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Benchmarking of Elite Sport Systems

by

Nikolai Böhlke

Diplom Kaufmann, Diplom Sportwissenschaftler

A Doctoral Thesis

**Submitted in partial fulfilment of the requirements
for the award of**

The degree of PhD of Loughborough University

September 25th, 2006

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For my parents.

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Abbreviations

24hrA	24 hour Athlete, holistic coaching approach in Norway
AIS	Australian Institute of Sport
CoPo	Competence Programme of the NSF
CP	Coaching Project of the CP
e.g.	for example
EIS	English Institute of Sport
EISP	Elitidrottsskolan, elite sport school programme of the SAA
ESS	Elite Sport System
et al.	et alii
etc.	etcetera
GDR	German Democratic Republic
HCC	Holistic Coaching Concept, holistic coaching approach in Sweden
i.e.	that is
JNT	Junior National Team of the NSF
LSS	Lifestyle Support
NSF	Norwegian Skiing Federation
NTG	Norges Toppidrettsgymnas, Norwegian sport college
OT	Olympiatoppen
p.a.	per annum
SAA	Swedish Athletics Association
SDC	Special Discipline Coach in OT system
SOK	Swedish Olympic Committee
SSS	Sport Science Support

Abstract

The organisation of elite sport systems has been the focus of a great variety of different investigations over the past ten years. In particular, many studies have compared the structure and organisation of different national elite sport systems on the macro and meso levels. A result of the existing investigations is a clear convergence of the service portfolio different elite sport systems offer their athletes and coaches. Despite this current trend to a homogeneous elite sport system design, medal tables of major sport events suggest that some nations are still more successful than others in specific sports. This suggests that more successful sport systems might have found better ways to implement the otherwise similar and conventional support portfolio. However, there is a lack of studies that focus on what practices successful elite sport systems apply in the actual delivery of the support services to their athletes and coaches; in how far these practices are related to the success of the sport systems; if these practices look similar across different successful sport systems; and if these practices provide useful lessons for other systems to learn from.

The management tool benchmarking appears to be a useful framework to guide such comparisons at the operational level. Thus, this thesis evaluated the applicability of this management concept for furthering understanding of elite sport system management. In order to conduct this evaluation it was decided to analyse the operational processes and structures two successful elite sport systems apply for the delivery of five elements of the elite sport support portfolio. In specific, the investigation focused on the comparison of the design of the squad system, the hierarchy of coaches within the squad system, the organisation of the coach education, as well as the provision of sport science and lifestyle support, which were the Benchmarking Objects of this study. The Swedish athletics and the Norwegian cross-country skiing national team, and the general elite sport support institutions they cooperate with, were chosen as the Benchmarking Subjects, i.e. the comparison partners, for this investigation. This research was based on a series of semi-structured interviews which were conducted with about 50 key position holders such as coaches, athletes, lifestyle support managers, or performance diagnosticians during two study visits to Norway and Sweden.

This study concluded that benchmarking can lead to insights into the operational management of successful elite sport systems. It must however also be stressed that benchmarking is not a universal remedy for the problems managers of elite sport systems face today. As this research showed, the two Benchmarking Subjects applied unexpected solutions for the delivery of some of the chosen Benchmarking Objects – and some of these practices appeared to be heavily linked to the organisational and cultural context of the investigated sport systems. Thus, it must be carefully evaluated for each process or structure, which is identified during a benchmarking exercise, if it constitutes a transferable best practice which is applicable outside the organisational context of the respective Benchmarking Subject.

Keywords

Athlete development pathway, athletics, benchmarking, coach education, cross-country skiing, elite sport, elite sport systems, lifestyle support, Norway, sport science support, squad system, Sweden

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1 Introduction

The design and organisation of elite sport systems has been the focus of much investigation over the past few years (de Bosscher et al. 2003a, 2003b, and 2005, Deloitte & Touche 2003a and 2003b, Digel 2001a, 2004, 2005, Digel and Burk 2001, Digel et al. 2003a, b, c, 2004a, b, 2005, Green and Oakley 2001, Merkel 1995, Oakley and Green 2001, SIRC 2002). Two major events initiated sport scientists, policy researchers, and managers' interest in investigating such systems. The first was the sporting success that the former German Democratic Republic (GDR) enjoyed during the 1970s and 1980s, which suggested initially that an organised approach towards the support of high performance sport could result in the systematic production of successful international athletes. The second and perhaps more important event was the success the Australian Institute of Sport (AIS) enjoyed in the build-up to the 2000 Olympic Games. As the main elements of the AIS were based on the GDR system, the Australian success suggested that it is possible to achieve sporting successes that are similar to the former Soviet Union's if elements of their system are applied in another political, economical, cultural, and sporting environment.

The cases of the GDR and the AIS mark, to a certain extent, the starting point of the *global sporting arms race* (Oakley and Green June 2001) of sport nations - and their respective elite sport systems - for the top positions on the international medal tables in today's post Cold War time. Two important consequences of this arms race have subsequently emerged. The first is a convergence of the organisational design and the service spectrum provided in different international elite sport support systems (Shibli and Bingham March 2006). Second, and despite this convergence, there are still sport systems that appear to perform systematically better than others, such as the Australian swimming system, the British sailing system, the Norwegian cross-country skiing system, and the Swedish athletics system.

Thus, it appears today that the organisational design of elite sport systems can no longer explain the differences in their successes. As most systems provide a similar support spectrum, it can be argued that today one of the most decisive factors affecting the performance of an elite sport system is more the way the actual services provision is organised and managed, rather than what it consists of.

The arguments authors like Daus (December 2002), Digel et al. (2003a), and Emrich and Pitsch (2002) provide suggest the management of elite sport systems to be a matter of available resources or, more specifically, to be a resource management problem. Based on such considerations it can be argued that a system can increase its *output* of winning athletes either by increasing its resource *input* or by improving the efficiency with which the provided resources are *processed*. As managers of elite sport systems can often not significantly influence the resource situation of their systems, it can be argued that they should focus on increasing the efficiency of the way the available resources are processed in order to enhance the output of successful athletes.

In the context of the sporting arms race described above (organisational convergence vs. still systematically more successful sport systems) it appears logical to suggest that those elite sports systems that continue to be more successful have developed more efficient processes for the delivery of their support services. However, knowledge of the ways of doing this is limited and this thesis seeks to address this limitation.

1.1 Research Aim and Working Definitions

This thesis will contribute to the discussions surrounding elite sport systems in the management and policy literature by introducing the management tool of benchmarking to this field. Benchmarking is a managerial tool which has been successfully used in many conventional management contexts to inform organisations of how to further improve management practices (Bullinger and Ganz 2001, Camp 1989, 1995, and 1998, Dresen 1997, McGill and Slocum 1996, Suzuki 1993, Walker 1992). Underpinning the benchmarking approach is the concept of *learning from best practice*. This approach seeks to further develop processes and structures based on detailed analyses of the practices applied by superiorly performing organisations.

Specifically, this thesis aims:

To evaluate the applicability of the concept of benchmarking as a research tool for furthering understanding of elite sport system management.

The research question which underpins this aim is:

Can the management tool of benchmarking inform managers of elite sport systems of how to improve the operational processes with which their systems deliver support services?

The following three research objectives emerged from this research aim and question:

In order for the concept of benchmarking to be of value within the context of elite sport systems, superiorly performing organisations must have discrete, management practices that can be identified and copied. Thus the first objective of this research is:

To evaluate the extent to which superiorly performing elite sport systems (Benchmarking Subjects) demonstrate tangible best practices concerning the management of specific processes, i.e. the delivery of specific elite sport support services (Benchmarking Objects).

It will be shown in the further discussion of this thesis that one of the key challenges the benchmarking approach is confronted with is the evaluation of the transferability of identified best practices. If a number of superiorly performing organisations have developed similar practices and processes independently from each other, it seems reasonable to suggest that these might constitute genuine best practices or that these include elements which represent a set of guidelines for the improvement of managerial processes independently of an organisation's environment. The second objective of this research is therefore:

To identify the extent to which the identified practices are similar across different superiorly performing elite sport systems.

At the centre of this transferability problem of a best practice is its potential context-dependency. Hence, this thesis will furthermore establish to what extent the contextual nature of managerial best practice constitutes an obstacle which could prohibit the application of the approach in the context of elite sport systems. Thus, the third objective of this research is:

To establish whether the identified best practice is transferable to other organisational contexts.

For the purpose of this study, an elite sport system is to be understood as the cooperation between general institutions which provides elite sport support services for athletes and coaches from different sports and one or several sport federations. This could, for example, refer to the cooperation between an institution like the AIS and the Australian Swimming Association.

The research strategy chosen to address the research aim, question, and objectives described above, involves evaluating the general context and the specific design of the management practices applied by two successful elite sport systems. The actual comparison was drawn between the Swedish athletics national team and the Norwegian cross-country national team. In specific, it was analysed how the Swedish Athletics Association cooperates with the Swedish Olympic Committee (SOK) and the Swedish National Sport Complex in Bosön, and how the Norwegian Skiing Federation cooperates with Olympiatoppen, the Norwegian elite sport support institution.

1.2 Key Assumptions

The research aim of this thesis is founded on a number of assumptions which emerge from an analysis of the contemporary elite sport management and policy literature. Their origin will be discussed in more detail in the following chapters; however, they are presented here to establish the foundations for the research project.

Firstly, it shall be assumed that the general service portfolio that different elite sport systems offer their athletes and coaches has converged. Many researchers like Digel (2001a, 2001c, 2005) and Digel et al. (2003a), Green and Oakley (2001), and Merkel (1995) as well as consultants and managers of elite sport systems like Baumann (July 2003) and Deloitte & Touche (2003a and 2003b) describe in their publications very similar service portfolios and organisational elements which leading elite sport systems show today, and which under-performing ones are advised to develop. This describes as well as explains the phenomenon which Shibli and Bingham (March 2006) consider the *homogenisation of elite sports systems*.

Secondly, it shall be assumed that by providing these different elite sport support services, an elite sport system can actually increase the likelihood of developing winning athletes (DCMS 2000). This assumption is based on the observations of such key authors like Digel (2004, 2005) and Digel et al. (2003a, b, c 2004a, b, 2005), Green and Oakley (2001), or Merkel (1995) who identified in their investigations of superiorly performing elite sport systems that such systems provide their athletes with a specific, and similar, service portfolio. However, it is important to stress in this context that this assumption should not be mistaken as an automatic assumption of achieving sporting success if the different services the authors discuss are applied in another context. Research in this area might, for example, have overlooked the social and economic benefits of a sporting career in a specific country or under-estimated the impact of the systematic provision of drugs like in the former GDR as important alternative explanations which also influence the performance of the athletes in the investigated systems.

Thirdly, and based on the previous two assumptions, it is assumed that one explanation for the variations in the performance of elite sport systems lies within the differences in the operational delivery of the offered service portfolio.

Chapters two, three, and four will discuss these assumptions and their origins in more detail.

1.3 Structure of the Thesis

Chapter two provides an analysis of the current elite sport system related literature. This analysis shows that existing research can be categorised into three interdependent clusters. This discussion will provide the foundation for the development of the above introduced research question and the rationale for the assumptions which underpin this thesis.

The management tool of benchmarking will be introduced in chapter three. The discussion will focus on the general concepts which underpin this management approach, and the technical issues and fundamental challenges faced when applying the benchmarking concept in the management practice. The discussion will also highlight how benchmarking can address the limitations in the elite sport policy related literature discussed in the second chapter of this thesis. The critical reflection in chapter three will also discuss why it is necessary to evaluate the general applicability of this tool under the specific context conditions that an elite sport system provides.

Chapter four will first of all suggest a research strategy to answer the research question and thus to meet the research aim of this thesis. Secondly, the discussion in this chapter will include a more general reflection of methodological issues which have to be considered when carrying out research of this nature. This will finally lead to a more specific discussion of the actual methods which have been applied in the course of this investigation.

Chapters five and six will provide a detailed overview of the data which has been collected to address the aims and objectives of this thesis. Chapter seven will discuss these findings in detail in terms of the research objectives and in comparison with existing contemporary research. Chapter eight will conclude the thesis in terms of the research aim.

2 Elite Sport Systems

This chapter provides an overview of the contemporary literature related to elite sport policy and elite sport management. The discussion will introduce a typology to structure the existing research, followed by a detailed discussion of the work of the relevant authors from this field. This is necessary to identify the gap in the existing literature and develop an appropriate way of addressing the identified gap. The considerations discussed in this chapter will lead to the introduction of the benchmarking approach in chapter three, which will be used as a tool to facilitate the gathering of information that is currently lacking in the elite sport policy and management literature.

2.1 A Typology of Elite Sport System Research

The general organisation of and the associated management processes in elite sport systems have become a research focus for academics, politicians, and practitioners alike. Detailed insights into the organisation of the sport system of the former GDR became possible after the fall of the Iron Curtain and initiated a variety of different approaches to investigating such systems. A review of the existing research suggests that the majority of the approaches which investigate elite sport systems can be divided into three categories: macro-, meso-, and micro-level focuses.

Firstly, research can focus on, and provide considerations about, the general integration of a sport system into its stakeholder environment. Authors like Stahl et al. (2002) and Houlihan (1997), who apply such a broad focus in their work, exemplify approaches considered to have a macro-level focus. Secondly, authors like Green and Oakley (2001) and Green and Houlihan (2005) apply a more specific and detailed focus in their investigations of elite sport systems. They provide a general overview of the organisational design of such systems and the managerial and political processes within them. More detailed investigations such as these can be considered as meso-level studies. Finally, each of the different organisational elements of elite sport systems can be investigated with an even more specific focus. Authors like Müller et al. (1999) or Stumpe (1998), who provide very specific considerations concerning the operational design of different elite sport support services, such as sport science or lifestyle support, can be considered to apply a micro-level focus.

Categorising the general approaches and specific considerations in the existing literature like this serves several goals. In the discussion in this chapter, it helps first of all to describe the general nature of the existing research in the field of elite sport systems. Secondly, structuring the existing knowledge in this way also helps to identify key gaps in current knowledge. This will, thirdly, lead in the closing section of this chapter to the development of the research aim and objectives for this thesis. Finally, with regard to the discussion of the findings this thesis presents, the categorisation suggested here is helpful in guiding the discussions of chapter seven, where the results of this research are considered in the context of the existing literature.

It is important to note that the transitions between the three categories are rather blurred in terms of research practice as a certain amount of interdependency exists between the research questions which are answered by the work which is carried out on the different levels. As this thesis itself will show in the presentation and discussion of its findings, it is hardly possible to conduct a micro level investigation of an elite sport system without providing and considering basic reflections of its macro and meso level environments. For example, Stumpe (1998) described the work of a lifestyle support manager with a very detailed, micro level, focus. Yet, his considerations also provide more general information about the role of the lifestyle support programme in an elite sport system (the meso level) as well as about the way the lifestyle support manager has to cooperate with the different entities in the general stakeholder environment of an elite sport system (the macro level). It is therefore not always possible to ascribe a specific piece of work to one category alone.

Thus, it should be considered that the system of classifying the literature used here constitutes primarily a didactical tool to explain the general nature of the research field of sport and elite sport systems, to structure the existing approaches, as well as to organise the considerations, information, and views different researchers provide.

2.2 Macro Level Focus – The Strategic Structure

When a sport system is investigated with a macro level focus, it would normally be considered one coherent unit or an organisation consisting of discrete sub units (i.e. the sport for all movement and an elite sport support programme). At this level of investigation, the general stakeholder environment of a sport system would for example be the focus of analysis to determine how the system cooperates with its different resource gatekeepers.

One of the key stakeholders and resource providers for many contemporary sport systems can be expected to be the national government as Heinemann (2003) suggests that supporting the national sport movement can be considered an element of a general welfare policy programme. The discussion that Heinemann and his colleagues provide, which describes and contrasts the sport and welfare policies in six European countries such as Denmark (Ibsen and Ottesen 2003), Germany (Engelhardt and Heinemann 2003), or France (Defrance and Renard 2003), indicates however, that the nature and the extent of a government's involvement into a national sport system can differ from country to country. Houlihan (1997) further developed these observations and created a categorisation of sport policy systems using the nature and the degree of governmental involvement in the organisation and management of the respective national sport system as a key differentiation criterion. Furthermore, Stahl et al. (2002) showed in it is not sufficient to consider only the gross involvement of the state in the national sport system. According to their research, it is also important to consider the specific agenda to which a national government provides its resources, as this can either be more focused on the support of a national sport-for-all movement or a national elite sport programme. Such considerations are important for any kind of comparison projects which investigate different national sport policy systems.

The direct support through the national government is, however, not the only potential source of support that is relevant for a national elite sport programme. As Güllich (September 2004) suggested for the German case, and Braun (2000a, 2000b, 2001a, 2001b) for the situation in Germany and France, the national education system can also be considered a key partner in the development of a national elite sport support programme.

Furthermore, Hackford and Birken (2004), Müller (2002), and Nehren (2002) suggest that the national police force, as well as the national military services, respectively the army, can also provide similar, important support for the development of elite athletes. All of these institutions can provide young athletes with a possibility of gaining education, direct (i.e. salary) or indirect (i.e. scholarships) financial support, as well as enough freedom and flexibility to train for their sport.

Finally, depending on the image of a specific sport or the general image of a national elite sport support programme, a key source of support for an elite sport programme can also be the national business sector, in particular the national media market (Digel et al. 2003a, Halle and Stuebner 2004, Stumpe 1998). From these sources, a national elite sport programme can receive general financial support based on sponsorship contracts as well as specific services such as advice and support on recruitment matters or media training seminars. For example, Deloitte & Touche (2003a, p. 2, 2003b, p. 3) indicated, in this context, that forming such partnerships to exploit *commercial opportunities* constitutes one of the key *success criteria* for national governing bodies of sport to secure their future development.

Figure 2-1 summarises the findings of the research at this level and presents the main stakeholders a sport system can cooperate with. For the context of this research, one important conclusion which has to be drawn from the reviewed macro level considerations is that different national sport systems can cooperate with different resource provider. While the university-sport system has, for example, traditionally a strong role in the elite sport support programme in the Anglo-American system (Digel 2005), its role for the support of elite sport is only just developing in Germany (Digel 2005, Güllich September 2004). A second important finding for consideration later in this research is that different resource gatekeepers' agendas vary from country to country (Stahl et al. 2002). One government, for example, might provide its support primarily to develop the national sport for all movement, while another might focus on the support of the national elite sport support programme.

Figure 2-1: Overview of the stakeholder environment of a sport system

(Adapted from Braun 2000a, 2000b, 2001a, 2001b, Deloitte & Touche 2003a and 2003b, Digel et al. 2003a, Eisenführ 2000, Güllich September 2004, Hackford and Birken 2004, Heinemann 2003, Houlihan 1997, Müller 2002, Nehren 2002, Stahl et al. 2002)

2.3 Meso Level Focus – The Tactical Design

From the macro level viewpoint, a national sport system can be considered to consist of a sport for all programme and an elite sport system – the former with the aim of promoting mass participation in sport and the latter with the goal of increasing the sporting success of the nation's top athletes in international competitions. This view of a sport system in general and an elite sport system in specific constitutes the starting point for meso level research, which introduces more detailed questions such as: what does the elite sport system actual do, how does it use the resources its stakeholders provides it with to achieve its target (Digel 2005, Digel et al. 2003a, Emrich and Pitsch 2002)? It is thereby possible to differentiate between two main subcategories of investigations in the reviewed meso level literature. Authors like Green and Houlihan (2005) focus more on the dynamics and relationships between the different entities within and around an elite sport system, whilst authors like Digel et al. (2003a) try to investigate and evaluate more specifically what the important tasks and responsibilities of an elite sport system are and how these can be offered.

The first sub-category of research which was identified in the course of the literature reviewing process provided detailed insights in the relationships and dynamics between different sub-entities in an elite sport system as well as between national elite sport programmes and the respective national sport for all movements in a national sport environment. Green (2003) and later Green and Houlihan (2005) were able to identify, in this context, certain *common tensions* (Green and Houlihan 2005) across different international sport systems (Australia, Canada, UK). Specifically, they found strong rivalries concerning the allocation of resources between the development of the club and the elite sport movement, as well as conflicts associated with the increasing professionalism of the management of the elite sport (i.e. paid and specifically educated employees) and the voluntary tradition which remains predominant at the club sport level. Similar tensions have also been identified by Augestad et al. (2006) in Norway. They describe political conflicts between Olympiatoppen, the general elite sport support providing institution in Norway, and the strong national sport federations such as the Norwegian Skiing Federation, as well as individual coaches and athletes.

The second sub-category of meso level investigations identified during the literature review includes publications that describe, analyse, compare, and assess the task spectrum and service portfolio that elite sport systems ("should") provide. While the transition is again blurred, three further types of investigations can be differentiated here. First, authors like Digel (2001a, 2004, 2005) and Digel et al. (2003a, b, c, 2004a, b, 2005), de Bosscher et al. (September 2005), and Green and Oakley (2001) have analysed, and compared the service spectrum that selected - arguably successful - elite sport systems offer or have offered. The systems these authors have investigated include the former GDR and Soviet Union, (Green and Oakley 2001), Australia, the UK, France, and the USA (Digel et al. 2003a, b, 2004b, 2005, Green and Oakley 2001), and the Netherlands and Flanders, Belgium (de Bosscher et al. September 2005). In contrast to these comparative approaches, a second type of investigation focuses more on the description and analysis of the specific *success story* of and behind a specific elite sport system such as that of Australia (Baumann July 2003, Bloomfield 2003) or that of the former GDR (Merkel 1995). Finally, and arguably based on a review of the previous two categories of research, consultancy projects try to inform elite sport systems of how to further develop their organisation through extensive lists of recommendations (Deloitte & Touche 2003a, 2003b).

