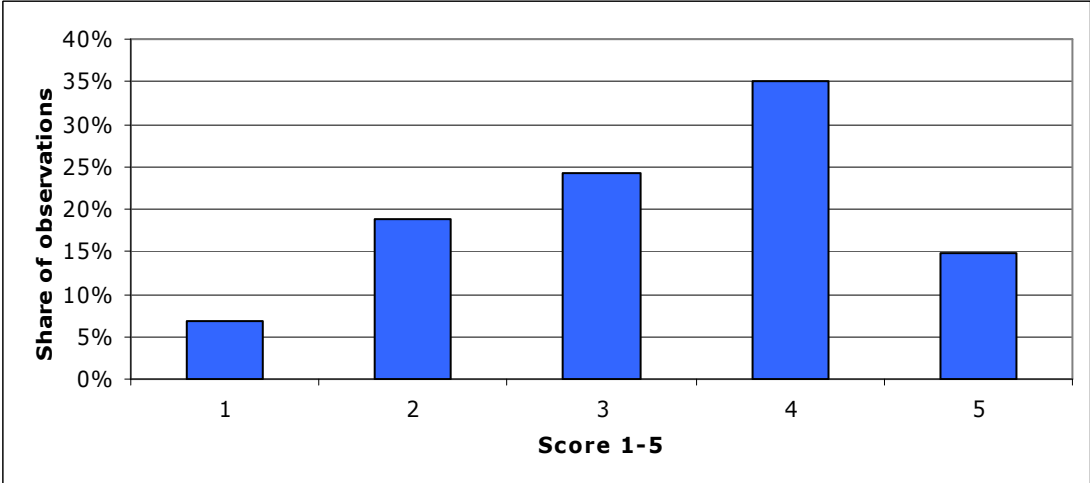


Source: Vækstfonden & Egon Zehnder International.

In general, the board meetings are thus seen as efficient by CEOs and Chairmen illustrated by a score of 3.5 on a scale from 1-5.

However, regarding the degree to which board members are prepared for meetings, the CEOs and Chairmen are less satisfied. Only half of the respondents give a score of either 4 or 5, on a scale 1-5, see figure 4.24.

Figure 4.24: Board Member’s Preparation for Meetings



Source: Vækstfonden & Egon Zehnder International.

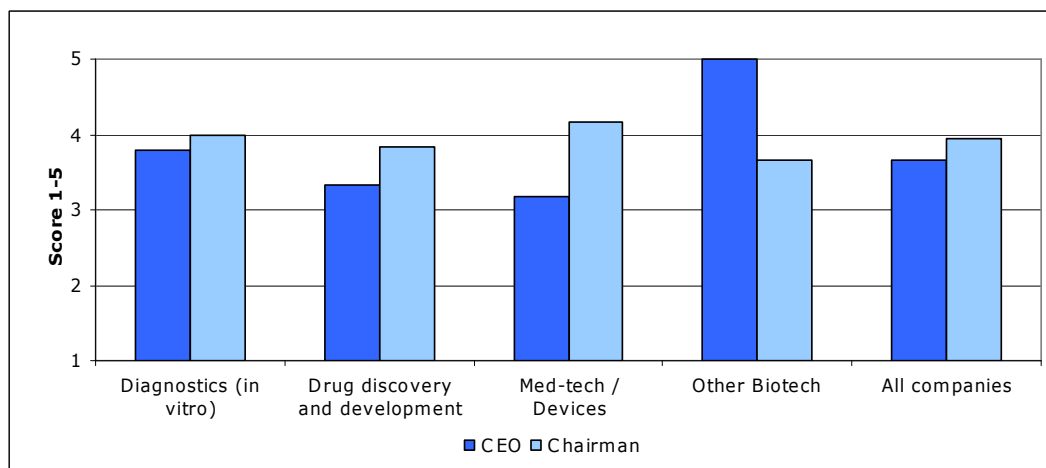
On average, the CEO and Chairman give their board a score of 3.3 concerning how well prepared the board members are.

4.4. The Chairman-CEO relationship

The data analysed in this section stem from 20 companies, where both the CEO and Chairman have provided information. This makes it possible to analyse whether the CEO and Chairman agree or disagree on key issues.