While *consistent, sustained funding and support* (DCMS 2000, p. 44) are considered to be key ingredients for a successful systematic production of winning athletes, these authors and their work provide an answer to the questions: what tasks should an elite sport system address and what services should it offer its athletes and coaches?

The lists of tasks and support services provided by this research varies in length, depth, and focus, but overlap in many areas.

First, a number of generic tasks or primary support services are discussed. These refer to tasks that affect athletes and coaches directly in their daily training and include running a talent identification scheme which leads promising youngsters onto an athlete development pathway; providing sport science support to secure scientific support in the training planning and conduction; offering coach education to secure a high level of competence and technical know-how among the coaches; running a lifestyles support programme to cater for the athletes' non-sporting and post-sporting development; hosting of and offering access to appropriate training facilities; and organising the exposure of the athletes to an appropriate competition environment (Deloitte & Touche 2003a, Digel et. al. 2003, Emrich and Pitsch 2002, Green and Oakley 2001, Merkel 1995).

Secondly, the reviewed literature also included certain tasks that are not directly related to the actual support of individual athletes and coaches but which constitute important support activities and help improve the provision of different support services. This cluster of support activities includes the introduction of a quality management or controlling culture into the management of an elite sport system; a comprehensive planning programme for the individual sports and their specific needs; as well as the clear prioritisation of specific sports in the allocation of available resources (Deloitte & Touche 2003a and 2003b, Digel et al. 2003a, Green and Oakley 2001).

Thirdly, certain observations and recommendations contained in the research focus more on the general professionalisation and further development of the corporate culture and infrastructure of an elite sport system than on the actual, direct support of athletes and coaches.

Activities and suggestions which fit in this category include: the advice that the support for athletes and coaches should be provided in an unbureaucratic way; that the actual provision of the support service should be founded on a simple and effective communication environment; and that the staff members of a respective sport organisation should develop professional management skills in areas like marketing or finance management (Deloitte & Touche 2003b, Digel et al. 2003a, Green and Oakley 2001, Godfrey and Holtham 1999, Oakley and Green 2001).

Figure 2-2 summarises the considerations presented in meso-level research.

Figure 2-2: Tasks spectrum of an elite sport system

(Based on Baumann July 2003, Bloomfield 2003 and November 2002, Böhlke 2002, Braun 2000a, 2000b, 2001a, and 2000b, Dausgs December 2002, Deloitte & Touche 2003a and 2003b, Digel at al. 2003a, Emrich and Pitsch 2002, Green and Oakley 2001, Godfrey and Holtham 1999, Merkel 1995, Oakley and Green 2001, Pfützner et al. 2002, SIRC 2002; structured according to Porter 1985)

It can be concluded on the basis of the review of the existing body of literature that the design of the service portfolio in today's elite sport systems has become rather similar. It is possible to observe a certain *homogenisation of elite sports systems* (Shibli and Bingham March 2006).

Thus, due to this *trend towards a homogenous model of elite sport systems* (Oakley and Green 2001, p. 91) presented in Figure 2.2, it can be considered that the task and support service spectrum of elite sport systems is converging across the different international systems.

In the interpretation of the research findings, the actual nature of the conducted investigations must, however, be considered carefully. Analysing and comparing the elite sport support services which have been identified in different western countries today against those which are known to have been offered in the former GDR (Green and Oakley 2001) constitutes primarily an observation of a correlation between achieved sporting success and a set of identified support practices. While such research can provide the logical argument that a specific support spectrum - such as that provided by the GDR - appears to affect the overall performance of the respective system positively, it must also be considered that such investigations might have overlooked or underestimated other factors which were equally strong - or even stronger - contributors to the achieved sporting success of a system. Such factors might include the general importance of international sporting success for a specific society, the specific role of a specific discipline in a specific country (like swimming in Australia or cross-country skiing in Norway) or, especially in the case of the former GDR, the comprehensive, top-down organised drug programme, the general authoritarian environment which allowed the implementation of such measures, or the social and economic benefits a successful sporting career in contrast to other vocational careers.

Thus, it is important to note that fulfilling the different tasks and offering the different support services listed above cannot guarantee the successful systematic production of winning athletes. However, as these tasks have been drawn from observations of the support infrastructures that successful elite sport systems offer their athletes and coaches, the DCMS suggests that following the evidence presented in the literature can at least be expected to *increase the likelihood of international success*:

Cups are not won in committee rooms, but we know from other experiences of other countries that professional organisation and modern administration – supporting sport from primary schools right up to elite level – can increase the likelihood of international success.
DCMS (2000, p.19)

However, despite critical reflections concerning the actual relevance of the identified support measures, the general rhetoric of most contemporary research leaves little doubt that the provision of the services presented in Figure 2.2 is in general considered to be *essential* as they constitute *key success factors* for contemporary sport organisations (Deloitte & Touche 2003a, p.1). Even more so, the reviewed literature intimates a kind of “the more - the better” rhetoric in the elite sport management practice. For example, Deloitte & Touche (2003b, p.3) stressed that *effective corporate governance* and a *mature sport and business administration* - i.e. an increased professionalisation – would be a key success criteria for the performance of sport organisations. The rhetoric Green and Oakley (2001) used in their discussion of the organisational elements they identified as similar across contemporary elite sport systems, suggests that a further improvement concerning the overall organisational efficiency in an elite sport system, an increase in the effectiveness of the delivery of specific schemes such as a talent identification programme, and an increased involvement of different agencies, which bring more subject specialists and more specific knowledge of subject experts into the sport system will affect the overall performance of an elite sport system positively. While it remains difficult to pinpoint this “the more - the better” rhetoric with specific statements or phrases, Oakley’s and Green’s (June 2001) analogy of a *global sporting arms race* might be the best way to describe this phenomenon in the current management practice of elite sport systems and in the policies which underpin them.

In conclusion, it can be stated that the reviewed meso level literature suggests that the service portfolio which elite sport systems offer their athletes and coaches to increase the likelihood of achieving international sporting success, is generally understood and agreed upon (Digel et al. 2003a, DCMS 2000, Green and Oakley 2001, SIRC 2002). Besides the resulting homogenisation of the design of international elite sport systems, which appears to also be a common finding of the reviewed meso level research (Green and Oakley 2001, Oakley and Green 2001, Shibli and Bingham March 2006) the underpinning rhetoric in the current literature suggest furthermore that “the more – the better” attitude developed in the elite sport system management practice: the more support, the more sophistication in the support, and the more formalisation, professionalism, and rigor in the support provision - the more sporting success can be expected.

2.4 Micro Level Focus – The Operational Practices

The micro level focus constitutes the third level of investigation which can be adopted while exploring the nature of elite sport systems. Researchers who apply a micro level of focus in their work often investigate how the different elements in an elite sport systems are - or should be - applied in practice. In contrast to the first two levels of investigation, the researchers who focus on the operational provisions of the different support services rarely have a policy or managerial research background. Here, the authors tend to be specific subject experts like biomechanists (Müller et al. 1999), pedagogues (Richartz 2000), and psychologists (Langenkamp and Bussmann 2000), or even support staff members working in elite sport systems in practical areas such as lifestyle support management (Stumpe 1998) and sport science support (Escoda 1999, Krug and Martin 1999).

Based on this research, it is possible to identify different sub-categories in the micro level approaches.

Firstly, some research provides a rather descriptive overview of one specific elite sport support service and how it is provided in a specific elite sport system. For example, Stumpe (1998) describes his own work as a lifestyle support manager in great detail and notes that his task spectrum involves rather extensive networking responsibilities – not only with the actual athletes he is responsible for but also with the athletes' coaches, their peers, school teachers, university lecturers, and employees. Hackfort's and Birken's (2004) account of the effects of a German police school/unit which offers developing top athletes the opportunity to simultaneously train for their sport and pursue a career as a police officer is equally descriptive. Based on their observations, it can be concluded that a double career, i.e. the sporting and vocational development of an athlete, might not only be technically possible if an organisational framework is provided that reduces administrative hurdles. As the athletes/police officers often appeared to consider the vocational training to be a welcome distraction from their sporting training, the project seems also to benefit the athletes' development in general.

Secondly, several publications try to provide a rationale for, or recommendation about, the design of a specific elite sport support service based on practical or scientific considerations. Based on Balyi's (2001) considerations, who is an expert in the planning of athletes' long-term development, the different stages of what a squad system should offer in order to constitute an appropriate athlete development pathway can be identified and differentiated. Furthermore, based on his work, specific training, competition, and support measures which are required for the different development stages of a young athlete, such as the required competence of the respective coach, the role of competition experience, or the content of the training, can also be identified and differentiated. Sociologists and psychologists provide detailed investigations of the role conflict elite athletes experience or the emotional and economic problems they face during their retirement from the sport (Breivik 1999, Hahn 1982, Lavalley et al. 2001). These detailed investigations serve today as a general rationale for the provision of lifestyle support programmes as these are meant to reduce the social risks and costs of a sporting career (Emrich et al. 1996).

While the provision of lifestyle support programmes appears to be a useful tool for reducing the drop out problem that authors like Bussmann (1997) describe, Fröhlich and Emrich (2004) indicate at the same time that many athletes lack a strategic attitude towards using such support schemes and do not always approach the provided service proactively. Such behaviour of athletes who fail to take advantage of the lifestyle support services and consequently prevent such schemes from realising their full potential, is an example of the type of issue examined by the third sub-type of micro level investigations where research has focused on problems that have been identified in the actual provision of specific support services. Other relevant considerations of this sub-type include Gummerson's (1992) critical reflections concerning the provision of coach education. While Launder (1995) and Müller and Wangemann (1999) describe the general importance of coach education and the development of a coach education system, Gummerson (1992) indicated that severe hurdles in the practical delivery of such schemes can be the reluctance of individual coaches to attend or contribute to coach education sessions. He argued that coaches might apply an attitude along the lines of: *I have been coaching for 20 years. What can they teach me?* (Gummerson 1992, p.16). With regard to the provision of sport science support, similar considerations have been provided by Schumacher (1999).

While Müller et al. (1999) suggest that sport science support constitutes in general an important element in today's elite sport training, Schumacher indicates that a key problem in the actual provision of these services is often the reluctance of individual coaches to make use of the offered service. Finally, when considering the organisation of a squad system Emrich and Güllich's (2005) research indicates, in contrast to Balyi's (2001) considerations about the different development phases of an athlete, that many successful sporting careers did not necessarily follow a standard athlete development pathway. This poses a problem for the design of a squad system in that their research shows that it is important, as well as difficult, to keep a standardised structure like a squad system or athlete development pathway open and flexible enough to cater for late developers (athletes who develop their full sporting potential rather late in their development), late starters (athletes who pick up a specific sport later than most) and lateral entries (athletes who enter a sport from another discipline).

In conclusion, an extensive body of literature applying a micro level focus exists. Based on these publications, explanations can be found for why certain elite sport support services are required and provided (Breivik 1999, Hahn 1982, Lavallee et al. 2001, Emrich et al. 1996); what the implementation of the services in exemplary cases look like (Hackfort and Birken 2004) and what problems exist in the delivery of these services (Emrich and Güllich 2005, Schumacher 1999).

However, the current literature lacks a successful attempt at transferring the comparative approaches of policy and management research from the macro and meso levels down to the micro level. The lack of published research that applies an international-comparative approach to successfully investigate how specific elite sport support services are provided in the daily interaction between support staff members, coaches, and athletes in different elite sport systems; and how these systems deal with the operational problems in the service provision that Emrich and Güllich (2005) or Schumacher (1999) have identified, constitutes a significant gap in the current literature on elite sport systems.

2.5 The Emerging Research Focus

Sport systems and elite sport systems have been investigated at a variety of levels by researchers from different research backgrounds and traditions. Based on the literature reviewed above, it can be concluded that a comprehensive overview of the stakeholder environment within which elite sport systems are embedded exists (Digel et al. 2003a) and the potential for variations in these environments is also well understood (Houlihan 1997, Stahl et al. 2002). It can also be concluded that a commonly agreed understanding of the specific design of an elite sport system exists through the work of Deloitte & Touche (2003a & 2003b), Digel et al. (2003a), and Green and Oakley (2001) who provide an extensive list of tasks and services that make up an elite sport system. Green and Houlihan (2005) and Augestad et al. (2006) also indicate that the provision of these different support services falls into the often politically tense field of overlapping responsibilities among specific sport federations and general elite sport support providing organisations. Finally, the review of literature shows the existence of an extensive body of studies that focuses on the different support services an elite sport system is considered to provide. These offer rationales for the provision of individual services (Balyi 2001) and detailed insights into the nature of exemplary support programmes (Hackfort and Birken 2004, Stumpe 1998), as well as describe problem areas in the operational provision of the different support services (Emrich and Güllich 2005, Schumacher 1999).

Based on these observations, the following assumptions can be developed, which lead to the aim and objectives that underpin this research (see chapter four).

Assumption I

A homogenisation of elite sports systems (Shibli and Bingham March 2006) can be witnessed today. Even though the stakeholder environment of an elite sport system might vary with the respective national context, the service spectrum that different elite sport systems offer their athletes and coaches actually converges.

Assumption II

The provision of the support services identified in the literature shall be considered as key factors for the successful creation of winning athletes. While this should not be assumed as an automatic guarantee of success, providing the service portfolio Green and Oakley (2001) and Digel et al. (2003a) describe, for the context of this research, will be considered to *increase the likelihood of international success* (DCMS 2000, p. 19).

Assumption III

Despite the convergence and homogenisation in the design of the different international elite sport systems, there are still some elite sport systems which appear to be more successful than other systems like Australia in swimming, the UK in sailing, Sweden in athletics or Norway in cross-country skiing. Based on the previous two assumptions, it therefore seems logical to conclude that more successful elite sport systems have found more efficient and effective ways to deliver the agreed support portfolio.

This final assumption highlights a gap in the current research. Even though it is generally agreed WHAT services are to be provided by an elite sport systems, and even though it is understood that there are key problems in the provision of these services, little is known about HOW leading sport systems manage the provision of the different support services in the daily interaction between support staff members, coaches, and athletes to solve the problems authors like Emrich and Güllich (2005) and Schumacher (1999) have identified.

As it will be discussed in the next chapter, the management tool of benchmarking provides a useful approach to such HOW-Questions. In the past two decades, it has proven its potential in the conventional business context as being able to identify good management practices and to inform organisations how to best develop their organisation to improve their performance. As it will be shown in the next chapter, the strongest potential of the benchmarking approach seems to be in the investigation of the communication processes and management practices at the operational or micro level. Thus, this thesis aspires to evaluate if the benchmarking approach constitutes a useful tool in the context of developing and managing elite sport systems.

3 The Management Approach of Benchmarking

The concept of *learning from the best* (Weiss 1993, p.81), which underpins the management approach of benchmarking, suggests its potential in being able to improve the understanding of the management of elite sport system by providing insights into the nature of best practices concerning the operational delivery of the elite sport support services that have been introduced in chapter two. This thesis will evaluate how far this tool is able to fulfil these expectations. This chapter provides an analysis of the benchmarking concept, its origin, the terminology associated with the concept, and its key characteristics. It will go on to critically consider the approach and will conclude with an explanation as to why benchmarking offers a promising approach to improve the understanding of the operational management processes in elite sport systems.

3.1 The Concept of Benchmarking

The concept of benchmarking as a managerial tool emerged in the management literature as a consequence of a series of successful organisation development projects conducted by the management of the US copier manufacturer Rank Xerox (Dresen 1997, Suzaki 1993). In the 1980s this company was confronted with new Japanese competitors that started to undermine Xerox's previous monopoly on the US market (Dresen 1997). Consequently, the managers were not only forced to change their administration and production processes, but they had to achieve the necessary improvements quickly. One element of the organisation development measures Xerox introduced developed later into the concept of benchmarking (McGill and Slocum 1996, Walker 1992).

The general idea that underpins the benchmarking approach constitutes an intuitive element of everyday life: instead of developing a new solution for a specific problem, it is usual to find an individual who has already developed a successful solution to the respective issue and to seek to understand the nature of his or her solution. Benchmarking, as a management tool, transfers this social-psychological concept of *model learning* (Fischer and Wiswede 1997, pp. 66) to the inter-organisational level and provides it with a detailed process framework and a specific vocabulary (Boxwell 1994, Herter 1992, Keller 1996, Lankfrod 2002, Pryor 1989, Stork 2001).

Today, the term benchmarking is prevalent in the management literature, where a wide range of different perceptions of the concept and its terminology have developed over the years (Böhlke 2002, Dresen 1997, Keller 1996). However, it is not the purpose of this investigation to refine the benchmarking terminology, rather, it is to evaluate the applicability of the general idea of the approach in the context of the management of elite sport systems. Thus, for the context of this research it seems to be primarily important to develop one appropriate perception of the concept based on the existing discussion in the literature and apply this consistently. The discussion that follows provides the conceptualisation of benchmarking that underpins this research.

The heterogeneity of the benchmarking terminology becomes especially apparent in the search for a formal definition of the concept. As the tool emerged and developed in the management practice over a period of about 20 years, many companies and business consultants, who have been involved in benchmarking projects, introduced their own versions and accounts based on their individual ideas and the practical experiences they made. Thus, today numerous definitions exist in the literature as well as in management practice which differ in most cases only slightly in terms of the terminology they use or the amount of information they include. Robert Camp, who played a key role in the development of benchmarking as a senior manager of Xerox (Dresen 1997) and who was one of the founding authors (1989, 1995, 1998) of the extensive body of benchmarking-related literature that exists today, defined benchmarking as:

... the search for industry best practices that leads to superior performance (Camp 1995, p. 8).

Bogan and English (1994, p. 4) suggested a more extensive definition when they stated that:

Benchmarking is the continuous process of measuring products, services and practices against the toughest competitors or those companies recognized as industry leaders.

The consulting agency Bain & Co. summarised benchmarking as a tool which:

... improves performance by identifying and applying best demonstrated practices (cited in Krell 2003, p. 21).

The most simple definition might however be that given in Recklies' account (01.05.2006), when she noted that benchmarking has been referred to as:

Benchmarking is nothing else than: Copy With Pride!

The definition that has been chosen to underpin this research was provided by MacDonald and Tanner (1998, p. 8) who defined benchmarking as:

... the process of identifying, understanding and adapting outstanding practices and processes from organisations anywhere in the world in order to help your own organisation to improve its performance.

This definition includes many elements which are important to this research. Considering benchmarking as *the process of identifying [and] understanding [...] outstanding practices and processes* indicates first of all that benchmarking appears to have a potential to further understanding of the organisational processes that make some elite sport systems more successful than others. The fact that the authors suggest that *outstanding practices and processes* which are applied by *organisations anywhere in the world* can be the focus of a benchmarking exercise provides the international component this research requires as it aspires to investigate and compare elite sport systems from different countries.

These two elements of the definition identify furthermore two other key terms in the benchmarking terminology: the Benchmarking Objects, which describes the organisational elements or *practices and processes* that are benchmarked, and the Benchmarking Subject, which refers to the *organisations* that demonstrate a superior performance as they apply these *outstanding practices and processes* concerning the Benchmarking Object. These organisations serve as the comparison partners in a benchmarking project. Finally, it is also important to emphasise that MacDonald and Tanner (1998) suggest that benchmarking is considered *to help your own organisation to improve its performance*. This indicates that the tool should be perceived as educative, as an approach which can lead to new ideas. This is in contrast to the impressions that Camp's (1995) or Recklies's (01.05.2006) definitions might suggest: benchmarking should for the context of this study not be understood as simple copying exercise of observed outstanding practices which automatically leads to superior performance.

Two important terms from the benchmarking terminology have not yet been considered in this introduction, nor do they appear in MacDonald's and Tanner's (1998) definition. These are *benchmark* and *best practice*. Both are important to develop a clear understanding of the general benchmarking literature and the process followed in this research.

In the benchmarking context, the term *benchmark* describes a superior solution or level of performance, while *best practice* is the processes or activities that lead to this benchmark (Camp 1995). In other words, best practice refers to the practice a Benchmarking Subject applies concerning a Benchmarking Object.

Camp (1995, pp. 18) differentiates in this context furthermore between a *quantitative* and a *descriptive benchmark*. The former refers to the actual performance a best practice creates and that a Benchmarking Subject achieves. In the context of this study, this could be the number of gold medals that the athletes of a specific elite sport system win. A *descriptive benchmark* refers on the other hand to the specific *set of practices and methods* which create the quantitative benchmark, such as the processes and structures applied in the superiorly performing elite sport system which will be described in chapter six of this thesis. Thus, for the context of this study, it shall be considered that the term descriptive benchmark and best practice can be used interchangeably.

Consequently, it can be concluded that quantitative benchmarks can in general be used to identify performance levels as well as help to identify Benchmarking Subjects. Descriptive benchmarks are on the other hand the actual result of the data collection of a benchmarking project as they describe and explain how a superior performance has been achieved.

3.2 The Benchmarking Process – Key Elements and Characteristics

Several different process models exist in the benchmarking literature which offer advice on how to conduct a benchmarking project. The different models vary predominately in the way they structure the sub-phases of a benchmarking project. Horváth and Herter (1992) distinguish between three main phases, while Shetty (1993) uses five, and Kinni (1994) identified seven distinct stages of a benchmarking project. Camp (1989) and Bemowski (1991) even described process models of twelve main steps. The differences in these process models are however mainly of a rhetorical nature (Keller 1996) as they tend to include the same sub-elements. Hence, due to its proven practical and didactical potential (Böhlke 2002), the four steps model which is summarised in Figure 3-1 shall be subsequently considered in more detail for this thesis.

Figure 3-1: The benchmarking process model

3.2.1 The Preparation Phase

After considering the obligatory administrative matters which are required for every management project such as the staffing of the project team or defining the general project and budget restrictions (Töpfer and Mann 1997), Balm (1992) and Keller (1996) have noted that one of the key tasks in the first phase of a benchmarking project constitutes the identification of the processes that require improvement. These are considered as the Benchmarking Objects and are those organisational structures that will be the focus of a benchmarking project. For a sport federation, such a Benchmarking Object might for example be the coach education scheme or the talent identification programme.

Once the Benchmarking Object is defined for a benchmarking project, the subsequent step in the preparation phase is the identification and selection of the comparison partner(s) for the benchmarking project. According to Hyatt (2001), Stork (2001), and Watson (1992) these comparison partners are known as the Benchmarking Subject(s). The Benchmarking Subject is considered to demonstrate best practice concerning the identified Benchmarking Object. Benchmarking Subjects can come from a number of sources. For example, when considering a sport federation with an insufficient coach education programme, such a Benchmarking Subject could be a different sport federation in the same country which is known to have better educated coaches; a federation in a different country in the same sport; a federation in a different country and in a different sport, or maybe even an organisation outside the sport sector with a highly developed trainee and staff education programme (Stork 2001). A careful selection, application, and analysis of quantitative benchmarks can support the selection process for the Benchmarking Subject.

The selection process of the Benchmarking Subject constitutes the most decisive element in a benchmarking project as there are a number of challenges in identifying a Benchmarking Subject. Firstly, the benchmarking project team has to consider which *organisations anywhere in the world* (MacDonald and Tanner 1998, p. 8) might provide the technically best available practice for the Benchmarking Object they would like to improve. In addition, the identified organisation(s) need to be willing to participate in the benchmarking project. Finally, and this constitutes one of the most decisive as well as difficult steps in a benchmarking project, it has to be evaluated and assessed ex-ante which best practices are most likely to be transferable to, and applicable under, the conditions the organisation that carries out the benchmarking faces. These points will be revisited on several occasions throughout the discussion in this specific chapter as well as in this thesis in general.

3.2.2 The Data Collecting Phase

The main aim of the data collection in a benchmarking project is to create a detailed understanding of the way the Benchmarking Subject achieves its performance (Boxwell 1994, Krell 2003, Lankford 2002, Stork 2001). In other words, the goal of the data collection is to identify descriptive benchmarks (Camp 1995). As the discussion in chapter four will show, this goal, in connection with the nature of the Benchmarking Object, influences in turn the design of the conducted data collection in terms of the choice of applied data collection methods, which can include the use of business ratios, questionnaires, interviews, and on site visits (APQC 11.04.2004, Lankford 2002, Watson 1992, Grigg and Mann May 2004).

In the process of data collection, benchmarking requires a very mature and close relationship between the organisation which initiated the benchmarking and the Benchmarking Subject. The information which is required to truly understand the nature of the processes which constitute best practice is usually very detailed and might even be of a sensitive nature. Hence, such information can only be collected in a partnership atmosphere, i.e. neither through espionage nor can it be based only on publicly available documents (Boxwell 1994). This constitutes a key difference between the benchmarking approach and other comparative management tools (Dresen 1997, Russel et al. 2003). For example, a competitor analysis tends to be based on publicly available information about an organisation that could come from strategy papers, annual reports, or reports of analysts. Thus, a competitor analysis can be conducted without the direct contribution or even the knowledge of the organisation which is the focus of the investigation. Benchmarking on the other hand requires the open and extensive cooperation of the Benchmarking Subject to achieve the goal it aspires, which is to understand the story behind the success of a Benchmarking Subject (Krell 2003).

3.2.3 The Data Analysis Phase

Once a detailed understanding of the nature of the processes which underpin best practice has been developed, the goal of the data analysis phase is to develop recommendations for the improvement of the processes required by the organisation that initiated the benchmarking. These recommendations are established through identifying gaps between the practices of the benchmark organisation and those which have been observed in the organisation of the Benchmarking Subject (Keller 1996). One crucial element in this analysis process is the evaluation of the technical transferability of the identified practices. For this evaluation, it is important to develop an understanding of the degree to which the observed best practices are linked to the respective organisational context of the Benchmarking Subject and how far this differs from the context of the benchmarking organisation. Specific legal conditions might prohibit the transfer of an otherwise successful human resource and recruitment policy. For example, due to the different employment laws in the USA and Great Britain, an identified “hire and fire” strategy cannot be transferred from North America to the UK.

It must also be critically evaluated in this third phase if, and to what extent, the observed practices are actually responsible for the superior performance of the Benchmarking Subject. A detailed analysis of the data might reveal that the superior performance of the Benchmarking Subject is not due to any consciously made management interventions, but a result of specific context factors. In other words, *drilling down to understand the story* behind the superior performance of the Benchmarking Subject is an essential element in the data analysis phase of a benchmarking project (O'Brien cited in Krell 2003, p. 24).

The analysis of the nature of the observed best practices leads to the development of specific action plans upon which the organisation that initiated the benchmarking project will try to improve its own processes. As the detailed considerations about the analysis of the background of the Benchmarking Subject have indicated, it is important to emphasise that benchmarking should not be misunderstood as a simple copying process.

The developed action plans should be formulated in a way as to consider the specific situation faced by the organisation which initiated the benchmarking project and they have to take into account how this situation differs from that of the Benchmarking Subject (Krell 2003, Lankford 2002, Sutton 01.02.2004). The consultancy agency Bain & Co. state, for example, that benchmarking is not about trying to imitate but about looking for innovation:

The objective of benchmarking is to find examples of superior performance and to understand the processes and practices driving that performance. Companies then improve their performance by tailoring and incorporating these best practices into their own operations – not by imitating, but by innovating. (cited in Krell 2003, p. 21)

3.2.4 The Implementation and Controlling Phase

The closing stage of a benchmarking project, is unique in that it suggests to be implemented in an organisation's culture and management infrastructure rather than just to be applied as a operational troubleshooting tool. The basic management process model suggests that the achieved results of any managerial action should be compared against the aims which have been set for the respective activity (Kosiol 1966). The circular design of the model presented in Figure 3-1 suggests, however, that the benchmarking context replaces this conventional *target-actual comparison* with an *actual-actual comparison* (Koppelman 1999, pp. 396). Instead of comparing the achieved results of a benchmarking project with the action plans which were developed based on the observation of a Benchmarking Subject, benchmarking promotes the strategy of initiating subsequent projects once a benchmarking project is concluded.

The aim of this strategy is to compare the newly developed processes in the benchmarking organisation with what the best practice looks like an alternative Benchmarking Subject applies. This approach is considered as the process of *continuous improvement* and is frequently referred to in the benchmarking literature (Badinger and Ulrich 1995, Camp 1989, Leibfried and McNair 1992, MacDonald and Tanner 1998). This suggests that benchmarking can be used on a long term basis to continually improve an organisation's effectiveness.

3.3 The Key Characteristics of the Benchmarking Approach

Based on the discussion in the previous section, this section presents the most decisive characteristics of the benchmarking concept as perceived relevant for this study.

3.3.1 Understanding HOW – Process Orientation and In-Partnership

The most decisive characteristic of benchmarking concerning the way it is understood for the context of this research is that it aspires to understand HOW a specific business process is structured. This focus can be considered as the *process orientation* of the benchmarking approach (Dresen 1997, Hyatt 2001, Töpfer and Mann 1997). This orientation emphasises that it is not the quantitative performance result that is the focus of the benchmarking project, but the process which created this performance. This is in contrast to the result or output-orientation of a conventional competitor analysis. It is also in contrast to the more quantitative, business ratio based understanding of the benchmarking approach as indicated by Böttcher (2002), Compass (2001), and Lieb-Diczynski (2002).

Very much related to its process orientation is the in-partnership approach benchmarking required for data collection. As outlined earlier, company or competitor analyses are generally based on external observations and publicly available documents or secondary reports. These approaches, and their data collection methods, are hardly appropriate to provide enough detailed information about the nature of the management processes a Benchmarking Subject applies, which a benchmarking project requires. Only the close cooperation between the Benchmarking Subject and the benchmarking party allow an extensive enough exchange of information to achieve the deep and wide insights into the nature of best practices required for a benchmarking project such as that presented in this thesis. Stork (2001, p. 18) highlights this when he notes that:

[Benchmarking is based on] *face-to-face, confidential exchanges with world-class companies. True benchmarking takes personal time and resources.*

When considering, however, how realistic it is that an organisation, which applies a best practice in a specific area, is willing to share its knowledge in such a time consuming way, it is apparent that there are certain practical limitations of the concept. These will be further discussed in section 3.5.

3.3.2 Adapt own Processes and Reduce Learning Costs

Critics of the benchmarking concept, which will be discussed in more detail in section 3.5, often emphasis that the approach does not automatically lead to the successful integration of an identified best practice (Drucker 2004, McGonagle and Fleming 1993, Pfeffer and Sutton 2006, Sutton 01.02.2004). This provides the foundation for the argument presented earlier that the approach should be understood, for the context of this study, as a tool which helps generate new ideas to improve and further develop management practices by providing insights in existing best practices (Böttcher 2002, Krell 2003, Lankfrod 2002).

Based on this understanding, it can be argued that benchmarking is a tool to reduce learning costs as it can provide detailed insight into the nature of successful management practices; how these are linked to and best integrated into an organisation; as well as why and how these good practices affect the organisation's performance. Hence, even though the benchmarking organisation still has to draw its own conclusions from the gathered information, the approach can help to reduce the learning costs in the development of new management practices by benefiting from the experiences the Benchmarking Subject has already had.

3.4 Types of Benchmarking Projects

One way to further improve the understanding of benchmarking is to categorise existing benchmarking projects across four key characteristics, as outlined in Figure 3-2.

Figure 3-2: Main Types of Different Benchmarking Projects

(Adapted from Dresen 1997)

Benchmarking projects can first of all be classified according to the *Benchmarking Objects* they focus on. Töpfer and Mann (1997) differentiate between projects that focus on operative management process, organisational structures, or corporate strategies and strategy making. Further differentiation can be made on the basis of the functional areas of an organisation the benchmarking project focus on, such as logistics, procurement, finance management, and human resource management, or the general industry of the parties involved like banking or sport management (Böhlke 2002, Bullinger and Ganz 2001, Camp 1998, Böttcher 2002, Dresen 1997, Rolstadas 1995, Ulrich et al. 1989).

Secondly, Dresen (1997) has proposed that benchmarking studies can be classified according to the background and origin of their Benchmarking Subject(s). A Benchmarking Subject can, for example, be from within the organisation seeking to improve performance. Referred to as an *internal benchmarking* (Pieske 1994) this is an especially attractive approach for large, international organisations. This approach allows easy access to the Benchmarking Subject and secures a rather unproblematic data collection. It also promises a high likelihood of finding transferable ideas as the organisational context is in this case a rather constant factor. For the same reasons, the internal benchmarking approach has only limited potential to find real 'worldwide best practice' and truly innovative ideas.

A second option is that the Benchmarking Subject is from the same industry. This is considered as an *external or competitor benchmarking* (Leibfried and McNair 1992, Zairi and Leonard 1994). The terms industry should however be considered rather flexibly as external benchmarking projects can refer to projects with Benchmarking Subjects from related branches, like that of suppliers or customers, as well as to projects in which direct competitors are Benchmarking Subjects. Following this approach can provide highly relevant and easily transferable recommendations as the context of the different organisations are likely to be similar. While this approach is also likely to lead to innovative ideas, it must however be considered that access to the respective company may be relatively problematic. This is especially the case if a direct competitor is identified as a potential Benchmarking Subject. It was argued earlier that true benchmarking requires open cooperation and honest exchange of detailed and at times even sensitive information. Such cooperation might be unlikely to be established between competing organisations.

The most likely source for a "worldwide best practice" is to choose a Benchmarking Subject exclusively based on a company's performance concerning the respective Benchmarking Object, no matter what type of organisations it is and no matter what industry it is from (Hapke and Haßmer 1997, Stork 2001). Considered as *functional benchmarking*, this reflects the original idea of the benchmarking approach and refers to the case when a car manufacturer faces a logistic problem (Benchmarking Object) and, instead of approaching another car manufacturer with a better logistic solution, would cooperate with a generic logistic expert as a Benchmarking Subject such as a company like Wal-Mart, Tesco, DHL. or UPS. Stork refers to this idea when he stated:

Other computer companies learning about Dell's processes is not [the true idea of] benchmarking. This is competitive analysis. But, if they study WalMart's decades of success in building competitive advantage by managing and integrating suppliers into daily routines at dispersed stores, they are likely to adopt very different strategies. (Stork 2001, p. 18)

This approach reduces the problem of access when compared to competitor benchmarking and the opportunity to find true innovation is increased greatly in contrast to an internal benchmarking. The danger of this approach is however that the benchmarking organisation may end up comparing 'apples with pears', in that the benchmarking project reveals processes which constitute technical best practices, which are however not transferable to the organisational context the organisation that initiated the benchmarking faces (Bauer 1994, Leibfried and McNair 1992, McGonagle and Flemming 1993). This potential problem of the context-dependency of best practice will be discussed later in this chapter in more detail as a key problem of the benchmarking approach.

Benchmarking projects can also be differentiated based on the *time scale* with which the tool is used by an organisation. Benchmarking can either be considered as an *operational*, short-term troubleshooting tool or, as argued in section 3.2.4, as an approach to achieve continuous improvement on a long-term base by integrating the approach in the organisation's culture and *strategic* management. Finally, benchmarking projects can be differentiated on the *sources and type of the data* they are based on. This might lead to a differentiation between *primary* or *direct* and *secondary* or *indirect* benchmarking projects (Töpfer and Mann 1997) or to a differentiation between projects which use quantitative-monetary, quantitative-physical, or qualitative data (Gerpott 1994).

3.5 Benchmarking – Problems and Challenges

Benchmarking and the underpinning idea of learning from best practice has been subject to much critical debate (Drucker 2004, Jennings 2001, Smith 1997, Sutton 01.02.2004). The key issues which have emerged in this debate are to be discussed below. The discussion will differentiate between the more technical challenges which might occur while conducting a benchmarking project and more fundamental criticisms which focus on the general idea 'learning from the best'.

3.5.1 Technical Challenges

Some of the technical issues which have to be considered while conducting a benchmarking project are not necessarily specific to the approach but can occur in the context of any organisation development project. This might for example include the general issue of initiating, realising, and managing change in an organisation (Markin 1992, Wiswede 2000). But there are also certain issues that are very specific to the benchmarking approach and which have to be considered particularly in the preparation and data collection phase of a benchmarking project.

The most substantial hurdle in benchmarking is the problem of convincing a potential Benchmarking Subject to take part in the respective project. Besides committing *personal time and resources* (Stork 2001, p. 18) of key staff members, accepting the role of a Benchmarking Subject, after all, requires an organisation, to reveal its competitive advantage. While this problem seems to be reduced in the context of internal or functional benchmarking projects, it can be assumed that it will be unlikely that a benchmarking project will be conducted successfully between two companies which are in a direct or only indirect competition.

Even if this first, strategic-political hurdle in the initiation of a benchmarking project is overcome, basic considerations in the knowledge management literature suggests two additional and substantial challenges a benchmarking organisation might be confronted with during the actual data collection (Benz 07.08.2001, Desouza 2003, Ferris 01.06.1999, Smith 2001).

Firstly, even if the senior management of the Benchmarking Subject organisation agrees to cooperate on a benchmarking project, it may become apparent during the course of the data collection that individual key staff members in this organisation demonstrate very protective behaviour and are not willing to share their personal expertise. This could be partly prevented by introducing a code of conduct which is agreed upon between the two organisations involved in a benchmarking (Trimble 10.03.2004). The considerations that Benz (07.08.2001) and Ferris (01.06.1999) provide concerning the challenges of knowledge sharing and management projects suggest however that such measures will have only a minor mitigating effect as managers can be rather reluctant to share their expertise even in intra-organisational knowledge exchange projects. While such strategic behaviour constitutes a fundamental issue for knowledge management and benchmarking projects alike, it is understandable from the viewpoint of the individual knowledge holder as their knowledge and expertise is their individual competitive advantage (Benz 07.08.2001, Ferris 01.06.1999).

In addition to such behaviour of individual staff members, other authors from the research field of knowledge management like Desouza (2003) and Smith (2001) highlight the phenomenon of *tacit knowledge* which can also affect benchmarking projects negatively. Due to tacit knowledge the actual nature of a specific best practice may not be able to be measured, verbalised, or documented in all cases. For example, in the specific field of elite sport support services, this tacit knowledge might refer to the “eye” of a specific talent scout. When benchmarking a talent identification scheme, it must be carefully considered whether the success of this scheme is based on the applied scouting protocols, processes, and tools, or if it is more the result of the experiences of specific individuals.

Both considerations suggest potential limitations to the benchmarking approach and have to be considered in the selection of the data collection methods for this research (see chapter four).

3.5.2 Strategic Challenges

Jennings (2001) has predicted that benchmarking might lead in the long run to a decrease in the healthy variety of management practices as every company might eventually apply “the one” best practice. While prophesising such a “lemming-like behaviour” probably underestimates the self-regulation forces of the market as well as the competence of managers, there are other, quite substantial problems related to the benchmarking approach which have been identified by authors like Drucker (2004), McGonagle and Fleming (1993), Pfeffer and Sutton (2006), Smith (1997), and Sutton (01.02.2004). These are considered in more detail in this section.

The first fundamental problem of the benchmarking approach is that a chosen Benchmarking Subject might not apply best management practice in relation to the investigated Benchmarking Object. As Laugen et al. (2005, p. 131) indicated, one of the key problems in the benchmarking context is that *authors tend to postulate, rather than show, the practices they address to be best – whether these practices do indeed produce best performance is often not investigated*. A similar argument was made by Pfeffer and Sutton (2006, p. 19) when they stated that one of *the pitfalls of imitating 'best practices' is that a lot of "best practices" are based on success stories and anecdotal evidence rather than the best evidence*. In other words, it can be too simple to postulate that a *best practice must be what best performing companies do* (Laugen et al. 2005, p. 131). An observed superior performance can for example be due to the specific context factors an organisation is, or has been, confronted with. It can also be the case that other areas of the organisation might have created the superior overall performance of a Benchmarking Subject, while the actual Benchmarking Object might not even be averagely well managed. Such considerations constitute a problem that affects first of all the selection process of the Benchmarking Subject as it questions whether conventional success criteria can lead a benchmarking project team to appropriate comparison partners. The considerations affect furthermore the collection and especially the analysis of the gathered data as they require the benchmarking project team to investigate carefully in how far the nature of any observed practices can be linked to the performance the Benchmarking Subject shows.

The second criticism, which needs to be discussed in this context is frequently summarised in the argument that benchmarking tries to compare 'apples and pears' (Bauer 1994, Leibfried and McNair 1992, Smith 1997). The basic idea of benchmarking has been introduced as a way of developing recommendations for the improvement of one specific organisation based on the comparison of this organisation's management with that of another specific organisation. As both organisations might have a completely different corporate history, culture, or environment, the criticism of comparing 'apples and pears' refers to the danger that benchmarking leads to non-transferable management practices. This may tempt the project team to transfer practices which work very well in the specific context of the Benchmarking Subject but which might not fit their own context conditions (Laugen et al. 2006, McGonagle and Fleming 1993, Sutton 01.02.2004).

This threat has to be taken into account during the whole course of a benchmarking project. Firstly, the project team has to evaluate carefully which organisation constitutes the most appropriate Benchmarking Subject, i.e. which superior performing organisation offers an appropriate trade-off between showing innovative management practices and a high likelihood of providing transferable best practices. Secondly, in the data collection phase it has to be investigated carefully to what extent the observed management practices are linked to the specific organisational context conditions of the Benchmarking Subject. Thirdly, based on the insights gained into the nature of the best practices, it has to be carefully evaluated if the observed practices can also work under the specific context conditions of the organisation that initiated the benchmarking project. In other words, benchmarking requires careful planning as well as detailed, careful, and critical analysis of the gathered data.

All of these criticisms constitute fundamental threats to the basic idea of the benchmarking approach. However, they have to be considered in terms of the specific perception of the benchmarking approach that has been developed for this research. As argued in the discussion of this chapter so far, benchmarking should, in the context of this thesis, not be considered as a simple copying process of identified best practice. Understanding benchmarking like this would be self-defeating as *no universal yardstick which fits all industries and companies* (Drucker 2004, p. 21) exists.

Rather than considering benchmarking as a vehicle for bringing about guaranteed success, benchmarking has been introduced here as a medium which provides innovative and inspiring new ideas. It is considered here as a tool which should make managers *strive to utilize success models to stimulate learning* (Anonymous 2005, p. 79); as a concept which should suggest new approaches for solving given problems, *open the minds of key people, raise their horizons, and create dissatisfaction with current performance; and [...] provide a jump-start for radical process improvement* (Smith 1997, p. 41). This suggests that it is still possible for managers to learn from practices of organisations which are fundamentally different from theirs. Thus, a comparison of 'apples with pears' may not be problematic. Equally, the term best practice itself should not be considered as a management process that is *generic, that is, best for all companies, always* (Laugan et al. 2005, p. 135). The term best practice appears better to be perceived as the practice concerning a Benchmarking Object that is applied by an organisation that shows superior performance and that has the potential to be transferable to the context of the organisation which initiated the benchmarking.