CEOs and Chairmen seem to agree that their respective board members possess an above-average level of competencies required to build a successful company. However, there is a clear tendency for the Chairmen to be more positive about board companies than the CEOs, giving a score of 4.0 compared to the CEOs who give a ranking of 3.5, see figure 4.25. The only exception is "Other biotech", where the CEOs rate the competencies of the board higher than the Chairmen.

Figure 4.25: Board Members' Possession of Key Competencies



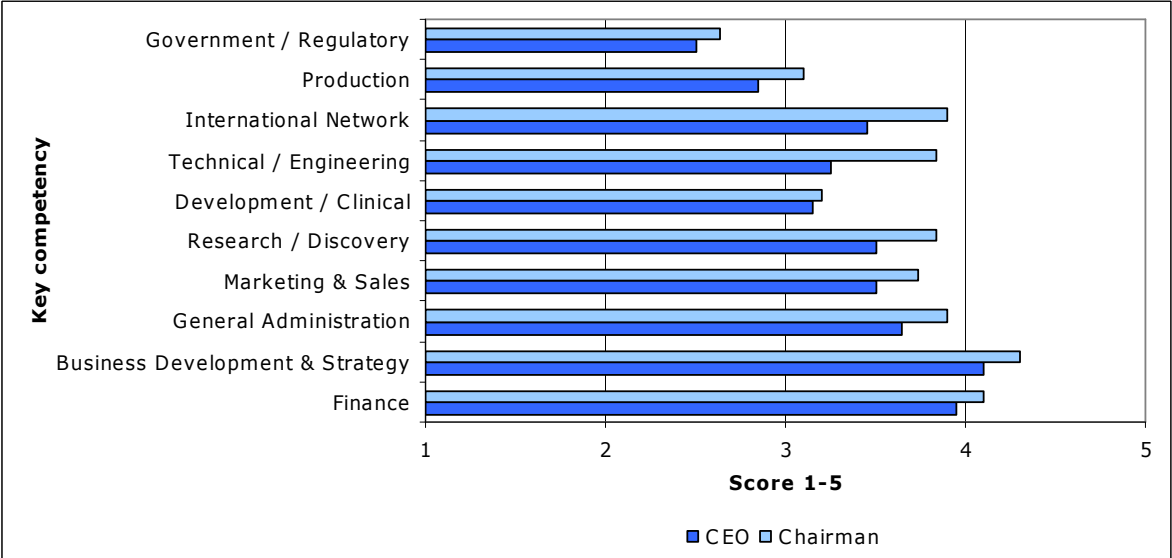
Source: Vækstfonden & Egon Zehnder International.

There are also clear differences regarding how the CEO and Chairman view the quality of the individual competencies. The different opinions are most pronounced in the competencies "International Network" and "Technical/Engineering", where CEOs rank approximately 3.4 and 3.1, respectively - in contrast to Chairmen who rank 3.9 and 3.8, respectively, see figure 4.26 (next page). Unsurprisingly, the CEO - who is often the founder and technical expert - finds the competencies in his particular field to be less than adequate.

The discrepancy with respect to international network competency is more difficult to grasp. However, it can be argued that the difference of opinion between CEOs and Chairmen is due to Chairmen overrating the actual competencies in this area or that the

competencies are present but are not being used. However, the CEOs and Chairmen do agree more on other areas of competencies, namely that skills within “Government/Regulatory”, and to a lesser extent “Production” know-how, are not present at a satisfactory level.

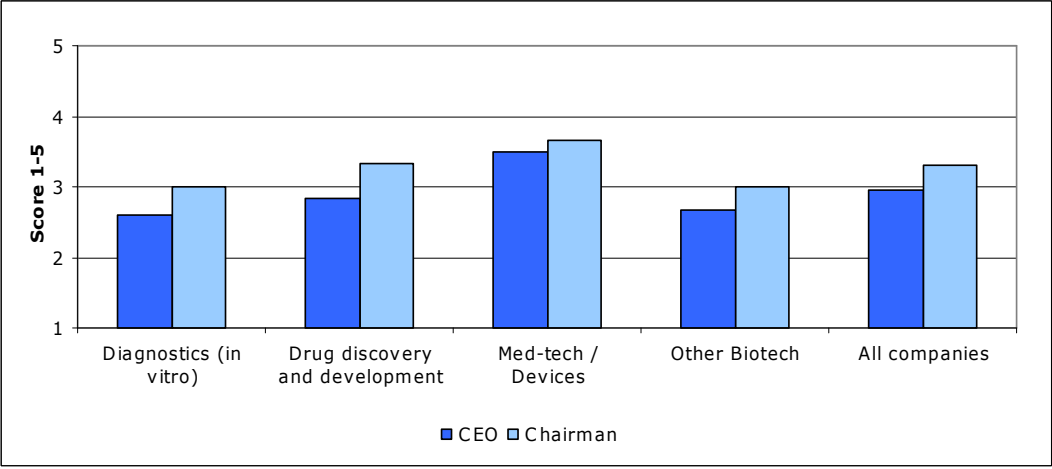
Figure 4.26: Board Endowment of Key Competencies



Source: Vækstfonden & Egon Zehnder International.