While it poses a substantial problem in the practical application of a benchmarking project, the danger of identifying non-transferable practice does not seem to be that severe if benchmarking is considered to inspire the development of new ideas, rather than to lead to one specific and directly transferable best practice for a given problem. Management practices which are not directly transferable to another organisational context can still lead the benchmarking project team to new ideas of how to further develop their own processes. Based on the considerations presented in this section about the pitfalls of and issues during the practical application of the benchmarking approach, it can be concluded as follows.

The careful selection of the Benchmarking Subject in the preparation phase of a benchmarking project is fundamental. The argument presented here stresses the need to find an organisation, as a comparison partner, which provides an appropriate trade-off between offering easy access, a high degree of innovativeness concerning the best practices which can be expected to be found, and a high likelihood of being able to transfer these best practices to another organisational context. It is however not only the careful selection of the Benchmarking Subject and the extensiveness of the data collection which decides if a benchmarking project succeeds or fails.

The quantity and quality of the gathered data and especially the careful processing and analysis of this data is also important. According to Smith (1997) this appears often to be forgotten or at least neglected in management practice as many benchmarking parties *spend 90 percent of their effort on the acquisition of knowledge (the fun part) and only 10 percent of their effort on applying it (the difficult part)* (Smith 1997, p. 40).

Specifically, the gathered data and its analysis must be sufficient to reveal if the observed performance of the chosen Benchmarking Subject can be explained by the management practices the organisation applies concerning the Benchmarking Object. If the identified processes appear to be relevant to the success of the Benchmarking Subject, their origin must be further investigated in order to evaluate their context-dependency and transferability. It has, for example, to be assessed if the observed practices can be traced back to consciously made decisions of specific staff members; how the specific practices and processes were implemented into the general management environment of the Benchmarking Subject; and in how far the development and implementation of the observed practices is linked to the broader environment and context of a Benchmarking Subject. These considerations are necessary to evaluate the transferability of the observed management practices and affect the preparation and conduction of the data collection and analysis of a benchmarking project (Laugan et al. 2005, McGonagle and Fleming 1993, Ribberbusch 2001).

Figure 3-3 summarises and structures the main operational and strategic problems which were discussed in this section along the four phases of the course of a benchmarking project.

Figure 3-3: Potential Challenges within the Benchmarking Process

(Böhlke 2002)

3.5.3 The Appropriateness of Benchmarking

The purpose of benchmarking is to reduce organisational learning costs by trying to benefit from the experiences of the Benchmarking Subject instead of developing own and new solutions for a given problem. The discussion in the two previous sections indicates that benchmarking is not a resource-neutral exercise. On the contrary, there are substantial hurdles to be overcome in the application of the concept and overcoming these requires the investment of a substantial amount of resources. A benchmarking project must be carefully planned; it must be founded on an extensive data collection process; and the analysis of the conducted data is a time consuming and resource intensive process. Despite this, there is no guarantee that a benchmarking project will at the end lead to the identification of tangible and transferable best practices. As argued previously, this might be due to fundamental differences in the organisational environment of the benchmarking party and the Benchmarking Subject, or due to the fact that the performance of the Benchmarking Subject is not a result of the applied management process, but a result of the unique characteristics of specific key staff members.

However, as the discussion in the previous two sections shows, these threats and risks can be reduced through careful planning especially concerning the selection of the Benchmarking Subject, by gathering a wide and detailed set of data, and by analysing this data carefully and critically.

Thus, benchmarking appears to be best considered as an investment in change: while it has a great potential to reduce learning costs and to lead to future improvement, it also has the inherent risk of failure. Such a consideration leads to the conclusion that the decision to initiate a benchmarking project to improve the management of a specific element in an organisation needs careful consideration (Ribberbusch 2001). Smith (1997, p. 41) emphasised this by stating that:

If you are not sure that the balance is weighted towards big potential returns [when you think of applying the benchmarking approach in a specific context], then you should not proceed in this way. There are many other improvement techniques to be considered before embarking on a major benchmarking exercise. The simplest is to identify internal gaps in performance and address those directly using the techniques of total quality. Too many companies are seduced into looking outside, when enough evidence for improvement is readily available inside.

In other words, a benchmarking project should only be conducted if the expected learning costs savings are likely to exceed the anticipated expenses of the data collection, processing, and analysis as well as the potential risk of the project to fail. Sutton (01.02.2004) reflects on this point, noting that

This "follow the leader" strategy isn't outright wrong, but trying to be just like General Electric, MTV, Procter & Gamble, SAP or whatever company you admire most isn't as sound an idea as it might seem. [...] My answer is to look at successful companies to spot ideas that might work in your firm, but then to get more solid evidence before you decide to use them. Look beyond the success stories to the studies that control for the "correlation is not causation" problem, something that most business writers, consulting firms, and even many academics fail to do.

In conclusion it can be stated that conducting a benchmarking is an investment in change and, as such, substantial benefits must be identified before it is undertaken.

3.6 The Research Question Underpinning this Study

A review of the macro- and meso-level literature regarding sport and elite sport systems presented in chapter two shows that there is a clear understanding of the general stakeholder environment of a sport and elite sport systems; of the general dynamics within such systems; and of the service portfolio an elite sport system is supposed to offer its athletes and coaches. However, despite the resulting general convergence in the design of today's elite sport systems, some sport systems still appear to be systematically more successful than others. Thus, elite sport systems are today no longer considered to differ concerning the service portfolio they offer but concerning the *effectiveness with which the policy is applied in different countries* (SIRC 2003, p. 3).

When considering the contemporary elite sport system related literature, it is apparent that authors such as Tapsell (1999) already apply a rhetoric which appears similar to the benchmarking terminology. Others, such as de Bosscher et al. (2003a) and SIRC (2003), suggest explicitly to approach the current gap in the elite sport system related literature by applying the benchmarking concept to this context:

Although an idea of the explaining variance of sport policy for international success will be very interesting, only a detailed benchmarking of countries will give the necessary information on efficiency. (de Bosscher et al. 2003a, p. 117)

However, the appropriateness of benchmarking to the field of elite sport systems has yet to be tested. As the discussion in this section showed, this evaluation appears to be essential as benchmarking is not without criticism, problems, and pitfalls and it has been argued that even the most careful planning can still not guarantee that a benchmarking project will lead to transferable best practices. Whether the benchmarking approach can be applied to the, at times, very specific contextual conditions the management of an elite sport system are confronted with has yet to be investigated, and thus this thesis aspires to address the following research question:

Can the management tool of benchmarking inform managers of elite sport systems of how to improve the operational processes with which their systems deliver support services?

Based on the discussion that has been provided in this and the previous chapter, an appropriate research strategy and methodology will be introduced in the next chapter with which this research question will be addressed and answered.

4 Research Strategy, Philosophical Foundation and Methodology

The discussion in this chapter includes three major elements. Firstly, a strategy to answer the research question and to address the aim and objectives of this thesis will be outlined. Based on this, specific ontological and epistemological considerations which underpin this thesis will be discussed in the second section of this chapter. This then leads to a more detailed investigation of the most appropriate methodological approach to meet the developed aims and objectives of the research. This part of the discussion will also focus on the technical preparation and practical conduction of the data collection, processing, and analysis carried out for this thesis.

4.1 Research Aim, Question, Objectives, and Resulting Strategy

It has been shown in the discussion in chapter two that the operational delivery of an otherwise generally agreed service portfolio appears to be the core challenge managers of elite sport systems are facing today. Further, the considerations in chapter three suggest that benchmarking constitutes a framework that may enable managers of elite sport systems to approach and solve this challenge. The discussion in chapter three also suggests, however, that the technical realisation of the benchmarking concept in management practice is not unproblematic. It has been argued that the very idea of learning from best practice has a fundamental problem in that best practice might not be transferable to other organisational contexts.

These considerations led to the creation of the following research aim which underpinned the work of this thesis:

To evaluate the applicability of the concept of benchmarking as a research tool for furthering understanding of elite sport system management.

Three specific research objectives have been developed to guide this evaluation process. As the following discussion will show, meeting these objectives can help to decide if and the extent to which the challenges which are discussed in the general benchmarking literature are also relevant if the approach is applied in the specific context of elite sport systems and in how far these might prohibit the application of tool in this specific management environment.

To evaluate the extent to which superiorly performing elite sport systems (Benchmarking Subjects) demonstrate tangible best practice concerning the delivery of specific elite sport support services (Benchmarking Objects).

One fundamental pitfall of the benchmarking approach is that a superiorly performing organisation could be selected as a Benchmarking Subject even though it has not developed sophisticated management practices concerning the Benchmarking Object which is in the focus of the investigation (Laugen et al. 2005, Pfeffer and Sutton 2006). It might become apparent during the course of an investigation that the organisation's performance is derived from the context factors that favoured its development. Or it might be that other areas of an organisation are so superiorly managed that these compensate for a weak management performance concerning the Benchmarking Object. Thus, it should be established if potential Benchmarking Subjects in the field of elite sport systems have developed tangible management practices concerning the delivery of specific elite sport support services and if these practices can be considered to have influenced the performance of the respective organisations.

To identify the extent to which the identified practices are similar across different superiorly performing elite sport systems.

Benchmarking is often (mis-)perceived as the search for the one generic best practice which solves a given problem under every organisational context conditions (Drucker 2004, Jennings 2001, Laugen et al. 2005, Pfeffer and Sutton 2006, Sutton 01.02.2004). In contrast to this view, the approach has been introduced in the previous chapter for the context of this study as a more general source of inspiration and new ideas for solving a specific problem.

If, however, different Benchmarking Subjects concerning a specific Benchmarking Object show common patterns in the practices they have developed independently from each other, it appears, on the other hand, reasonable to assume that these common features may constitute a more generic best practice guideline. Thus, it should be established if, in the context of elite sport systems, different Benchmarking Subjects developed common patterns concerning the design of specific Benchmarking Objects. If this would be the case, this could indicate that such best practice guidelines of a more general nature might exist in this context and hence suggest the application of benchmarking to identify and further investigate these practices.

To establish whether the identified best practice is transferable to other organisational contexts.

The key concern that the benchmarking approach poses is the contextuality of best practice respectively the non-comparability of the context conditions the Benchmarking Subject and the benchmarking active organisation face (Bauer 1994, Leibfried and McNair 1992): even though a benchmarking project might reveal that a Benchmarking Subject applies a specific and tangible management practice which can indeed be considered to have influenced the success of the respective organisation, it might still turn out that this best practice cannot be transferred to another organisation's context. Whilst it was argued that this risk can be reduced by focusing on operational management processes (Tilzot 2003), it may still emerge, during the course of the data analysis, that a best practice is heavily dependent on an organisation's culture, the specific skills and expertise of specific staff members, its development history, or its current environment. Thus, it should be established whether focusing on operational processes as Benchmarking Objects can minimise the problems associated with identifying context-dependent best practices when benchmarking is applied in the management practice of elite sport systems.

In order to meet these three research objectives, this research analysed and compared how two elite sport systems with superior performance deliver five specific elite sport support services. The second part of this chapter will discuss in more detail the basis on which these two elite sport systems have been chosen as Benchmarking Subjects for this project. The discussion in this section will also present the five support services and elements of an elite sport system that were selected as Benchmarking Objects and provide a rationale for this choice.

However, before the focus of the discussion turns to these and other more practical considerations concerning the data collection for this thesis, it is important to introduce the philosophy of science considerations which underpin this research project. This is necessary in order to be able to evaluate the quality of the research and the explanatory power of the findings this thesis presents.

4.2 The Nature of Scientific Discovery

The quality of academic research can only be evaluated appropriately if the results of a research project are set against the aims which have been set ex-ante for the scientific endeavour. These aims are influenced by the ontological and epistemological standpoint of the respective scholar. A researcher will first of all have certain considerations about the general nature of the phenomenon which he or she investigates. This refers to ontological issues. These considerations determine in turn what the respective researcher would expect to find out about a respective phenomenon. This is considered the epistemological question. This section focuses on both of these questions. The answers suggested here also determine the design of the practical data collection and analysis of this research - i.e. the methodological question - which will be discussed in section 4.3 of this chapter.

Two polarising schools of thoughts offer answers to the ontological and epistemological questions.

Positivism suggests, on the one hand, that the world exists independently from knowledge about it (Blaikie 1993). Positivists *believe*¹ that only one reality exists and that this reality is independent from the observation of a researcher. Scholars and researchers who apply this view of the world to their work consider any phenomenon in this reality to be directly observable and claim that any knowledge about a phenomenon must be universal and generalisable. However, this standpoint conflicts with investigations in the field of social science where researchers are confronted with a multi-dimensional and multi-factorial environment (Bhaskar 1978 and 1979, McLennan 1992): as it is often not possible to develop experiment-based research designs in this context, it remains difficult for social scientists to identify and prove mono-causal 'if-A-then-always-B' correlations (Bhaskar 1978).

These considerations are reflected by the so called postmodern or hermeneutic critique which suggests that such abstract phenomena like social power or national culture are not directly observable; that researchers cannot observe social phenomena without interfering with them (i.e. changing them while investigating them); and that scientific observations and their results can therefore not be objective (Downward and Mearman 13.04.2006). Hence, postmodernists introduced, with the concept of constructivist ontology, the idea that (social) phenomena exist only as a construction and interpretation of the respective actors or observers (Blaikie 1993, Butler 2002, McLennan 1992): considering the researcher no longer as an outsider but as an insider, as an actor in and interpreter of a phenomenon, this relativistic school rejects the idea of an objective analysis of social systems or activities, and consequently the idea of reliable, objective, and valid research results.

Neither approaches appears to be appropriate for management and policy researchers (McLennan 1992): it has been indicated that the aims of traditional positivistic research are often unachievable because of the complex situations social scientists are confronted with, whereas the relativism of post-modernism, for any scholar who aspires to inform policy makers or managers, is self-defeating as it suggest that it would not be possible to develop any objective interpretations of a social phenomenon and thus no generalisable suggestions and recommendations.

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¹ As it is not provable, it remains a belief or presumption.

Considering the specific context of this study, i.e. the research aim, question, and objectives as stipulated above, it appeared on the one hand important to retain the ontological position positivists apply: observing organisational structures and management processes; aspiring to understand the nature of such practices; comparing these across different organisations; and seeking to inform policy makers based on the observations made requires the general 'belief' that such structures exists in general, as well as that these structures exists independently from the respective observation. While these considerations reflect the general idea of the realist ontology which traditionally underpins the positivistic paradigm (Sayer 2000), scholars like Downward and Mearman (13.04.2006) or Sayer (2000) suggest that due to its social-scientific nature the hermeneutic concerns mentioned above must be considered in the context of this study. Considering especially the last of the three research objectives which have been discussed in section 4.1, it can, for example, be stated that it was difficult in the analytic phase of this thesis to evaluate to what extent otherwise clearly identified best practices are dependent on the specific context the two Benchmarking Subjects are embedded in, or in how far the tacit knowledge of specific staff members constitutes the key ingredient for them to turn out to be so successful. In other words, it was at times difficult to evaluate the transferability of the identified best practice and the final results of this thesis are thus unable to satisfy the strict claims positivists would require concerning the degree of objectivity, reliability, and validity for academic research.

Critical realism appears as an appropriate ontological and epistemological position to adopt considering the nature of this research as it applies the required realistic ontology while taking into account the postmodern critique on the epistemological level, i.e. it accepts the complexity of social-scientific research:

[According to critical realism] there is no conflict between seeing our scientific views as being about objectively given real worlds and understanding our beliefs about them as subject to all kinds of historical and other determinations." (Bhaskar cited by Norris 1999, p. 36)

A key element of this philosophical position is that it provides the ontological discussion with an alternative perception of the nature of reality than the traditional realistic view suggests (Sayer 2000, pp. 11). In the centre of what critical realists considered as the *stratified ontology* is *the real* which refers to *whatever exists* and which could, for example, be the intangible and not directly observable power-relations in an organisation.

The second element in the stratified view of the reality critical realism suggests is the *actual*, which refers to what happens if elements in the real act or interact with each other and which could, for example, refer to the interaction of the different powers in an organisation. The *empirical* is finally defined as *the domain of experience*, i.e. what a researcher can actually measure and this could, for example, refer to the observations of a power struggle in an organisation.

Applying such a differentiated view concerning the nature of the object of a research project, provides a scientist not only with an answer to the ontological question – i.e. what does the reality look like. As the *actual* constitutes the link between the *real* and the *empirical*, critical realism provides also an answer to the epistemological question – i.e. what can be observed and found out about the reality. And as critical realism suggests, according to Archer (1998, p. 23), the aim of research is not only to identify *constant conjunctions of observable events* - i.e. to describe the empirical - but also to try to investigate the *objects, entities and structures that exist and generate the events we observe* – i.e. to understand the nature of the real. The concept suggests an answer to the methodological question - i.e. how should a research object be investigated, how can a research objective be met - which will be further discussed in section 4.3.

Besides this stratified view of reality, critical realism offers furthermore an interesting standpoint concerning the relationship between structures and agents and the general consistency of reality (i.e. the real) over time. It is crucial for policy and management researcher who investigate social systems to be equipped with explicit ontological considerations about the general nature of the relationship between structures and agents. As social systems can be considered as combinations of structures - i.e. official and hidden hierarchies, formal and informal regulations, or explicit laws and implicit rules - and agents who act in and with these structures, it can be argued similar to Sibeon (1999, p. 139) that policy and management researchers require *an ontology [...] that focuses on the dynamics of interaction between structures and agents*. Critical realism provides such a dynamic view, *arguing that the world is characterised by emergence, that is situations in which the conjunction of two or more features or aspects [i.e. agents or structures] give rise to new phenomena [i.e. additional structures or acting of agents]* (Sayer 2000, p. 12).

Based on this ontological position it can, on the one hand, be considered that structures can restrict, prohibit, enable, or foster the acting of individual agents; but also that individual agents, or groups of them, can influence and change the nature of given structures. Thus, critical realism appears to provide the dynamic, flexible, and interdependent view concerning the interaction between agents and structures management and social research requires.

In addition, critical realism suggests that power relations between different agents do not only change over time but that agents who have specific powers might not always execute their powers (Sayer 2000). These considerations effect strongly what can be observed during an investigation as *the same mechanism can produce different outcomes according to context, or more precisely, according to its spatio-temporal relations with other objects, having their own causal powers and liabilities, which may trigger, block or modify its action* (Sayer 2000, p. 15).

With regard to the research into elite sport systems, the critical realist view of dynamic and interdependent relationships between structures and agents was important on many occasions during the data collection and analysis. For example, in section 6.5 it is argued that the individual approaches and personal characteristics of the specific support staff members are key to the successful delivery of sport science support. This observation suggests, on the one hand, that the characteristics and qualities of agents might be more important for the success of an elite sport system than its structural design. However, this research showed also that the two investigated elite sport systems provide their support staff with an institutional framework and specific guidelines which enable and support the development of the observed personal relationships between athletes, coaches, and support staff members. In addition, both systems developed a conscious human resource management strategy based on which individuals with a specific background and personality are allocated to key positions in the organisations. Thus, this research can confirm Sibeon's (1999) considerations that it is important to consider the relationship between agents and structures as being a dynamic, flexible, and interdependent when investigation social systems. Otherwise, an appropriate understanding of the nature of best practice in elite sport system management cannot be developed.

The ontological and epistemological considerations discussed in this section have significant implications for the aims critical realists would set for their research work and how they would evaluate the quality of (social-scientific) research. Downward and Mearman (13.04.2006, p. 12) state for example that:

... critical realism embraces the fallibility of knowledge and cautions against a 'complacent' link being made between reality and our knowledge of it

Even though the approach suggests that it is only possible to conclude indirectly what constitutes the nature of the real based on observations in the empirical, it has been stated before that the aspirational aim of critical realists is to understand the true nature of real, i.e. the nature of whatever phenomenon is in the focus of a respective investigation (Archer 1998). Mir and Watson (2001, p. 1172) summarised this as follows:

If the term critical in critical realism connotes a break from the philosophy of empiricism, its continued use of the term realism implied a reluctance to distance itself from the contention that true explanations of reality are possible.

In the research practice, it is a matter of the complexity of the investigated phenomenon as well as the available and used research tools which determine if and how accurate conclusions can be drawn about the real based on the made observations in the empirical (Sayer 2000). Even if these might still be aspired to, generalisable predictions in a positivistic sense cannot often be guaranteed as *derived theory from social investigation can only indicate "tendencies" rather than provide clear prediction* (Dobson 2002, accessed 1.10.2004). The problem related to the reliability of research findings increases even more if the above view about the dynamic and interdependent structure-agency-relationships are considered which suggested that *we can not expect social science's description to remain stable or unproblematic across time and space*. (Sayer 2000, p. 13).

It should be concluded at this point that rejecting the quality criteria that positivist researchers use to evaluate scientific research, due to the realist foundation of critical realism, does not appear to be an appropriate option. When applying the classical evaluation criteria for scientific research, it has to be carefully discussed which level of objectivity, reliability, and validity can be expected and achieved in the context of the respective research project. These considerations are to be revisited in the concluding section of this chapter.