In order to attract the right competencies, compensation plays an important role. For the Life Science segment as a whole and for all sub-segments, the Chairman seems to believe that compensation is more important than the CEO does, see figure 4.27.

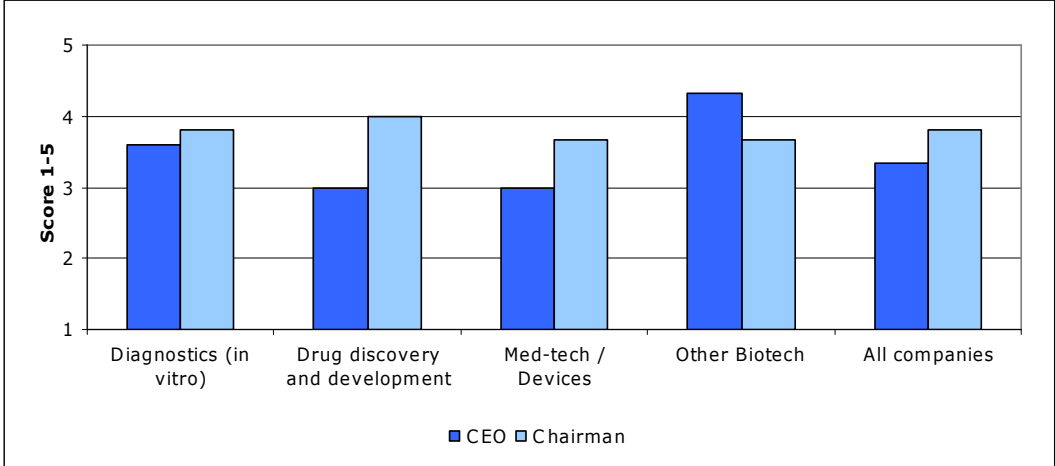
Figure 4.27: Importance of Compensation in Recruiting Board Competencies



Source: Vækstfonden & Egon Zehnder International.

The Chairmen find that the board meetings are conducted in a manner that is relatively efficient while the CEOs are less satisfied, ranking the efficiency 3.8 and 3.4 respectively, on a scale from 1-5, see figure 4.28.

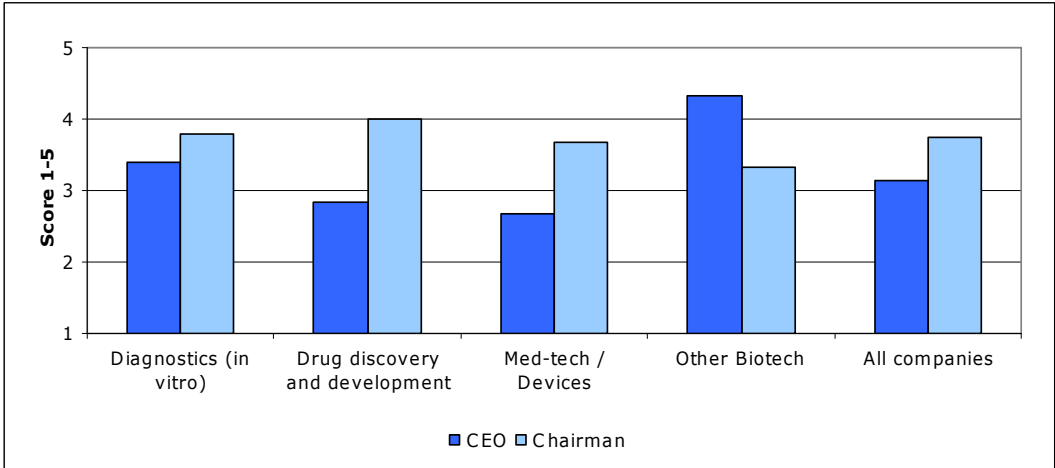
Figure 4.28: Efficiency of Board Meetings in Life Science Companies



Source: Vækstfonden & Egon Zehnder International.