Based on the discussion presented here, it can be stated that critical realism constitutes for policy, economics, or management research a suitable foundation (Aastrup and Nedergraard June 1999, Davidsen November 2003, Dobson 2002, accessed 1.10.2004, Mingers 2000, 2001, 2003, and 2004) as it provides *an alternative [...] and useful frame of reference for understanding* the problems discussed in these areas (Aastrup and Nedergraard June 1999, p. 1). Hence, it appears to be feasible to adopt the position of a critical realism for this thesis.

4.3 Methodology and Methods

Any methodological considerations as well as the specific choice and combination of methods which are applied in the course of research depend firstly on the ontological and epistemological considerations which can prohibit, enable, legitimise, or actively suggest a respective method; secondly on the respective research questions and focus of a study; and thirdly on any other technical research constraints, such as available methods and time restrictions (Downward and Mearman 13.04.2006).

Critical realism is associated with the methodological concept of retrodution. This concept suggests that researchers should conduct their work in three iterative steps: make observations in the empirical; conclude from these observations to *connections between phenomena* in the real; and finally *attempt to demonstrate the existence and operation of these structures and mechanisms, either by experimental activity designed to isolate and perhaps observe them, or by eliminating alternative explanation* (Blaikie 1993, p. 162). This process of observing, theorising, and testing developed theories in order to strengthen, adapt, or reject them is directly linked to the stratified ontology critical realism suggest. While critical realism aspires to *ontological depth* (Downward and Mearman 13.04.2006, p. 12), i.e. true accounts of the nature of a phenomenon, its stratified view of reality and the fact that the nature of the real might change over time, due to the interactions of agents and structures, emphasise at the same time the limitation of scientific observation and explanations, respectively. Hence, using the standpoint of critical realism in practice implies following an iterative, 'onion-peeling' like, process of retrodution *in which layers of reality are continually exposed* (Blaikie 1993, pp. 169).

Critical realism contributes to management and social research on the ontological and epistemological level by providing a more considered view of the nature of the social world and the way we can perceive, observe, and investigate it than, for example, the positivistic school of thought does, which arguably only focuses on surface empirical observations. In a similar way, retroduction provides researchers of social phenomena with an equally more elaborated methodological approach than a purely inductive or deductive research strategy. Its iterative nature seems even more suitable for social science investigations, considering the view that it maintains of the nature of social phenomena. In this regard, the hypothetico-deductive approach of Popper lacks the explicit iterative, 'onion-peeling' like nature of retroduction, which is required to uncover the different layers (the empirical and the actual) under which the true nature of a social phenomenon is hidden (the real).

While applying this iterative process, Sayer (2000) suggests researchers differentiate between an intensive and extensive research design depending on the research object and question. Downward and Mearman (13.04.2006) consider the former research strategy, which is characterised by a small number of research subjects about which a great number of information would be collected, as the "classical" qualitative research design. This intensive research design appeared to be most suitable for the context of this thesis. This concept suggests researchers consider contextual factors in their investigations but also search for causal explanations for an observed phenomenon. Furthermore, Sayer (2000, p. 21) suggests use of the following guiding questions in the data collection and analysis if this research design is applied – all of which seem to reflect the nature of the research objectives this thesis aspires to meet: *How does a process work in a particular case or small number of cases? What produces a certain change? What did the agents actually do?* The rhetoric which is used to describe the intensive research design appears to reflect the idea of the case study methodology and research design (Yin 1994). Hence, the literature from this area could also inform the development of the research design for this thesis.

These methodological considerations are closely linked to the selection of the actual methods which are applied in the data collection phase of a research project. Critical realism and the concept of retrodution provide very similar recommendations concerning the question of what data collection methods can and should be used in research compared to what can be found in benchmarking and case study related literature. The suggestions in the benchmarking literature include, for example, the conduction and combination of literature reviews, documentary analyses, the use of questionnaires, semi-structured interviews, as well as on site visits (Höst et al. April 2002, Grigg and Mann May 2004). Similar recommendations can be found in the case study related literature as Yin (1994) suggested that it would be unlikely to create a sufficient understanding of the nature of a (social) phenomenon if the research relies on just one data collection tool or applies just a single-method-approach. Critical realism and retrodution apply the same practical, flexible, and open view concerning the combination of data collection tools (Downward and Mearman 13.04.2006). This has been noted by Sayer (2000, p. 19) who stated that:

Compared to positivism and interpretivism, critical realism endorses or is compatible with a relatively wide range of research methods. But it implies that the particular choice should depend on the nature of the object of study and what one wants to learn about it.

Mingers (2001, pp. 241) introduced in this context the term *multimethodology*. Like Yin (1994), he suggested with this idea that a researcher should not rely on just one data collection tool nor on the triangulation of different sources of information to which one data collection tool is applied (e.g. interviewing different individuals). Similar to what Denzin (1970) described as *methodological triangulation*, Minger's multimethodology involves combining different methods, such as interviews, questionnaires, and document analyses, and this approach is considered to be especially useful if investigated phenomena are strongly connected with their environment context. Using the terminology of critical realism, the idea of methodological triangulation (Denzin 1970) and multimethodology (Mingers 2001) can be consider to be able to support and further develop the process of retrodution and can therefore be a useful application for research which is carried out under the paradigm of critical realism (Downward and Mearman 13.04.2006).

The nature of the research presented here can illustrate how the process of retroduction can be supported by the application and combination of different methods to develop, specify, and answer research questions. The quantitative investigation of medal tables with statistical tests reveals, for example, that different nations and their sport systems can have more or less absolute or relative success at the international top sport stage (see section 4.4.2). This can be considered to constitute the first step of a retroductive research project. Such observation lead in the second step of a retroductive research exercise to certain assumptions and hypotheses about the causal relationships between sporting success and structural or managerial factors in the organisation of elite sport systems (see chapter two). The third stage of a retroductive research project then requires the application of qualitative research tools to test these idea in individual cases. This indicates how research can incorporates quantitative and qualitative tools to develop research questions and ontological depth while answering them. This flexibility and openness for mixing methods from different research traditions reflects the combination of the positivistic research aim, i.e. revealing the true nature of the real, and the hermeneutic critic, i.e. the limited observability of social phenomena, critical realism offers and is ontologically and epistemologically sound under this paradigm (Downward and Mearman 13.04.2006).

Based on the aim and objectives of this research, the ontological, epistemological, and methodological reflections above, and the resulting decision to apply an intensive, case study research design (Sayer 2000, Yin 1994), it was determined necessary to create detailed case study reports. These reports were primarily developed based on semi-structured interviews which were conducted during on-site visits with specific key position holders from the operational level in the two elite sport systems which have been chosen for this research. These key interviewees were practically working support staff members like endurance diagnosticians as well as elite coaches and athletes (see section 4.4.3). The conduction of the interviews and the development of the case study reports was also prepared and supported by the analysis of documents and publications about the chosen Benchmarking Subjects and the respective environment they are embedded in (see Tables 4-5 and 4-6).

As the discussion in section 4.4.3 will show in more detail, the data collection and analysis of the gathered information was furthermore supported by conducting interviews with individuals from the strategic management (e.g. the general secretaries of the two federations) and the academic environment (e.g. Nils Asle Bergsgard and Pål Augestad) of the two investigated sport systems. Based on the methodological considerations presented in the first part of this section, it can be stated that this mixed method approach of combining interviewing techniques and the analysis of documents does not only constitute a standard case study research design (Yin 1994) but that it is also ontologically and epistemologically consistent with critical realism.

In addition, the following considerations, which are directly linked to the research aim and objectives introduced in section 4.1, also influenced the development of the here applied mix of methods.

Firstly, it appeared to be essential to consider interviews with individuals who are actually involved in the operational provision of elite sport support services, like coaches and support staff members, as the key source of information for this research as only such interviewees could be expected to be able to provide a detailed account of the actual processes based on which the support services that were selected as Benchmarking Objects for this investigation are integrated into the training practice by the chosen Benchmarking Subjects (see also section 4.4.3).

Secondly, it appeared necessary to conduct semi-structured interviews as this technique provides the necessary flexibility to investigate best practice. By definition, best practice must be expected to have an unconventional, hence unexpected design due to its, rightly or wrongly, assumed innovativeness. Conducting interviews with a rigorously pre-determined question guideline would not have provided the required flexibility in the interview situation to investigate the actual nature of the practices a Benchmarking Subject applies.

Thirdly, in order to secure a smooth course of the study visits and the data collection in the interview situation, the interviews with the interviewees from the operational level were prepared with and cross-referenced to the analysis of available documents about the two investigated sport systems (see Tables 4-5 and 4-6) and interviews with individuals who have more strategic roles in these environments.

The information obtained from these activities provided further guidance for the construction of questions which were used in the interviews with coaches, athletes, or support staff members.

Finally, in order to increase the quality of the gathered data and the accuracy of their analysis - thus, the validity of this research - the information the different sources provided (different interviewees and documents) were triangulated with each other (Denzin 1970, Cresswell 1995, Shih 1998, see also Tables 4-3 and 4-4). This was done to address the technical pitfalls and challenges which have to be considered while doing qualitative research. These will be discussed in the remaining part of this section.

Any investigation of a social phenomenon, in particular if interviewing techniques are applied, has first of all to take account of the hermeneutic critique (see section 4.2). As critical realism has been chosen as an ontological foundation for this research, this has already been implicitly considered. However, applying interviews raises a number of specific operational problems as well which have to be considered (Bryman 2004, Cresswell 1995, Diekmann 2006). Three most fundamental ones for the type of research presented in this thesis are as follows:

As the number of subjects in an intensive qualitative research project is, due to technical restrictions, limited, it must be taken into consideration that the picture the research develops of a specific phenomenon can be biased by the sample of interviewees – i.e. the group of interviewees might not constitute a representative sample to give an accurate account of the investigated phenomenon. In section 6.6 it will be shown that the relationship between athletes and coaches is considered to cater in the investigated sport systems for the provision of lifestyle support. While more or less all interviewees confirmed that the so-called Holistic Coaching Concept and the idea of the 24hr Athlete are indeed effective mechanism for the provision of lifestyle support, a few interviewees indicated at the same time that in some cases, i.e. for some coaches, these ideas can also constitute more *empty phrases* than active coaching practices. Thus, the respective athletes might have provided a different account of the lifestyle support situation in the two investigated elite sport systems compared to the used sample of interviewees.

This problem of a sampling error cannot be completely avoided while doing qualitative research, due to the limited number of individuals who can be interviewed. The careful selection of interviewees and the triangulation of interview results can however reduce this problem (see below and section 4.4.3).

A specific type of a sampling bias can occur due to the compilation of interviewees a researcher is brought in contact with by the organisation with which a research project is carried out. For a job satisfaction study, the management of a company might for example suggest interviewees who are known to be rather content with their working arrangements. Thus, the respective researcher might receive an overly positive picture of the respective situation in the organisation. The concerns of such a politically initiated sampling error was not seen as relevant for this study: not only were many interviewees for this research chosen and contacted directly by the researcher; it was furthermore possible during the two study visits to interact freely with people from the two sport systems and extend the interview schedule without "political" restrictions.

While the danger of a politically initiated sampling error does not appear to be a threat to the validity of this research, the unconscious compliance as well as the conscious political behaviour of individual interviewees in the interview situation are however critical. An athlete might, for example, blandish the situation in a sport system as he or she feels obligated to do so due to the support he or she receives. On the other hand, a coach might exaggerate in his criticism of the role and work of a central elite sport support institution to emphasis his or her own performance and initiative. The most profound example for this problem for this research is discussed in section 5.3.2. Here, it is argued that a final evaluation of the relevance of the central support institutions in the two investigated sport systems for the achieved international sporting success is difficult to achieve due to the ambivalent responses of the interviewees: while some of them emphasised the roles of these organisations, others indicated that their sporting achievements are exclusively based on the work of the special sport federations, the local clubs, as well as the individual athletes and coaches.

Such considerations indicated that an individual interviewee's response should not be taken at face value in the investigation of the applied practices and processes of a social system like an elite sport system. Triangulating the responses from different interviewees in the way it will be introduced in section 4.3.3 (see Tables 4-3 and 4-4) as well as contrasting the interviewee's responses against the information documents provide (see Tables 4-5 and 4-6) might not guarantee the creation of the true picture of the real situation in the two investigated sport systems. It helps, however, to continually identify and expose different layers of the reality (Blaikie 1993, pp. 169), i.e. the real nature of the practices the investigated Benchmarking Subjects apply.

4.4 Data Collection

This section provides a detailed insight into the collection, processing, and analyses of the data. This process began with the identification of the steps which are fundamental to benchmarking: the identification and selection of Benchmarking Objects and Subjects.

4.4.1 Identification of Benchmarking Objects

The starting point for the selection of the Benchmarking Objects was the findings of the meso-level research carried out by authors like Green and Oakley (2001), Digel et al. (2003a), Merkel (1995), or SIRC (2002). As outlined in Figure 2-2, this research provides an extensive and comprehensive overview of those services, which are considered to constitute elite sport systems. Whilst there is no evidence to suggest a hierarchy concerning the importance of these different tasks, due to the limits of a PhD thesis, it was not possible to consider all elements of an elite sport system in benchmarking-appropriate width and depth. Hence, a selection had to be made and the following five processes and structures were selected as Benchmarking Objects:

- (i) The organisational design of the squad system that the Benchmarking Subjects have developed to determine if and in how far this realises the idea of an long-term athlete development pathway;
- (ii) The hierarchy of coaches within this squad system to evaluate what different types of coaches exists, what educational requirement do they have to provide, and how the athlete-coach relationship develops in this system;
- (iii) The coach education and further education programme, its general administration and the way it balances between the delivery of theoretical and practical knowledge;
- (iv) The delivery of sport science support, i.e. the nature of the cooperation between sport science researchers, applied working sport science support staff members, and the coaches or athletes in the field;
- (v) The design of the lifestyle support programme that is provided to the different athletes and the way it is delivered.

These benchmarking objects were selected on the basis of the following selection criteria:

Fundamentality

While conducting a comparative study with a micro-level focus, certain elements of an elite sport system require investigation in order to understand the working of the system as a whole. For example, it is necessary to develop a basic understanding of the number of athletes and coaches in an elite sport system and the step from a general description to a detailed analysis of the squad system and hierarchy of coaches becomes inevitable.

Structurally interdependency

The choice of one Benchmarking Object often directly leads to the choice of another one. Investigating the hierarchy of coaches is, for example, closely linked to the investigation of the coach education standards and the nature of the coach education and further education schemes

Topicality

Certain questions appear to dominate contemporary elite sport management and policy related literature. The design of a squad system and the question in how far such systems do, should, or can offer a formal and institutionalised long-term athlete development pathway (Balyi 2001, Güllich September 2004) appears for example to be a frequently discussed topic by policy makers, and practitioners. Hence, it was considered an area worth investigating as a Benchmarking Object.

Direct support services

As it is the aim of this thesis to evaluate the potential of the benchmarking approach in brining about improvements in the specific tasks of an elite sport system, only the direct support services were considered as potential Benchmarking Objects. Thus, supportive tasks and infrastructure related elements as presented in Figure 2-2 were not considered in this context.

The final selection of the five Benchmarking Objects listed above was carried out and confirmed as most suitable for this project during an expert panel discussion between the researcher, Prof. Barrie Houlihan, Dr. Leigh Robinson, and Dr. Mick Green.

Once the Benchmarking Objects were specified, it became possible to prepare for the actual data collection. As stated at the end of the previous section, it has been suggested that semi-structured interviews constitute the most appropriate data collection method considering the nature of the objectives of this research. In preparation for the study visits during which these interviews were supposed to be conducted, question guidelines were developed based on micro-level research in which subject experts, such as sport sociologists, psychologists, or physiologists, investigate selected problems in the delivery of specific elite sport support services, such as the provision of lifestyle support, coach education, sport science support, or the development of a squad system and athlete development pathway (see section 2.3). Based on this literature it was possible to become familiar with the operational problems concerning the delivery of the selected Benchmarking Objects and to design the required guidelines for the interviews. Table 4-1 lists the key questions which were developed during this process.

Table 4-1: Key Questions for the Data Collection

BM Object	Key Questions	Key Authors
Squad System	What does the general design of the squad system look like?	Balyi 2001, Breivik 1999, Emrich and Pitsch 1998 and 2002, Digel 2001b, 2002, 2004, Güllich September 2004, Hassell 2004, Kozel 1997, Stiftung Deutsche Sporthilfe 11.11.2004, Tschiene 2004, Wippert 2002, Zinner et al. 2004
	What services are athletes and coaches provided with on the different squad levels?	
	What does the general athlete assessment routines look like and how do these balance between being flexible and open vs. strict concerning the deselection of unpromising talents?	
	Is anything like a talent recycling programme emplaced?	
Hierarchy of Coaches	What does the general hierarchy of coaches look like and how is it linked to the design of the squad system?	
	How is the athlete-coach-relationship affected by the way this hierarchy is designed?	
Coach Education	What does the general coach further education system look like?	Baumann July 2003, Bloomfield November 2002 and 2003, Breivik 1999, Buehlmann 1998, Digel 2004, Emrich and Pitsch 1998, Escoda 1999, Gilbert and Trudel 1999, Green and Oakley 2001, Gummerson 1992, Hassell 2004, Jones 2004, Kozel 1997, Krug and Martin 1999, Launder 1995, Müller and Wangemann 1999, Müller et al. 1999, Papademitriou and Taylor 2000, Refsnes 1999, Roemer et al. 2003, Schumacher 1999, Saborowski et al. 2000, Schwirtz et al. 1999, Starischka et al. 1993, Tschiene 2004, Walker 2004, Wackerhage and Atherton 2004, Zinner et al. 2004
	How is it achieved that a coach education is not only compulsory but actually further develops the coaches' competence and behaviour?	
Sport science Support	What does the general organisation of the sport science support look like? What athletes have access to which services?	
	What does the service provision process look like in the daily interaction between athletes, coaches and support staff members?	
	How is the quality of the sport science support services guaranteed? (Service quality => support services and recommendations must be sport-specific, coherent between the different support branches, and of practical relevance, i.e. easily set into practice by coaches in the field)	
	Is there system emplaced to further develop the sport science support services? (Interaction between applied sport science support and basic research in that field)	
	What individuals work as sport science support staff members?	
Lifestyle Support	What does the general organisation of the lifestyle support programme look like? What athletes have access to which services?	Anderson and Morris 2001, Baumert 1995, Braun 1998, Breivik 1999, Bussmann 1997, Bussmann and Alfermann 1994, Langenkamp and Bussmann 2000, DCMS 2000, Digel 1998, 2004, Digel and Burk 2001, Emrich and Pitsch 1998, Emrich et al. 1996, Fröhlich and Emrich 2004, Güllich September 2004, Hackfort and Birken 2004, Hackfort et al. 1997, Hackfort and Schlattmann 1994, Haffner 2004, Halle and Stübner 2004, Kayser 2004, Kindinger et al. 2004, Koch 1994, Kozel 1997, Lavalée et al. 2001, Lavalée 2001, Langenkamp and Bussmann 2000, Petitpas and Champagne 2001, Richartz and Brettschneider 1996, Richartz 2000, Rüttinger et al. 1996, Saborowski et al. 2000, Schlattmann and Hackfort 1994, Salmela 1994, Sinclair and Orlick 1994, Stumpe and Senf 2003, Stumpe 1998 and 1999, Wippert 2002, Zinner et al. 2004
	How does lifestyle support manager interact with athletes, coaches, teachers, employers, etc. (i.e. in and outside the elite sport system)?	
	What individuals work as lifestyle support managers?	

4.4.2 The Identification of Benchmarking Subjects

As indicated in the previous chapter, the most decisive step in a benchmarking project is the selection of the Benchmarking Subject(s). This section will describe the specific set of selection criteria which guided the selection process for this thesis.

Based on the *Minimum - Maximum - Principle* (Wöhe and Dörner 2002), managerial success can be evaluate based on its efficiency, i.e. based on how well a set of available resource is used to achieve a given goal. A successful manager either achieves a given target with the least amount of input resources possible or maximises a desired output based on a fixed amount of available input resources.

Based on such considerations, several authors have compared and evaluated the “successfulness” of different elite sport systems (Bernard and Busse 03.12.2002, de Bosscher et al. 2003a and b, Johnson and Ali 2002, Kuper and Sterken 2003, Morton 2002, SIRC 2002, Stamm and Lamprecht July 2001). Using primarily the medal tables of the Summer Olympic, these studies investigated an extensive list of socio-economic and socio-graphic factors in an attempt to establish to what extent they can explain statistically the sporting success different nations achieved. Based on such investigations, de Bosscher et al. (2003a) and SIRC (2002 and 2003) suggest that among other factors, especially the GDP and the population size have great explanatory power to predict sporting success. Thus, it can be assumed that those countries, which achieve great sporting successes despite having only a smaller population or GDP, might “manage” their elite sport relevant resources efficiently.

While such a resource-focused evaluation of the success of elite sport systems is from a managerial point of view of clear relevance due to the above introduced Minimum - Maximum - Principle, relying exclusively on such a quantitative approach for the selection of Benchmarking Subjects can turn out to be misleading. For example, if the design of a lifestyle support programme is selected as a Benchmarking Object, it can be assumed that some of the sport systems which such a purely statistical approach would identify as potential Benchmarking Subjects due to their overall performance, do not actually have an expressed lifestyle support system. A successful career as a middle or long distance runner might in several African countries for instance be the only career opportunity a young individual has.

Thus, sport becomes lifestyle support in itself and the sport system does not have to cater for specific lifestyle support services.

Based on such critical reflections concerning the purely quantitative-statistical approaches to evaluate and compare the performance of different elite sport systems; founding on the discussions concerning the selection of a Benchmarking Subject as outlined in the third chapter of this thesis; and considering the general nature of the Benchmarking Objects which have been chosen for this investigation, the following selection - respectively exclusion - criteria were utilised to identify potential Benchmarking Subjects for this research:

A Democratic Political Environment with Stable and Strong Economy

When considering the transferability of Benchmarking Objects, it appeared appropriate to consider only sport systems which are embedded in a democratic environment and a stable, strong economy as these factors provide an element of contextual consistency. Even though countries like Cuba and Kenya show in relative as well as in absolute terms extraordinary sporting success (de Bosscher et al. 2003a, Morton 2002), the unique political and economic environment they are embedded in makes it unlikely that their elite sport systems are transferable to other - especially western or middle-European – contexts. Thus, it was decided to focus on countries with environments that lend themselves to comparison.

Focus on Discipline Specific Success

This thesis aspires to evaluate the potential of the management tool benchmarking for the improvement of the operational provision of elite sport support services in elite sport systems to individual athletes and coaches (see chapter two and section 4.1). This aim suggests that it is not multi-event medal tables that should be considered in the search for potential Benchmarking Subjects but those of European or World Championships as well as the results of specific competitions from the Olympic Games like swimming or athletics events as successful elite sport systems - hence Benchmarking Subjects - tend to *'produce' winners in the same event time after time* (SIRC 2003, p. 8) in contrast to be successful in the support of a wide range of sports. The Norwegian elite sport system supports a great variety of different sports but developed a clear priority, which has produced a high degree of competence and success in supporting Nordic winter sports.

While the Norwegian system would not constitute a potential Benchmarking Subject due to its overall sporting performance (i.e. due to its position on the medal table of the Summer Olympics) or due to its success in the support of such sports like swimming or gymnastics, it will be shown at the end of this section that its performance concerning the support of cross-country skiers is indeed outstanding. Hence, this study applied a discipline-specific focus.

Practical Considerations – Access

Clearly, practical concerns had to be considered. As this research was based on a large number of semi-structured interviews with athletes, coaches, and support staff members, the interviewees needed to be fluent in either English or German.

Sporting Success per Capita (p.c.)

After applying these three criteria, the concept of evaluating the success of an elite sport system based on the amount of human (approximated by the population size) and financial (approximated by the national GDP) resources a sport system has potentially access to (de Bosscher et al. 2003a,b, Johnson and Ali 2002, Morton 2002) was revisited. As the first criteria introduced above already ensures that only nations with similar socio-economic backgrounds are considered, success was defined by the efficient use of human resources, hence the number of won medals per capita, in a particular sport.

Recent and Continuous Success

Finally, a nation can be successful in a sport due to the emergence of one talented athlete or as the result of extensive investment into a sport system due to being selected as a host city for a major event. As such success would not be due to attempts to systematically create winning athletes, it has been decided that potential Benchmarking Subjects should for the purposes of this research not only show recent sporting success but also a "history of success".

These selection criteria were applied to the medal tables of a number of major international sporting events held over the decade, including Winter and Summer Olympics, and World and European Championships. Based on the information gathered and the developed selection criteria, the Swedish Athletics Association (SAA) and the cross-country skiing national team from the Norwegian Skiing Federation (NSF) were selected as Benchmarking Subjects for this thesis.

Table 4-2 outlines how the two Benchmarking Subjects fulfil the criteria presented above. The same panel of experts that confirmed the final selection of Benchmarking Subject also supported this selection.

Table 4-2: Selection of the Benchmarking Subjects

Selection Criteria	Swedish Athletics Association	Norwegian Cross Country Skiing National Team	Contrasting Example
Democratic Political Environment with Stable and Strong Economy	The two chosen countries are in general well-known for their rich and balanced economical environment (GDP p.c. SWE 33,925 US \$, GDP p.c. NOR 48,881 US \$) as well as for the unique successful integration of liberal and social traditions in the governmental system.		Considering top sport nations like Cuba, China, or Kenya, it can be argued that their socio-political environments and economical background (GDP p.c. CHN 1,100 US \$, GDP p.c. KEN 444 US \$, GDP p.c. CUB 2,762 US \$) might differ too substantially from the western-European context that it could be realistic to identify transferable best practice.
Discipline Specific Sporting Success	This criterion has obviously been fulfilled by focusing on athletics and cross-country skiing. Considering the case of Norway as an example, narrowing the focus of the investigation down in this way turned out to be essential as the nature of the cooperation between Olympiatoppen and the Norwegian cross country national team appeared indeed to be special and unique compared to the cooperations between Olympiatoppen and other Norwegian national teams.		
Sport-Unspecific Elite Sport Support System	Swedish Olympic Committee, Swedish Sport Confederation, & Swedish National Sport Complex in Bosön	Olympiatoppen	The successes the Canadian Ice Hockey National Team achieved is remarkable considering its relatively small population compared to rivals like the USA or Russia. It can however be assumed that the majority of the elite sport support services for the individual player are provided through the different clubs rather than a central, sport-unspecific elite sport support unit.
Access	The general standard of spoken and written English is in both countries known to be relatively high while travelling from England to Scandinavia constitutes no major economic hurdle.		Investigating the communication and managerial processes in South American Soccer schools might have been an interesting endeavour considering the focus of this thesis. Travelling to this destination would however have been a too high obstacle for the context of this thesis. Also important to be considered in this context is the language problem which might have turned out to be a substantial issue compared to the situation in Norway or Sweden.
Recent and Continuous Sporting Success	<p>SWEDEN Considering the in- and outdoor World and European Championships between 2000 and 2004 as well as the athletics events at the Olympic Games, Swedish Athletes won about 18 Gold medals, i.e. about 2.02 p.c.. Other "leading" European athletics nations won in the same period: France 9 Gold medals (0.15 medals p.c.), Germany 8 Gold medals (0.1 medals p.c.), UK 19 Gold medals (0.32 medals p.c.)</p> <p>NORWAY Considering the cross country skiing events at the Olympic Games and Ski Nordic World Championships from 1998 to 2004, the Norwegian national team won 23 Gold Medals out of a total of 73 while its main "direct rivals" Finland, Germany and Russia won only 9 medals each. In relative terms, the Norwegian won over 5 medals p.c., Finland 1.7, Germany only 0.1 and Russia even only 0.06.</p>		

4.4.3 Conducting the Data Collection

The end of section 4.3 states that conducting semi-structured interviews was identified as the most appropriate data collection tool for the purpose of this study. And, as outlined in the previous section, the identification of the Benchmarking Objects, which would be investigated in this study, allowed for the development of question guidelines that the interviews could be based on. In addition, the data collection was further prepared by reviewing available academic papers as well as policy documents of and about the selected Benchmarking Subjects.

It has furthermore been indicated already in section 4.3, that the aim and focus of this research would also very clearly define the interviewees who would be most appropriate for this study. It was necessary to interview individuals like the general secretaries of the two investigated federations, the respective head coaches of a national teams, or representatives of the management of the general national elite sport support centres in Norway and Sweden to develop a basic understanding of the more general elite sport support policy and infrastructure the two Benchmarking Subjects are confronted with. However, these individuals were not in a position to provide the detailed insights on the operational provision of the elite sport support service that this thesis requires, i.e. the nature of the day-to-day interaction between athletes, coaches, and support staff members. Hence, this study differentiated between three different clusters of interviewees:

Strategic Design

This included interviewees from the general management of an elite sport system such as the general secretary of a federation or leaders of the different service units as for example a sport science support coordinator or coach education officer.

Operational Delivery

This included those individuals who were working in the actual delivery of the different support services. Considering for example the delivery of sport science support, this referred to the diagnosticians in the labs.

Recipient

This included individuals like coaches and athletes who received the support services the elite sport systems provided.

This system made it possible to realise the aspired triangulation of interviewees and led to a more valid picture of the broader context conditions of the investigated elite sport systems, the general design of the actual elite sport support infrastructures, and the operational provision of the different support services which have been chosen as Benchmarking Objects for this study.

Table 4-3 summarises these considerations. The column on the left represents exemplary key questions which were considered in this investigation. The three clusters of potential interview partners are listed in the top row. The resulting matrix shows which questions were asked to which interviewees and demonstrates where triangulation was achieved.

Table 4-3: Triangulation Matrix

BM Object	Key Questions	Strategic Design				Operational Delivery			Recipient	
		Strategic manager	Lead sport scientist	Coach education officer	Lead lifestyle supporter	Performance diagnostician	Coach educator	Lifestyle supporter	Athlete	Coach
Squad System	What does the general design of the squad system look like?									
	What services are athletes and coaches provided with on the different squad levels?									
	What does the general athlete assessment routines look like and how do they balance flexibility & openness vs. strictness?									
	Is anything like a talent recycling programme emplaced?									
Hierarchy of Coaches	What does the general hierarchy of coaches look like and how is it linked to the design of the squad system?									
	How is the athlete-coach-relationship affected by the way this hierarchy is designed?									
Coach Education	What does the general coach further education system look like?									
	How is it achieved that a coach education is not only compulsory but actually further develops the coaches' competence and behaviour?									
Sport science Support	What does the general organisation of the sport science support look like? What athletes have access to which services?									
	What does the service provision process look like in the daily interaction between athletes, coaches and support staff members?									
	Is there system emplaced to further develop the sport science support services?									
	What individuals work as sport science support staff members?									
Lifestyle Support	What does the general organisation of the lifestyle support programme look like? What athletes have access to which services?									
	How does lifestyle support manager interact with athletes, coaches, teachers, employers, etc. (i.e. in and outside the elite sport system)?									
	What individuals work as lifestyle support managers?									

4.4.4 Data Processing and Analysis

The processing and analysis of the gathered data was done in two steps. The purpose of the first phase was to develop a detailed understanding of the nature of the two investigated sport systems and the practices which are applied in them. This was done to meet the first and also the third of the three research objectives discussed in section 4.1 - i.e. to evaluate the extent to which potential Benchmarking Subjects in the field of elite sport system management demonstrate tangible best practice concerning the delivery of specific elite sport support services and to establish whether the practices they apply are transferable to other organisational contexts. The two cases were handled in this first phase very much in isolation. The second phase in the analysis process was of a more comparative nature and focused mainly on the second research objective listed in section 4.1 as it was evaluated to what extent the practices the two Benchmarking Subjects developed are similar.

All interviews were recorded with a Olympus DM20 voice recorder. For each of these case studies, the recorded interviews were transcribed with the help of the standard DSS Player as provided by the manufacturer of the DM20 and Microsoft Word. The transcripts were imported into the software NUDIST which was then used to structure and manage the data. Based on the question guidelines for the interviews, a system of categories, or NUDIST Tree Notes, was developed according to which the transcriptions were coded. After all interviews had been coded once, the coding results were coded a second time, according to a coding structure which was developed based on the first coding process. This iterative process was necessary in order to cater for unexpected and additional information gathered during data collection which could not be expected based on the literature which was used to develop the interview guidelines.

Based on the final coding results, a report was written for each of the two case studies and sent back to key interview partners in Norway and Sweden for the purpose of respondent validation. The structure of these two reports reflected the respective final NUDIST Tree Note structure. These reports provided a detailed overview of the nature of the investigated service delivery practices as applied in the two Benchmarking Subjects.

The reports also included a discussion of the origin of the observed practices in which it was analysed whether the practices which were observed in Sweden or Norway depend on the respective cultural, social, economical, or geographical context; if they are a result of clear (managerial, top-down, or bottom up) interventions, or if they are a result of the intangible competence of or the personal relationships between key staff members. In other words, the discussion in the report sought to evaluate the contextuality of the observed best practices.

In the second step of the data analysis process, the two case study reports were compared in order to assess if the practices the two investigated sport systems apply in regards to the chosen Benchmarking Objects are the same, if they are similar, or if they differ. In this process, the possible reasons for the observed similarities and differences were evaluated. In other words, the analysis sought to establish if common practices for the delivery of elite sport support services exist between two identified Benchmarking Subjects.

These consideration will be presented in chapter six, seven, and eight of this thesis and provided the foundation for the actual evaluation of the benchmarking approach in the context of the management of elite sport systems.

4.5 Piloting, Application, and Evaluation

The methodology was piloted in spring 2005 in an extensive pilot study with the British Triathlon Association (BTA). For this study, six individuals from the BTA and its partner organisations were interviewed. Over seven hours of interviews were recorded and all major elements of the interview guidelines were used in course of the interviews. Table 4-4 lists the individuals who were interviewed in the course of this pilot study and outlines how they fit into the three suggested clusters of interviewees. The data processing for this pilot project followed the above routine until the completion of a descriptive case study report which was sent to the BTA. The response of the performance director of the BTA led to the conclusion that the interview guidelines, the triangulation strategy, and the data processing protocol was appropriate in order to create a valid picture of the general nature of the operational service delivery processes in an elite sport system.

The data collection in the two Scandinavian sport systems, which were selected as Benchmarking Subjects, was carried out in the summer of 2005 during two study visits. In Sweden, stages of the study trip were:

- Stockholm, where staff members from the SAA, the Swedish Olympic Committee (SOK), and the Swedish National Sports Complex were interviewed;
- Karlstad, where several athletes and coaches from the national team as well as staff members from the local athletics gymnasia and university were interviewed;
- Gothenburg and Gävle, where during two international competitions additional athletes and coaches were interviewed.

In Norway, the stages of the study trip were:

- Oslo, where staff members from the NSF, the Norwegian Sport University (NIH), the Norwegian Olympic Committee and Confederation of Sports (NIF), and the Norwegian top sport complex Olympiatoppen (OT) were interviewed;
- Hafjell, where during a national team training camp athletes, coaches, and the manager of the national team could be interviewed;
- Lillehammer, where staff members of the local ski gymnasium (NTG), a local skiing club, and the Lillehammer University College could be interviewed;
- Trysil, where during a coach education seminar, a club coach and another national team coach were interviewed.

As outlined before, the primary data collection method of this thesis was the conduction of semi-structured interviews. Fifty individuals were interviewed for this thesis (22 in Sweden and 28 in Norway) and nearly 65 hours of interviews were recorded, transcribed, and analysed.

Table 4-4 presents the interviewed individuals, describes their background, and shows how they fit into the above introduced system of three clusters of interviewees. Interviewees who could not be filed into this system, based on the information they provided and their background, are listed under *Others*. Lennart Julin from the SAA, for example, did not give detailed information on the actual Benchmarking Objects this project investigates, but he provided detailed insights into the general history of athletics in Sweden and how the current culture in the national team is linked to the general cultural context.

Names which are written in italics indicate individuals who appear more than once in Table 4-4 as they were able to answer questions in several different categories. For example, Erling Rimeslaaten is primarily responsible for hosting, organising, and developing the lifestyle support infrastructure in Norway. While he was therefore a key interviewee for lifestyle support related questions for the Norwegian case, he is also jointly responsible for the education programme for top coaches as well as for the further development of the general elite sport support infrastructure in Norway and could therefore answer questions concerning these matters as well.

As noted previously, interviews were not the only source of information for this study as many interviewees provided documents to support their information. The documents used are listed in Tables 4-5 and 4-6.

Table 4-4: List of interviewees from pilot and main study and their background

	Others	Strategic Design				Operational Delivery			Recipient	
		Strategic manager	Lead sport scientist	Coach education officer	Lead lifestyle supporter	Performance diagnostician	Coach educator	Lifestyle supporter	Athlete	Coach
BTA		Graeme Maw, BTA performance director	Marc Pearce, BTA lead sport scientist	Graeme Maw		Dan Hunt, performance diagnosis, WIS, Cardiff		Tara Smith, lifestyle support manager, EIS, Loughborough	Marc Jenkins, performance programme triathlete, Cardiff	Dan Salcedo, head coach, Loughborough
SAA	Lennart Julin, documentation and statistics, SAA Peter Alterin, MBA - Student investigating the team spirit in the SAA national team Mikael Johansson	Thomas Engdahl, national team captain, SAA Lennart Karlberg, general secretary of the SAA and former president of the Swedish Sport Confederation (RF) Björn Follin, communication & marketing officer, Swedish Olympic Committee (SOK) (via email) Peter Reinebo	Peter Rainebo, coordinator of support services, Swedish Olympic Committee (SOK) Martin Eriksson Anders Ryden Anders Borgström	Anders Ryden, (coach & athlete) education officer, SAA Jenna Carlstedt, SISU (Swedish sport education organisation) & RF project manager, introducing new top coach certification Peter Reinebo	Kerstin Rosen, coordinator of athletes in school education, contact person for new university programmes, SAA Martin Eriksson, former nat. team athlete, participant in Sydney 2000, board member since 2005, responsible for fostering the possibilities of combining elite sport with studying and integration of sport science support, SAA Mikael Johansson, RF South project manager in Malmö setting up a cross-sport university pilot project Helena Wieselnder, lifestyle support manager, SOK (telephone interview)	Pierre Styfberg for Lennart Gullstrand, performance diagnosis at the Swedish national sport centre, Bosön Anders Borgström, biomechanical diagnostic in Karlstad Agne Bergvall, strength diagnostic in Växjö	Jenna Carlstedt Anders Ryden National team coaches	Christian Augustsson, former member of the national team coach squad, today mental coach for Stefan Holm, Kirsten Belin, etc., also coach and mental coach for middle distance runners Per Jacobsen, Karlstad Most coaches	Per Jacobsen, Middle distance runner (3000m SC) in the national team, coached by Christian Argusson, training and studying in Karlstad Mikael Jakobsson, 400m and 400m hurdles in the national team, coached by Ulf Karlsson, former US College athlete Jenny Kallur, 100m, 200m, 100m hurdles, in the national team, coached by Agne Bergvall, former US College athlete Stefan Holm, Olympic and world champion in high jump	Anders Borgström, team manager in the 1980s, today director of the athletics gymnasium in Karlstad, initiator of the athletics university in Karlstad, coach and biomechanical performance diagnostic in Karlstad Ulf Karlsson, team manager 2000 to 2004, initiator of the Coach Project, today personal coach of Kirsten Belin and Mikael Jakobsson Agne Bergvall, coach in the athletics gymnasium Växjö, coach of Kallur sisters, Karolina Klüft, and several other athletes Johnny Holm, coach and father of Stefan Holm Christian Augustsson
NSF	Morten Schenfeldt, head of marketing, Norwegian Olympic Committee and Confederation of Sports (NIF) Prof. Brit Skirstad, head of Department of Cultural and Social Studies, Norwegian Sport University (NIH) Dr. Lars Tore Ronglan, Head of the coaching programme, NIH Nils Asle Bergsgard & Pål Augestad, socialologists at the Telemark Research Institute working on research project with OT, Bø	Ingrid Bahr, coordinator of support services, OT Oslo Hermud Bjørkestøl, leader of cross country committee, NSF Bjørnar Håkonsmoen, XC national team manager, NSF Kai Arne Ringen, former director of the NTG, Lillehammer Are K. Blyverket, manager of Lillehammer Ski Club Kristin Felde, secretary general of the NSF Erling Rimeslaaten	Alex Wisnes, head of technique diagnostic unit at OT, runs OT site in Bergen Prof. Jostein Hallen, leads the endurance diagnostic group of OT, head of the Department of Physical Performance at NIH, Oslo Atle Kvålsvoll, coordinator for endurance sport at OT, runs OT site in Trondheim, organises education programme for top coaches at OT, cycling coach	Per Nymoen, coach education officer, NSF Atle Kvålsvoll Erling Rimeslaaten	Erling Rimeslaaten, lifestyle support administrator, Olympiatoppen (OT), organises education programme for top coaches at OT	Erlend Hem, physiological performance diagnostic, NIH & OT Vidar Jakobsen, biomechanical performance diagnostic, NIH & OT	Atle Kvålsvoll, National team coaches	Anette Gjerjkaug, athlete student advisor, University College, Lillehammer Most coaches	Jon Anders Gaustad, men all-round team B skier Ellen Gjømle, women all-round A team skier Kristen Skjeldal, men all-round team skier, on the team for 15 years	Morten Aa Djupvik, national team coach, men all-round B team Ulf Morten Aune, national team coach, men sprint team Svein Tore Samdal, national team coach, women all-round team Torbjørn Broks Petterson, coach in skiing gymnasium Lillehammer (NTG) Jon Arne Schjetne, junior national team coach Jan Muren, club coach