Corresponding well to this is the result that the Chairmen believe that the board members are well prepared (score 3.8, on a scale from 1-5), whereas the CEOs are less positive on this subject (score 3.2, on a scale from 1-5), see figure 4.29.

Figure 4.29: Level of Preparedness for Board Members at Board Meetings

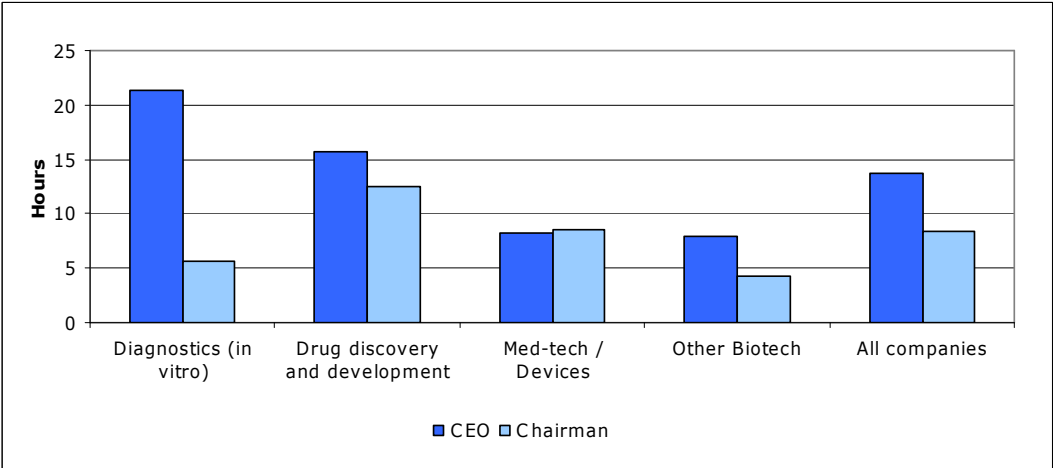


Source: Vækstfonden & Egon Zehnder International.

There is a considerable difference in the amount of time that CEOs and Chairmen spend on preparation and board meetings. Overall, the CEO spends 14 hours, whereas the Chairman only spends 8 hours, see figure 4.30 (next page). A reason for this could be

that the CEO is responsible for preparing the board meeting material. Furthermore, as the CEO is responsible for daily management he can be expected to have the most detailed knowledge of all topics that may be discussed at the meeting, which means he has to spend more time collecting information prior to each meeting.

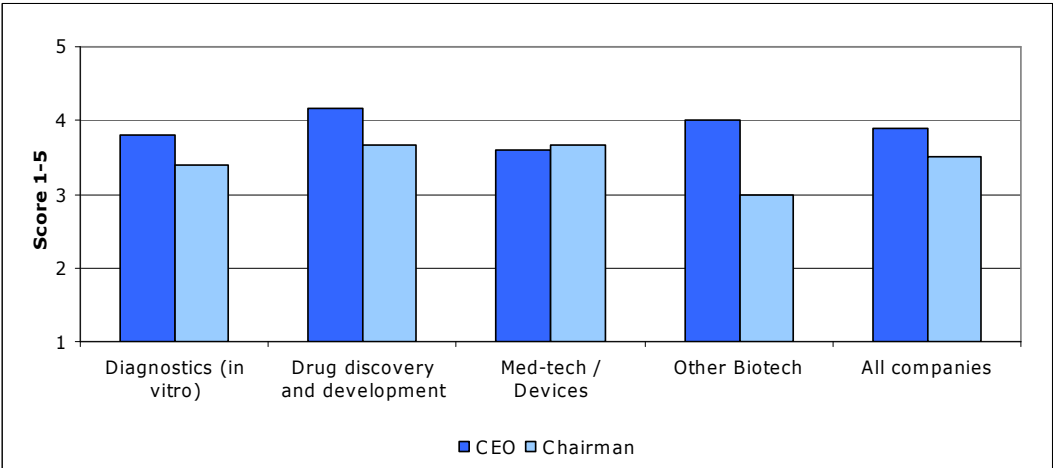
Figure 4.30: Time Spent on Preparing and Conducting Board Meetings



Source: Vækstfonden & Egon Zehnder International.