Table 4-5: Documents used in the preparation of the SAA case study report

Author	Title/ Description	Content	Access
Janne Carlstedt	Presentation handouts used during the interviews, describing organisational facts and figures about the Bosön training site, the SISU sport education organisation		Janne Carlstedt
CHEPS - Centre for Higher Education Policy Studies	Student financial support - An inventory of 24 European countries	Information about the extent and conditions of the Norwegian and Swedish student loan programme	Erling Moe, from the Lanekassen Office, Norway
Government Office of Sweden	Sport	Official statement of the Swedish government concerning sport and the governmental support of sport	www.sweden.gov.se
Maik Großekathöfer (2004)	Die Siebenkämpfering Carolina Klüft führt eine starke schwedische Mannschaft an	Interview with Carolina Klüft and other core individuals from the SAA before the 2004 Games	www.spiegel.de
Lennart Julin (2005)	The Swedish winning method of Agne Bergvall	An interview of Agne Bergvall about his coaching methods	IAAF Magazine /2005
RF - The Swedish Sport Confederation	Financial situation of the RF 2004	Overview of the flow of financial resources in and out the RF	Lennart Karlberg
RF	The Swedish Sports Confederation	Overview of the organisation of sport in Sweden	www.rf.se
RF South - Malmö Project Team	Malmö Idrotts Akademi - ELIT	Description of a pilot project of a multi-sport elite sport support programme in Malmö	Michael Johansson
SAA	Annual Report 2004	Statistical overview for the IAAF - Standard annual report	Lennart Karlberg
SAA	Annual Report 2004	Official annual report for the SAA members, including details about financial situation	Lennart Karlberg
Hartmut Sandner	Olympiastudie 2000 - Schweden	Case study report about the Swedish elite sport system - not sport specific	http://www.iat.uni-leipzig.de
SOK - The Swedish Olympic Committee	SOK Magasin 2/2005	Overview of expenses for the different special sport federations the SOK supports (2000 to 2004)	Peter Reinebo
SOK	Utvärderingsrapprt SOK: eliteprogram 1998-2004	Report about the SOK elite sport programme	Peter Reinebo
SOK	Olympisk Offensiv 2005 - 2012	Strategic plan for the development of the SOK elite sport programme for the next 7 years	Peter Reinebo

Table 4-6: Documents used in the preparation of the NSF case study report

Author	Title/ Description	Content	Access
Ingrid Bahr	Organisational structure of OT and financial information about OT		Ingrid Bahr
Alan Bairner (1996)	Sportive Nationalism and Nationalist Politics	Relation between Norway and Sweden	Journal of Sport & Social Issues
Augestad et al. (2006)	The Institutionalization of an Elite Sport Organization in Norway: The Case of "Olympiatoppen"	Description and discussion of Olympiatoppen on a meso level	Sociology of Sport Journal (2006)
CHEPS - Centre for Higher Education Policy Studies	Student financial support - An inventory of 24 European countries	Information about the extent and conditions of the Norwegian and Swedish student loan programme	Erling Moe, from the Lanekassen Office, Norway
Bjorn Daehlie	The hunt for gold	Biographies of the most successful winter Olympian and his experiences with the organisation of XC in Norway	Bjorn Daehlie, available via fasterskier.com
Bernard Enjolras et al. (2005)	Norsk idrett : organisering, fellesskap og politikk	Organisation of sport in Norway	Book
Erling Rimeslatten	Elite sport & out of sport activities	Description of OT's LSS policy	Erling Rimeslaatten
Ministry of Foreign Affairs	Sports in Norway	Role and organisation of sport in Norway	www.odin.no
NIF and Ministry of Culture and Church Affairs in Norway	Sport and physical activity in Norway	General information about the sport movement in Norway	NIF
NIF	Annual report 2004	Facts and Figures of the NIF	Morten Schønfeldt
NIF	Homepage	General information about the NIF and its development	www.nif.idrett.no
NSF	General report 2003 - 2005	Facts and Figures of the NSF	Kristina Felde
NSF	Strategic plan 2003 - 2007 for the NSF	Strategic aims and targets	Kristina Felde
NTG	NTG - The Norwegian college of elite sport	Overview of NTG network in Norway	Kai Arne Ringen, also www.ntg.no
Ømulf Seippel (2004)	The world according to voluntary sport organizations: voluntarism, economy and facilities	Organisation of sport in Norway	International Review for the Sociology of Sport
Stephen Seiler (1998)	Winter Olympics: A tale of two countries	Comparison of elite winter sport - Norway vs. Sweden	www.sportsci.org
Berit Skirstad (1999)	Norwegian sport at the crossroad	Organisation of sport in Norway	Sport clubs in various European countries, Heinemann (1999)

The evaluation of the scientific quality of the methodology used in this study links back to the discussion about its ontological and epistemological foundations as provided in sections 4.2 and 4.3. It was argued there that it does not seem appropriate to reject the classical criteria of objectivity, reliability or validity to evaluate the results of research which has been conducted under the paradigm of critical realism due to its positivistic elements and roots in the realist ontology. Due to its stratified view of the “reality” and as the concept considers that the relationship between structures and agents is interdependent and dynamic, critical realism indicates that the *predictive use of theory* in a positivistic sense [...] *is limited [...] because of the inability to create closure in social situations. This necessitates that any derived theory from social investigation can only indicate tendencies rather than provide clear predictions* (Dobson 2002, accessed 1.10.2004). As the results of social scientific research are therefore often *unlikely to be representative, average or generalisable* (Sayer 2000, p. 21), the classical quality measures should not be considered as pass or fail criteria in the context of research which is conducted under the paradigm of critical realism. It appears much more appropriate to consider objectivity, reliability, and validity as aspirational goals on a quality continuum against which academic research should be evaluated. In other words, it is the researcher's responsibility to make his or her work as objective, reliable, and valid as possible based on the conditions faced, such as the research questions, available resource methods, and other resource restrictions.

The research which has been carried out for this thesis can be differentiated in terms of the three main sub-phases. In each phase, attempts were made to increase the objectivity, reliability, and validity by introducing specific interventions, following defined protocols, and documenting the conducted steps.

In the Preparation Phase

In an attempt to improve the objectivity and reliability of the selection procedure, the criteria used for the Benchmarking Subjects and Objects were based on an extensive review of the available literature and were confirmed following a debate by the expert panel. The subsequent development of the interview guideline also based on this literature also improves the objectivity of the study.

In the Data Collection and Processing Phase

As a result of the clustering concept of the different types of interviewees, the triangulation system, the extensive data collection, the personal experiences made during the on-side visits, and the iterative use of NUDIST, it was likely possible to develop a detailed, clear, hence objective and valid understanding of the nature of the processes which are conducted by the two Benchmarking Subjects, as well as the origin of these practices. This was confirmed through respondent validation by interviewees who commented on different elements of the case studies reports they were provided with.

In the Comparative and Analytic Phase

The key factor for the quality which could be achieved for the comparative-analytic question of this research was the validity of the results of the data collection and processing phase – i.e. the accuracy of the two case study reports. As indicated, these reports included not only the description of the practices the two Benchmarking Subjects apply, but also considerations about the origin of the observed practices, as it was also investigated if they resulted from conscious management decisions or if they developed due to specific factors which were unique to the environment the two investigated organisations are embedded in. Due to the high level of detail of these reports and their analytic parts, as well as their accuracy, which has been confirmed through the mentioned respondent validation, it can be considered that these provided the required foundation to develop results of a sufficient quality concerning the comparative elements of this research.

4.6 Summary

This chapter introduced the research strategy and methodology that allowed the aims and objectives, which have been developed for this research, to be achieved. These considerations were followed by a general discussion of the possible philosophical positions and methodologies which could underpin this thesis as well as the selection of the specific methods which were applied in the actual data collection and processing phase of this research. The former considerations also defined the quality standards this thesis aspires to fulfil – those standards the results of this thesis should be benchmarked against.

Based on these considerations it is now possible to present and discuss the actual result of the thesis - the results of the application of the methodology and methods which have been suggested in the course of the discussion in this chapter.

5 General Situation of SAA and NSF – Description and Comparison

This chapter contains a general description (section 5.1 and 5.2) and comparison (section 5.3) of the two Benchmarking Subjects. The aim is to provide first of all an overview of the sport environment the *Svensk Friidrott*, the Swedish Athletics Association (SAA), and the *Norges Skiforbund*, the Norwegian Skiing Federation (NSF), are embedded in. In a second step, the actual organisational design and the economic situation of the two sport federations will be outlined and compared. This information is required for the actual comparative and analytic part of this thesis as it describes the macro and meso-level context the NSF and SAA are confronted with. Only a general understanding of these strategic structures will make it possible to describe, discuss, and compare the actual process and structures which are applied in the two sport systems.

It must at this point be emphasised that this chapter provides only a broad overview of the general design of the two investigated sport systems. As the focus of this research is the specific nature of the operational processes that are applied in the support of Norwegian elite cross-country skiers and Swedish top athletics athletes, this chapter does not include detailed information concerning the general characteristics of the sport systems in the two Scandinavian countries and the current issues they face.

5.1 The Organisation of Sport in Sweden

A number of organisations and institutions can be identified which guide and support the Swedish sport movement.

The Swedish sport movement is in general represented and steered by the *Riksidrotts Förbundet* (RF), the Swedish Sport Confederation. In total, the RF represents today about 29,000 clubs from over 67 different special sport federations which include Olympic as well as non-Olympic sports. Even though the RF has staff members who are partly responsible for the development of performance sport and support of elite sport, the organisation's prime responsibility and focus is the promotion of sport as a mass movement.

The Swedish Olympic Committee (SOK) is the organisation in Sweden responsible for all Olympic affairs. Thus, the SOK supports those athletes who are going to the Olympic Games. It is thereby important to stress that the SOK is exclusively concerned with the support of those athletes who compete in Olympic sports and who have a true potential to succeed at the Games, i.e. athletes who have the chance to make it to the finals. With about 200 athletes (including winter, summer, and team sports) the SOK support programme is relatively small and should not be considered as a comprehensive and extensive talent identification and development scheme.

The third organisation in the Swedish sport environment is the Swedish Sports Study and Educational Organisation (SISU). SISU offers support for the provision of the education programmes which are run by the different Swedish special sport federations and clubs. The education and support SISU offers is very broad and includes sport specific education for athletes and coaches as well as the provision of managerial content for leaders and managers in clubs and federations.

One of the areas where responsibilities of the three organisations becomes blurred is the National Sports Complex in Bosön, which is the main site of a network of eight (elite) sport support centres existing across Sweden. Even though the site in Bosön is for example owned by the RF, one of its main functions is to offer support for elite athletes. SOK supported or other national team athletes might use the medical and diagnostic support offered or stay in the apartments on this site. Its general design and infrastructure is comparable to other international elite sport support centres like the EIS site in Loughborough in the UK. Bosön hosts also the *Idrottsfolkhögskola* – the Swedish “sport (*idrott*) high school (*högskola*) for the people” (*folk*). This institution is owned by and financed through the RF, while its educational as well as administrative tasks are managed by SISU. Besides having the physical education infrastructure available in Bosön, the key advantage of this *folkhögskola* compared to normal SISU services is that it offers its support to a certain extent free of charge to the different sport federations in Sweden.

Figure 5-1 summarises the organisations which support and guide the Swedish sport movement.

Figure 5-1: Main institutions in the Swedish sport environment

Considering more specifically the support of high performance and elite sport, it has already been indicated that there are several institutions in Sweden from which athletes can get support in addition to the help they get through their sport federations or local clubs:

Swedish top athletes have for example access to the support the SOK provides. Even though this support is very extensive, the SOK does not however offer a support programme in the sense of a long term athlete development pathway. On the contrary, access to the support scheme is very restricted and only those athletes who are already top performers will be considered.

The National Sports Complex in Bosön and the other eight *Sports Development Centres* or "service stations" which exist across Sweden form a network of different training and support centres which all develop competences in different types of training (rowing vs. alpine skiing training infrastructure), diagnostic (strength vs. endurance testing competence), or research areas as most site are linked to regional universities.

Owned by the RF and financed partly by national and local government, these sites can offer a wide spectrum of sport science support service and training facilities for different sports. In Bosön there is even the opportunity to stay on the site. Any interested sportsman and woman can use the services the centres offer and it is a matter of the budget of the respective federation and the athletes performance level, as to who will pay for the services used. It should however be stated at this point that the impact of this support network on the SAA is difficult to evaluate. While examples can be found where individual athletes benefited, for example, from the medical support offered in Bosön, a number of interviewees indicated that most coaches and athletes in the SAA would not even know where the different sites are, let alone how they could use the services offered there. Martin Eriksson commented as follows:

But we do not have any formulised medical follow up, biomechanical follow up of any kind. The RF has about eight [elite sport centres]. There they are doing medical follow ups or what ever. But, I never went to one of these, I do not know where they are, and I do not know how I, as an athlete, should go about to get support or test from these sites.

A maturely developed element in the support infrastructure in Sweden which focuses on talented and dedicated young athletes is the network of sport orientated secondary schools called sport gymnasia. These schools give talented individuals between the ages of 15 to 19 the opportunity to combine their performance oriented training with gaining a conventional secondary school education. Today 61 national sport gymnasia exist in Sweden, seven of which cater for athletics. Apart from these, a number of regional solutions have also developed in recent years. While the national sport gymnasia are financed by the Swedish government, the regional gymnasia are based on agreements between local schools, communities, and clubs and focus on the support of individual athletes. While the gymnasia system is today a well-established element of the Swedish sport system, there are however also several problems related to it. The most fundamental one is that the support of the gymnasia system ends rather abruptly and as Kerstin Rosen from the SAA emphasised it ends unfortunately in a phase most crucial and decisive in a young athlete's development:

The problem is, that [the athletes] have 3 to 4 years very well supported: they get food, they train, go to school, etc. And then they suddenly have to take care of themselves. What is happening then? And this is when the boys and girls are 18 or 19, i.e. when life and sports gets more serious. So, we call this sometimes the big black hole, this is where the drop outs happen. (Kerstin Rosen)

Hence, several initiatives have emerged over the past years which try to transfer the concept of reducing the administrative hurdles of combining sport and education from the sport gymnasia system to the university level. Due to lack of centrally provided financial and political support, most of these are bottom-up initiatives. Athletics related examples are the athletics universities in Falun, Karlstadt, Umjö, and Vaxjö (solutions which focus exclusively on athletes in athletics) or a project of the RF South in Malmö and *Kampus Hornige* in Stockholm (both following a multi-sport approach). Martin Eriksson emphasised however that all of these initiatives are still in their early development stages and all but one of the listed projects lack any central support through the RF:

But the situation today is that you have these 7 [gymnasia] where you can go to go to school and train at the same time and at four of these sites you have these cooperations with universities. [...] These universities have agreed to allow special conditions for elite athletes. But I do not know how formal these agreements are. [...] I think it is pretty informal. I am not sure if it would hold in a court of law.

With or without special sport-related study programmes, the education system constitutes today the most important provider of lifestyle support in the Swedish sport system, unintended that is. This is first and foremost due to the extensive loan programme the Swedish government provides, but also to the fact that universities (as well as colleges) in Sweden have to provide special counselling teachers. Both, the loan programme as well as the counselling service are available for all students. Athlete students can however especially benefit from these advisors as these can help them develop suitable study plans. Although the situation is not without criticism, the impact of the education system as a substitute for a lifestyle support programme can hardly be overestimated in the Swedish performance and elite sport system. This point was noted by Per Jacobsen who noted:

But studying, I think, is the only way to get enough money and find enough time to do sport. To work is too difficult unless you would find a good part time position. But studying is the best way in Sweden.

Finally, the national service can also be to a certain extent an element of systematic elite sport support in Sweden and shall briefly be mentioned at this point. Even though the time in the army is rather short, it can constitute a useful bridge between school and university if an athlete is assigned to one of the few sport-orientated units.

Figure 5-2 summarises which organisations provide the athletes on the difference performance levels with support in the Swedish sport system.

Figure 5-2: (Elite) sport support institutions in Sweden

The most important resource of the Swedish sport movement is the voluntary work of its members. While voluntary work is the backbone of the Swedish sport movement in general, as well as that of the SAA in specific, several interviewees indicated that working with and depending on volunteers is not unproblematic. Anders Ryden indicated for example a current shift in the volunteer culture in Sweden: whilst the SAA is still able to recruit enough voluntary coaches for its clubs, he stated that people tend today to work as coaches in the clubs only as long as their children train there. Thus, the SAA and its clubs have currently to educate more coaches who are available for a relatively short period of time.

Besides this hardly quantifiable support, the state lottery, which is a special lottery owned by all Swedish voluntary organisations, sponsorship deals, as well as hosting sporting events are the most important sources for direct financial support for Swedish sport federations and clubs. The role of the different source might however vary from sport to sport. The national government also provides the RF as well as the SOK from time to time with financial grants.

These represent however in most cases short- and middle-term initiatives and should not be misunderstood as systematic, reliable, or long-term funding policies. However, the impact of governmental support on the community level is considerable. Local authorities appear to be rather supportive concerning the development of the sport movement as they build and host training facilities and competition venues for the local clubs. As Anders Borgström indicated, this takes away a heavy burden from the budget considerations of the club managers and coaches.

Table 5-1 summarises the main financial sources and areas of expense in the Swedish sport system.²

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² All sums in this thesis have been converted to British Pounds (Spring 2005) using *Oanda Classic Converter*, www.oandoa.com.

Table 5-1: Financial situation of the Swedish sport system

Financed by	Central Government (Budget in total: £60.86 mil.)	Local Authorities (Budget in total: £357.27 mil.)	State Lottery	Lottery of the voluntary organisations	Sponsorship Activities or Events	Other SOK Incomes (esp. Logo Marketing)	SOK Expenses
RF	Admin. £17.84 mil.						
SOK	Admin. £214 120 For general admin., distributed via the RF					£1.57 mil.	
	Others Travel expenses for going to the actual Games						
	Talent Programme £1.07 mil. To double the amount risen through the talent support sponsor programme				£1.07 mil. Special talent support programme		
Budget: £3.925 mil.							
Special Sport Federations	General £18.56 mil. To be shared between the 67 special sport federations						
	For Elite Sport in Olympic Sports (Winter and Summer Sports)						£3.164 mil.
	District Federations £1.713 mil. Distributed through the RF						
"Public" support Budget: £23.44 mil.							
Support of Local Sport Clubs	£71,37 mil. till 2007 £7.14 mil. in 2003 £14.27 mil. in 2004 £21.41 mil. in 2005 £28.55 mil. in 2006	£356.87 mil. Mostly for facilities, but also staff expenses for sport admin. and running the venues	£49.96 mil.	£38.54 mil.	depending on the situation of the different clubs		
Budget (exclusive sponsor deals): £460.05 mil.							
Sport Gymnasium - Example Karlstad	£59 240 for Karlstad £2.85 mil. in Total Distributed through the RF	£85 650 in Karlstad			£35 690 to £42 824		
Budget in Karlstad: £185 500							

(Sources: Anders Borgström, Björn Folin (SOK), Lennart Karlberg, SAA Annual Report, www.rf.se)

5.1.1 The Swedish Athletics Association (SAA)

Like handball, football, or ice-hockey, athletics is one of the traditional mass or *Folkssports* in Sweden and due to the recent successes of athletes like Stefan Holm and Caroline Klüft, athletics has a relatively strong position in the Swedish mass media. The *Svenska Friidrottsförbundet*, the Swedish Athletics Association (SAA), represents the athletics movement in Sweden. Table 5-2 provides a general overview of the size and organisational structure of the SAA respectively the athletics movement it represents.

Table 5-2: Organisation dimension of the SAA

M S e t t i n g s	Overall # of SAA staff members	15
	Among others, this includes:	
	Marketing Unit	1.5
	Youth Sport Unit	2
	Coordinator of Gymnasia, Kerstin Rosen	1
	Coach Education Officer, Anders Ryden	1
	Elite Unit - National Team Captain Thomas Enghahl and assistant	2
R e g i o n	# District Federations	21
	# (National) Athletics Gymnasia	7
	# Athletics University Projects (in development)	4 (Karlstad, Växjö, Umjö, Falun)
	# Athletics Related Multi-Sport University Projects (in development)	2 (Malmö, Stockholm)
	# Local Clubs	1000
A c t i v e	# SAA Members	300 000
	# Competitive orientated members	75 000
	# Athletes in national gymnasia	about 172
	# Athletes on the national team (total)	about 75
	# Athletes on the SOK Programme	about 11
	# Coaches in the national team (total)	about 50
	# Official National Team Coaches (see Coaching Project (CP))	about 15

(Sources: Thomas Engdahl, Lennart Karlberg, SAA Annual Report, Kerstin Rosen, Anders Ryden, www.friidrott.se, www.sok.se)

The non-sporting administrative affairs related to elite sport are managed by the head coach or national team captain in the SAA and his assistant. This is currently (2004 - 2008) Thomas Engdahl. They are supported in many areas by Anders Ryden who is responsible for the education of coach and athlete in the SAA.

The general size of the national team which Thomas Engdahl is responsible for, is difficult to determine as the number of athletes in the wider national team is a matter of constant change. It depends primarily on the respective competition schedule and the qualification criteria these competitions set. In the build-up for the European Championships in 2006 there were for example in the wider national team about 75 athletes. Only eleven of these were on the SOK support schemes.

As the home coach stays in the Swedish system with their athlete throughout his or her career, there are currently also about 50 coaches in the national team, but only about 15 of these would be considered as "official" national team coaches. This *team of coaches* will be referred to again in more detail in the context of the discussion around the Coaching Project (CP). These coaches work very closely with the national team captain and help him in the further development of the performance sport in the SAA environment as well as in the support of individual athletes. Kerstin Rosen described their role for example as follows:

Before Thomas, Ulf Karlsson was our national team captain and he established a network of about 20 coaches around himself – very important. And their main task was to look after the athletes, making sure that they in their clubs had all the best possibilities – whatever they required.

It is important to point out that most of these national team coaches are volunteers. In fact, since 2005 the SOK and the SAA have provided money to employ only two official athletics performance coaches: Agne Bergvall and Yannick Tregaro. This situation is obviously directly linked to the financial situation of the SAA.

Even though TV coverage has increased considerably over the past years, athletics is today still a relatively poor sport in Sweden compared to football or ice-hockey. Nevertheless, the SAA has developed a finance concept over the past years which allows the organisation to create about 70% of its income through its own market activities. Table 5-3 provides a basic overview of the finance sources and areas of expense of the SAA.