As the CEO is responsible for preparing the material, it is not surprising that the CEOs find the quality of the board meeting material better than the Chairmen do, see figure 4.31.

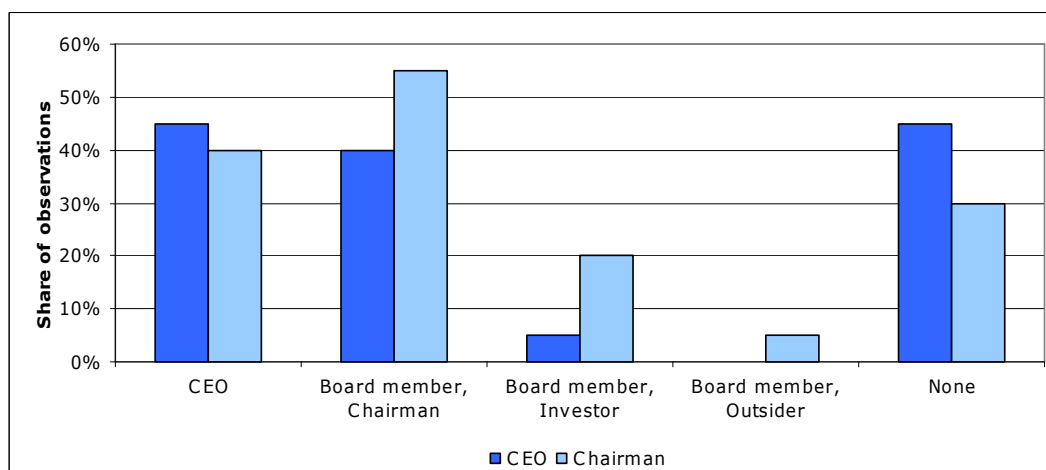
Figure 4.31: Quality of the Board Meeting Material



Source: Vækstfonden & Egon Zehnder International.

Regarding who dominates the board meetings, the CEO seems to believe that he is in charge, while the Chairman seems to think the same of his own position, see figure 4.32 (next page).

Figure 4.32: Most Dominant Member of the Board in Life Science Companies



Source: Vækstfonden & Egon Zehnder International.

In addition, a rather large group of CEOs (45%) think that no one in particular dominates the board meetings, while the corresponding figure for the Chairmen is 30%.

4.5. Summing up – Life Science boards

On average, the board of a Life Science company in Denmark and Southern Sweden consists of five directors. Two of these board members are investors, while the remaining seats are taken by the owner/founder, an industry expert – and a professional board member. Less than 10% of the directors are females and more than 85% of the board members are recruited within Scandinavia. As a corollary, almost none of the directors has “International Network” as a key competency. The types of expertise most members bring to the board are “Finance”, “Research/Discovery” and “Business Development”.

A typical Life Science company holds 6 board meetings per year. Although these meetings should give the CEO valuable feedback, a large number of CEOs are not satisfied with the outcome of the board meetings considering how much time they put into the meetings.

5. Divergence between ICT and Life Science boards in Southern Scandinavia

The board of directors in venture-backed companies within the ICT and the Life Science sectors in the Southern Scandinavian region diverge in several aspects. The most salient features are listed below:

- ***Larger share of VCs in Life Science boards***

Venture Capitalists (VCs) make up 23% of ICT boards against 31% of Life Science boards.

- ***Twice as many industry experts in the Life Science industry***

Industry experts make up 12% of ICT boards compared to 23% on Life Science boards.

- ***Prevalence of professional board members in the ICT segment***

53% of the Chairmen on ICT boards are professional board members compared to 34% of Life Science boards. Meanwhile, 20% of the Chairmen on ICT boards are CEOs as opposed to 27% of the Chairmen on Life Science boards.

- ***More board seats to Life Science directors***

The number of directors with multiple board seats also reveals some divergence. 41% of the ICT board members hold 4 or 5 board memberships, while 37% hold more than five. For Life Science boards the percentages are 29% and 44% respectively. Hence, there is a much larger proportion of ICT directors holding 4-5 memberships, whereas the inverse relationship is true for board members holding more than 5 seats.

- ***Virtually no women on ICT boards***

The share of women among board members is low in both industry segments. However, women account for 9% of the Life Science boards, while only a fraction of 1% are women on the ICT Boards.

- ***More product launches in the ICT segment***

The number of product launches varies notably. The companies in the ICT segment have launched 3 products on average, compared to only one product in the Life Science segment. This differentiation underlines the fact, that the time-to-market in Life Sciences is significantly longer than for ICT firms.

- ***Younger members of ICT boards***

The ICT boards are slightly younger as the average age of a board member in the ICT segment is 48, while it is 49 in the Life Science segment.

- ***More focus on Business Development in the ICT segment***

The rate of business development competencies in ICT boards exceeds that of the Life Science boards in the Southern Scandinavian region. 24% of the members of ICT boards have business development as the key competency, which corresponds to more than one person per board.

- ***Better distribution of meeting material in Life Science boards***

Board meeting material is sent out in advance of the board meetings. However, the members of Life Science boards have more time to prepare themselves for the meetings. On average, they receive the meeting material one week in advance, while the members of the ICT boards on average receive their material 5.7 days in advance.

- ***CEOs and Chairmen dominate more in the ICT segment***

The board meetings in ICT companies are generally dominated more by the Chief Executive Officer (CEO) or the Chairman than is the case for Life Science firms. In Life Science firms, 35% of the respondents believe that none of the board members dominates the board meetings. Only 21% of the respondents of ICT companies believe no one dominates the board meetings. Meanwhile, 51% consider the CEO to be dominant at the meetings, while 43% think the same of the Chairman.

6. Concluding remarks

The board of directors in Southern Scandinavian ICT and Life Science firms is characterized by a large share of national members. Whether these companies are commercially successful or not is beyond the scope of this analysis, but the composition of boards with a strong domestic bent suggests that there are some weaknesses as regards global outlook.

More than 80% of the board members are natives of the country of origin for the companies surveyed. Although, the Swedish ICT companies seem slightly more mature, this is not reflected in a greater international exposure of the company boards.

Typically, the boards of ICT as well as Life Science firms consist of five members who cover a broad range of references and competencies.

Venture Capitalists (VCs) constitute the largest single reference group of directors in the ICT segment, while all investors in total – adding business angels and industrial investors – make up 42% in Denmark.

Danish ICT boards focus more on Marketing and Sales, while Swedish directors possess more key competencies within Entrepreneurship. Meanwhile, Business development competencies are the most prevalent key competency on the board in both regions.

One third of the key competencies in ICT boards are within Business development. A significantly larger share than the 14% which is found in the boards of Life Science companies.

In the ICT segment, Swedish directors have greater exit experience – from IPOs and Trade sales – than their Danish colleagues. Also, more Swedish firms are listed, indicating that the directors of these firms have experienced at least one IPO. Furthermore, Swedish Board members have experienced more major deals and international product launches and therefore seem better equipped – all other things equal – to pave the way to success for the companies they serve on the board in.

Another possible advantage for the Swedish ICT start-ups is that their chairmen carry an average of 5.5 board memberships compared to 7.2 for the chairmen in the Danish companies.

Fewer board seats among Swedish board members should give more time to devote on each company. Partly reflecting this, Swedish respondents value the quality of the board meetings higher than the Danish companies.

However, there may still be room for improvement on both sides as 50% of board members spend less than 8 hours preparing for and participating in each meeting.

Two challenges seem particularly relevant to address for ICT and Life Science start-ups in Denmark and Southern Sweden. Firstly, achieving greater commitment from board members and, secondly, attracting more people with international experience and networks.

The data on compensation levels for the ICT segment, and in particular the marked inferiority compared to Silicon Valley companies, suggest that this is an area, where companies can look for remedies. Recognizing that start-ups are generally strapped for cash, it is advisable that companies explore incentive programs that include stocks or options in an attempt to attract highly qualified global talent and committing them to working hard to fulfill the business objectives of the company strategy.

Moreover, the survey reveals a range of areas in both the ICT and Life Science segments, where company boards are lacking the skills and experience to provide adequate strategic support. One mechanism with which to overcome this would be to introduce periodic competency reviews, where the composition of the board is assessed as to whether it matches the opportunities and challenges, which the company is facing at that particular juncture in its development. If the review shows that certain key skills are missing, a reshuffle needs to be considered. The board should therefore momentarily search for people who possess these skills and bring them on board, while possibly asking some existing members to step down.

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Appendix – Questionnaire (Chairman)

Company background

1. Founding year

2. Number of full-time employees

3. Is the company listed on the stock exchange

Yes

No

4. Number of product launches

0

1

2-3

4-5

>5

5. If zero product launches - please indicate in which year you expect to launch the company's first product

6. Industry sector

- Communications
- Electronics
- Information Services
- Semiconductors
- Software
- Other Technologies

7. List the five most important strategic objectives for your company:

Profile of the Chairman of the board

8. What is your current position?

- CEO
- CSO / CTO / CFO
- Senior Executive
- Professional board member

Other

9. What is your current occupation?

- Full Time
- Part Time
- Retired

Other

10. How many other boards are you a member of?

Profile of the board members

11. List the background of the boards' members (including yourself)

	Reference	Age	Key-competency	Gender	Nationality
	Investor (VC) Investor (Entrepreneur) Investor (Business Angel) Owner / Founder	<40 40-45 45-50 50-55 55-65 >65	General Administration Business Development & Strategy Finance HR Marketing Research & Development Management & Sales Operations International Business Technical / Engineering Production Intellectual Property Rights Entrepreneurship	Male Female	Other World Other Europe USA Other
Board Member 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Board Member 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Board Member 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Board Member 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Board Member 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Core Competencies

12. To what extent do the board members (including yourself) possess the core competencies needed to realize the company's strategic objectives on a scale from 1-5, where 5 indicate that they possess the highest possible competency.

	1	2	3	4	5
Finance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business Development & Strategy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General Administration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing & Sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research & Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Technical / Engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
International Network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intellectual Property Rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. In your opinion, do the board members possess the core competencies required to build a successful company (on a scale from 1-5, where 5 are very good competencies)

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. To date, what competencies have, in your opinion, been lacking on the board in order to realize the company's strategic objectives?

15. Going forward, what additional competencies are required on the board, in your opinion, in order to realize the company's strategic objectives?

16. In your opinion, how important is board compensation in recruiting the right competencies on the board (on a scale 1-5, where 5 is very important)

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Combined experience of the board members

17. How many of the board members have exit experience?

18. Number of exits grouped by type

	0	1	2-3	4-5	>5
Trade sale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IPO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. How many major deals (> DKK 10 M) have they participated in?

20. How many of the board members have operational experience with product development?

21. How many of the board members have operational experience with business development?

22. How many of the board members have operational experience with sales and marketing?

23. How many international product launches have they participated in?

24. How many of the board members have international operational experience (been employed for more than 2 years outside Scandinavia) from non-domestic companies in this industry?

Compensation of board members

25. How much is the annual compensation of the board members? (DKK)

	0-50.000	50.001-150.000	150.001-250.000	250.001-500.000	>500.000
Board member, Chairman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Board member, Deputy chairman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Board member, Outsider	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

26. Does the Chairman receive compensation in stocks (options or warrants)?

Yes

No

27. If yes, what is the %-share of total equity devoted to this?

28. Do other board members receive compensation in stocks (options or warrants)?

Yes

No

29. If yes, what is the %-share of total equity devoted to this?

30. How many years have the board members served this board of directors?

	<1	1-2	2-3	3-4	4-5	>5
Board member, Chairman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Board member, Deputy chairman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Board member, Outsider	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Board meetings

31. How many board meetings does this company have annually?

32. How many hours do you use on board meetings (preparation and meeting) per meeting in this company?

33. On average, over the last year, when is the board meeting material (all documents!) sent out prior to a meeting?

1 day before	2-3 days before	4-7 days before	1-2 weeks before	Earlier
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

34. Rank the quality of the board meeting material (scale 1-5, where 5 is very high quality)

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

35. In your opinion, who dominates the board meetings?

- CEO
- Board member, Chairman
- Board member, Deputy Chairman
- Board member, Investor
- Board member, Outsider
- None

36. At the board meetings - how much time is devoted on the following subjects? (On a scale from 1-5, where 5 is the highest amount of time)

	1	2	3	4	5
Research & Development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial reporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capital procurement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deal negotiation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business Development & Strategy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sales & Marketing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If any other subjects - which?

37. In your opinion, how efficient are the board meetings? (on a scale from 1-5, where 5 is very efficient)

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

38. In your opinion, how well prepared are the board members for the board meetings? (on a scale from 1-5, where 5 is very well prepared)

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

39. What would be on top of your wish list in order to make the board more effective?

Thank you for participating in this survey.

Press the button "END SURVEY" below to save the results.

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