Table 5-3: SAA – Incomes and expenses

I n c o m e s	Self Funded (sponsors, events, etc.)	£2.32 mil, i.e. 69% of all incomes
	Public Funding	£820 790, i.e. 25% of all incomes
	SOK support (Top elite athletes)	£211 500, i.e. 6% of all incomes
	Total Budget	£3.35 mil.
E x p e n s e s	Elite Sport Expenses (including SOK support)	£1 mil., i.e. 36% of the Total Budget
	Youth Sport Expenses	£218 500, i.e. 8% of the Total Budget
	Admin. Expenses	£520 500, i.e. 19% of the Total Budget
	Marketing Expenses	£1.05 mil., i.e. 37% of the Total Budget

(Sources: Lennart Karlberg, SAA Annual Report, SOK Magasin 2/2005)

A most important, but indirect income factor for athletics in Sweden, which the table does not include, is the provision and the hosting of training and competition facilities through the local communities. As Ulf Karlsson indicated, considering the number of indoor training facilities which exist in Sweden today, this creates a significant structural advantage compared to other athletics systems:

I think we have got 35 [athletics specific and unspecific] indoor sport halls in Sweden – in Finland they have 4, in Norway 2 [...]. So we can train all over the year due to our good facilities.

Anders Borgström stated furthermore that as a result of the fact that his club and the athletics gymnasia in Karlstad would not have to pay for using and maintaining the training and competition facilities, they could invest all available resources in equipment and the further development of the coaches.

Concerning the general financial situation of the SAA today, it must be emphasised that the situation Table 5-3 expresses does not reflect the financial development the federation went through over the past 10 years. After hosting the 1995 World Championships in Gothenburg, the SAA was bankrupt. This bankruptcy was a severe shock for the SAA, the athletics movement in Sweden in general and its elite sport programme in specific. As Ulf Karlsson and Thomas Engdahl indicated, the SAA recovered only very recently from this shock:

Today, as the economic situation of the federation is getting better, the situation is getting better. During my four years as the national team captain [2004 to 2005] we had very small amount of resources. I think today we get 3 or 4 millions from Puma alone. (Ulf Karlsson)

This financial development explains also the importance of the voluntary work in and for the Swedish athletics movement.

5.1.2 Voluntarism And Amateurism – Driving Forces in the SAA

It has been indicated already that voluntary work is the driving force of the Swedish sport movement. Athletics is no exception. Anders Borgström stated even that being an athletics coach would in fact be much more than just an activity for a Swede to spend his or her time with:

[To be an] athletics coach in Sweden is not a job. It is a something what you do like a nurse or something like this. It is something like a calling.

Due to its financial development over the past ten years, volunteers dominate today the Swedish athletics movement, and this not only on the local club sport level but also on the national team level. As Peter Reinebo indicated, this has created over the years a very specific culture and atmosphere among the coaches in the closer and wider national team environment.

I think the spirit of the coaches is the key factor. The coaches work in their clubs, they work with these young athletes, they follow them, they develop with them – and they do not need to do it. And only very few of them can live on it. They do all this because they are interested in it, because they really want to do it – and it is a lot of work!

This might be in contrast to the situation in other countries where professional, fulltime coaches dominate the positions of performance, elite, or national coaches.

Not only is the status and atmosphere among the coaches unique in Sweden, but the attitude among the athletes towards their sport appears to be special. As the system is not able to offer any economic incentives, the Swedish athletes have preserved, according to Lennart Julin, the *old amateur ethos* and compete first and foremost for recognition of their personal performance while doing athletics because they enjoy the sport:

It is always important that you enjoy what you are doing. You hear Karolina Klüft who said that doing athletics for her is just fun. Now, when students apply for the gymnasia, they put into their applications that they want to be an Olympic Champion, a world record holder, etc.. And now you read concerning their plans for athletics: having fun! (Lennart Julin)

Being confronted with the situation of extremely short resources and while depending on voluntary coaches and amateur athletes, the staff in the SAA head office have had to develop and apply a rather sensitive approach in order to achieve the strategic vision of the federation, which is to develop athletics into *one of the dominating sports in Sweden* (Lennart Karlberg). Kerstin Rosen stated for example that the central office would delegate many responsibilities to the local clubs while providing the voluntary leaders with support and guidance rather than pushing them into one specific direction. This is important as:

If the people do not like working with and in their local clubs, they will drop it. So we have to help them keep the people happy and keep them in the clubs, support the people in the local clubs where we can. It is difficult to find a balance in a system where people are working voluntarily, where nearly nobody is actually employed. The balance is to be found between advising, listening and also sometimes to say yes or no. (Kerstin Rosen)

This general leadership philosophy of the SAA is also reflected in the elite sport support policy that the federation has developed and applied over the last years. Several interviewees such as Ulf Karlsson and Christian Augustsson summarised the general design of the elite sport support system which underpins the success the SAA enjoys today by stating that *the Swedish system is, that there is no system*. As the discussion in this thesis will show, it is however necessary to consider the term *system* in this context carefully as simply stating that the recent successes of the SAA athletes is a result of pure coincidence does not do justice to the consciously made initiatives which have been introduced by specific key individuals. For example, while this research showed that the SAA does not provide a conventional, top-down organised athlete long-term development pathway, it was on the other hand possible to show that the Swedes provide a series of systematic interventions to support any athletes and coaches who are about to gain international standard on an individual base in their home clubs. Anders Ryden stated for example as follows:

Our philosophy is to let the home team [athlete-coach] grow. And all others are supposed to support them in whatever way possible and necessary. That means when Stefan Holm wants to live at home, then we will support him at his home place. Then we have got Christian Olsson who travels six months a year. So we have to support him in a different way. And then we have the coach of these two athletes. Stefan's coach Johnny, his father, he needs other kind of support than Christian Olsson's coach, a young boy of 28 years, who can travel with Christian. [...] And we have to support that coach differently than Johnny Holm who works in a factory 8 hours a day. Both ways are good, they just need different kinds of support.

The Coaching Project, which was mentioned above, as well as the general collective atmosphere among the coaches, which will both be discussed in more detail in chapter six, are for example important elements of this support environment.

At the end of this general introduction of the case study of the SAA, it should be stated that the here described "system without a system" is, ironically, well developed and institutionalised in the Swedish athletics environment. Peter Reinebo summarised this support policy with the term *support from the side*:

The SAA and the SOK, we both thought that we should focus only on what is really functioning. We decided not to focus on disciplines where we did not have a tradition of success or where we did not have a potential athlete; we decided not to focus on clubs which are not working or not willing to cooperate; we decided not to focus on coaches who are not there. We decided to focus on [areas] where it already works – disciplines, clubs, coaches, etc. – and try to help them as much as possible. So we did not need to build a system which looked the same all over Sweden. We try to tailor make support for the different levels. That was the idea which was most efficient money wise.

Figure 5-3 summarises the factors which are considered to have created this support policy. These elements will be revisited in chapter six where they are contrasted against the factors which developed a similar culture in Norway.

Figure 5-3: Factors creating the elite sport support policy in Sweden

	<p>General Swedish Society Liberal (e.g. antiauthoritarian) and socialist (e.g. strong tradition for volunteerism) traits.</p>
	<p>Swedish Sport System Traditionally independent from government and economy, driven by enthusiasm and managed by voluntarism; besides the SOK, no strong tradition for centralised supported elite sport</p>
	<p>Swedish Athletics Association (SAA) - General Typical representative of the Swedish sport system with a strong voluntary club culture; PLUS: severe economic crises in 1995.</p>
	<p>SAA – Attitude of Coaches and Athlete Being a Swedish athletics coach is more than a job, it is a calling; athletes do their sport to have fun, they compete for the recognition of their performance</p>
	<p>SAA Talent Development Support in the past 10 Years Support for athletes depends on the initiative & innovativeness of local coaches and clubs The success despite the lack of centralised support gave confidence & formed a new rhetoric: Successful Elite Sport Does Not Require A Lot of Money Nor Centralised Support!</p>
	<p>Characteristics of the Elite Sport Support in the SAA Milieu Today</p> <ol style="list-style-type: none"> 1. Athlete work exclusively with their home coach in their local club up to the national team level and are supported there by the SAA or SOK. 2. The little SAA & SOK support is offer to instead of forced upon athletes and coaches. 3. Communication between the SAA & SOK and athletes & coaches is among equals, it is support from the side. 4. This laissez-faire attitude, the lack of a pro-actively, formally regulated support concept often leaves the impression that the Swedish model is a system without a system.

5.2 The Organisation of Sport in Norway

The general sport movement in Norway is represented and organised by the *Norwegian Olympic Committee and Confederation of Sports* (NIF). This organisation was founded in 1996 after the Norwegian Sport Confederation and the Norwegian Olympic Committee merged. The NIF's formal link to the Norwegian government is through the Ministry of Culture and Church Affairs on the national level. On the regional and local level clubs, sport councils and district federations work together with the local communities. The governmental interest is thereby primarily the support of the sport for all movement (www.odin.no 21.02.2006).

Considering the context of this study, the year 1990 constitutes a decisive step in the development of the Norwegian sport movement as it was the year when the *Norwegian Olympic Committee has been given the operating responsibility for elite sport in cooperation with the national sports federations* (Skirstad 1999, p. 277). This led to the formal establishment of one of the unique features of the Norwegian sport system: *Olympiatoppen* (OT), which is the general elite sport support unit in Norway.³ Primarily due to the long time it has existed, OT has today a very mature position in the Norwegian sport environment and could develop several strong relationships and cooperations with other organisations in and outside the Norwegian sport system. For example, when considering lifestyle as well as sport science support matters, the staff of OT could develop close cooperation with several Norwegian universities through which research projects can be carried out or which allow student athletes special study conditions. Thus its design, its working routines, as well as the actual impact this support institution had and has on the success of the Norwegian cross-country skiing national team is of greatest interest for this thesis.

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³ Augestad et al. (2006) indicate that the origin of OT could go even further back in time. This is not further investigated in this study. It suggests however that a systematic, centralised support of elite sport has a strong and long tradition in the Norwegian sport system.

Figure 5-4 provides a general overview of the Norwegian sport system and its main institutions. Several interviewees indicated that the central sport organisations - the NIF, OT as well as the major sport federations - are in Norway relatively strong and powerful units compare to the local clubs. Jon Lars Tore Ronglan stated for example:

I think that the federations in Norway are quite strong organisational units. OT and the NSF, the football federation, the handball federation, etc. – they are quite strong federations compared to the clubs and individual trainers or athletes.

Considering the discussion about the relationship between the SAA, its clubs, and the individual coaches and athletes, this appears to be an important structural difference between the Norwegian and the Swedish case.

Figure 5-4: The Norwegian sport system - General overview

OT provides more or less the complete spectrum of support services identified by Digel et al. (2003a), Green and Oakley (2001), and SIRC (2002 and 2003) as essential for an up to date elite sport support system. Originally, OT consisted only of one training and support centre in the outskirts of Oslo.

Next to the Norwegian Sport University (NIH), the NIF built a site which offers support and training opportunities primarily for those 150 - 250 Norwegian top athletes⁴ who are officially supported by OT. However, as the supported athletes are exclusively selected based on their achieved competition results, OT should not be considered as an extensive talent development programme.

The OT staff members appear however to be relatively flexible with the provision of their services. Not only can the sport federations *buy* OT support services for their other national team members, but Jan Muren, a volunteer coach from one of the clubs in the Oslo area, pointed out that the OT staff were, according to his personal experiences, very approachable and open to giving advice to any interested sportsmen or women no matter their performance standard:

Last autumn, my daughter who is 14 had a hip injury and problems with skating on roller skis. Then I called one of the guys who were on this seminar a year ago. [...] And I ended up in OT with a physiotherapist from there who used to work for the national team XC. To get such access to such top people without paying a lot of money, without telling lies about how important you are, [...] to have access to top people for a normal bottom level skier – that is marvels. Both for the motivation as well as for the treatment which was very good.

OT is run by approximately 20 fulltime staff members and about 40 to 50 individuals who are working part-time for OT or on an on-demand base. Key staff members in the organisation are today three special discipline coaches (SDCs) who were appointed based on their strong personal background and reputation in practicing sport and coaching. OT has divided the different sports it supports in three categories: endurance, technical, and team sports. For each of these categories there is one SDC appointed and paid for by OT. The SDC for endurance sport is Atle Kvålsvol who has been a professional cyclist himself as well as the national coach of the Norwegian cycling team. Currently, besides his role in OT, he coaches Thor Husdovd, the winner of the Green Jersey of the 2005 Tour de France.

These SDCs act on the one hand as consultants for the coaches from the different sports as well as mediators between the OT service providers and the different sports. Ingrid Bahr indicated for example:

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⁴ About 150 individual athletes plus several team sport projects.

We have divided [the sports we support] into endurance sports, technical sports and team sports. And we have one special coach for each discipline who is our men in the different sports. [...] Then they together [with the coaches of the special discipline] decide if they need e.g. a nutritionist in the team. And then we would provide this service and Atle would organise this here in the house.

Due to the size of the country, it was decided to develop, besides the central OT site in Oslo, also a network of regional sites in order to support athletes in other areas of Norway as well. There are three regional sites developing today: Bergen, Trondheim, and Tromsø. These locations have been selected as they offer:

- For OT a university environment which allows research and development projects the Oslo site cannot cater for;⁵
- For the athletes an appropriate training and diagnostic infrastructure;
- For the athletes the opportunity to study parallel to their sporting activities.

Even though it has been considered more or less from the very beginning of OT to be important not only to rely on the central site in Oslo, the development of a network of regional sites of equal size and quality has not yet been achieved, primarily due to resource restrictions.

Most interesting is the way the different regional sites are linked to the central OT site. Erling Rimeslaatten indicated that the management of OT developed a "concept of personal unions" as the three leaders from different regional sites have key positions at the OT site in Oslo in addition to their responsibilities in the districts. As Erling Rimeslaatten described, the leader of the OT site in Bergen (Alex Wisnes) is in Oslo for example responsible for the technique diagnostic unit and the leader of the site in Trondheim (Atle Kvålsvoll) is the SDC for endurance sport in OT as well as jointly responsible for the development of a new coach education scheme:

There is one person responsible in each region. And the persons responsible in Bergen and in Trondheim have also a job here – part of their work is here in Oslo. So you have the link from Trondheim to here through that person. He is working fulltime for OT as the responsible coach for endurance sport – that is one part of his job. The other part is that he is responsible for that centre in Trondheim. And the guy who is responsible for the regional OT in Bergen is responsible for technical sports here in Oslo.

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⁵ A waxing study has for example been conducted for OT at the technical orientated university in Trondheim (Morten Schønfelt)

Figure 5-5 summarizes the general characteristics and key information about the OT system, such as the strategic aims and vision statement according to which the OT staff works, its regional structure, and its general service portfolio. As it is indicated in the lower left corner of this figure, OT is however neither free from criticisms and conflicts, nor general organisational problems. The latter refers to the lack of financial security which prevented for example a quick and balanced development of the regional support infrastructure. However, the key criticism OT faces today is based mainly on political conflicts between OT and the stronger sport federations like for example the Norwegian Skiing Federation (NSF). Here, it is on the one hand discussed based on what criteria resources and services are distributed to the different sports. Even more problematic as well as fundamental seems however to be the discussion about who can claim what credit for the sporting successes Norwegian athletes achieve (Augestad et al. 2006).

Figure 5-5: OT - A general overview

In addition to these general considerations, Figure 5-6 provides an overview of the internal organisation of OT.

Figure 5-6: OT - Organisation structure of OT

Another major element in the elite sport support infrastructure besides the OT system is the network of sport-orientated colleges (gymnasia). This is, like OT, not directly organised through the sport federations themselves but partly by the national education system. For interested and talented young skiers (15 to 19 years old) there are currently three public and two private sport gymnasia which provide them with the opportunity to combine a secondary school education with age group specific cross-country skiing training. Both types of gymnasia are linked to the Norwegian national education system and are partly funded through the Ministry of Education and the tuition fees of the respective pupils.

Similar to the recent developments in Sweden, there are also local solutions emerging between communities, schools, and clubs, in the regions. This is meant to reduce the relatively high social costs for the young skiers which moving to one of the five central schools constitutes.

It is however not only the school system which has to be considered as an institution which provides the Norwegian sport system indirectly with support. The university system is most crucial. Like in Sweden, athlete students in Norway can finance their sporting and non-sporting lives through the extensive loan programme the Norwegian government offers, as long as they study successfully. Also similar to the situation in Sweden is counselling teachers who are available at schools and universities and can provide advice as to how to develop an appropriate study schedule to combine academic development with the training and competition schedule.

Different to the situation in Sweden is however that OT has already transferred the concept of sport-appropriate education conditions successfully from the gymnasium to the university level. As a consequence a rather extensive and formally organised network of universities exists today which provide education programmes that allow athletes to combine studying with doing their sport. As OT organises and hosts this network, the study programmes are available for athletes from all sports. Even more important is however to stress that these programmes are not only accessible for athletes who are already at national team standard but can also be available for those who are still developing.

Figure 5-7 summarises which organisations provide the athletes at different performance levels formally with support in the Norwegian sport system.

Figure 5-7: (Elite) sport support institutions in Norway

The voluntary work of its members is the most important resource for the Norwegian sport movement (Skirstad 1999, Seippel 2004). Enjolras et al. 2005 (p. 49) suggest that the amount of voluntary work exceeds paid work in Norwegian sport clubs in general by 8:1 to 14:1. However, the dependency on volunteers is in the Norwegian sport system (Seippel 2004) as well as in the Norwegian cross-country environment (Are K. Blyverket, Kristin Felde) also considered with certain caution. Changes in the national volunteer culture are for example considered to pose a general threat. The discussed concerns and problems, like increased *turnover among the volunteers* in the clubs (Seippel 2004, p. 229), appear to be very similar to those observed in Sweden.

The provision of training and competition facilities by local communities constitutes another important element of the foundation of the Norwegian sport system. As Skirstad (1999) indicated, the provision of sport facilities is in Norway in general considered as the responsibility of the government, i.e. the local communities, while the non-governmental sport organisations (the NIF, the sport federations, and especially the local, voluntary-work based clubs) are responsible for the actual organisation and development of the sport movement as such.

In terms of the provision of direct financial support, the most important source for financial assets for the NIF and the different national federations is the national lottery. In 2004 this state-owned lottery provided the NIF with nearly £30 million. Another important source for income for the general Norwegian sport movement constitutes the sponsorship deals of the NIF as it owns the marketing rights for the Olympic symbols in Norway since the merger between the sport confederation and the Norwegian Olympic Committee in 1996.

The general financial streams are administrated by the NIF. The confederation receives the lottery money, the income from sponsorship deals, as well as governmental grants and redistributes it again to the different sport federations based on a set of defined criteria. A major share of the lottery money is for example redistributed directly to the different federations considering mainly their number of members. Another share of the lottery money is reserved for the promotion of youth sport and the different federations can apply at the NIF for shares of this budget to support their children and youth sport projects (Enjolras et al. 2005). And one part of the lottery money is put in a fund for facility (re-) development projects. This was highlighted by Morten Schønfeldt:

Clubs can apply for grants from a special pool of money which is reserved for the support of projects for new facilities

While the main share of lottery money is in Norway dedicated to the support of the mass sport movement, a fixed split of this money, about £5.6 million p.a., is reserved for the support of elite sport – it finances OT and its activities. In addition to this guaranteed annual budget, Morten Schønfeldt indicated that many sponsors of the NIF provide their money specifically to support OT and Norwegian elite athletes. Even though the amount of sponsorship money varies each year, this can increase the annual budget OT has access to.

Besides the money the NIF distributes to the federations, additional important sources for income for the different sport federations and, in particular, for the local clubs are the fees of their members and their own commercial activities such as organising sponsorship deal or hosting events (Are K. Blyverket, Skirstad 1999, Enjolras et al. 2005). However, the role these different sources play varies from sport to sport. Skiing or football clubs are for example more likely to find local, regional, or national sponsors than other sports in Norway.

Table 5-4 summarises the general financial situation of the Norwegian sport movement.

Table 5-4: Financial situation of the NIF

Sources & Areas of expense		Sum
Major sources	National Lottery - Mainly for mass sport development and provided through the Ministry of Culture and Church Affairs	£ 29.68 million
	Special National Lottery Support Exclusively for youth sport programmes (included in national lottery budget)	£ 3.64 million
	Sponsorship deals	£ 3.32 million
	Grants from the national government (like the Ministry of Health) or other governmental institutions (like the Norwegian Development Agency)	£ 2 million
Total Budget in 2004		£ 54,76 million
Major expenses	Direct support to the different sport federations:	£ 34.24 million
	National Federations (Særforbund)	£ 17.88 million
	Regional Confederations (Idrettskretser)	£ 3.27 million
	Direct support to groups/clubs	£ 10.5 million
	Others	£ 2.59 million
	Olympiatoppen - Fixed Annual Share	£5.6 million
Major expenses	Olympiatoppen - Varying Sponsorship Money	~ £0.77 million
	Olympic Games Salt Lake 2003 and Athens 2004	£ 0,86 million
	Support of Facilities	£ 0,87 million

(Sources: Ingrid Bahr, Morten Schønfeldt, Kristin Waag and Vigdis Thingelstad, controllers in the NIF)

5.2.1 The Norwegian Skiing Federation (NSF)

The *Norge Skiforbundet*, the Norwegian Skiing Federation (NSF), is the second largest sport federation in Norway.⁶ Table 5-5 provides key figures about the structural size of the NSF and in particular, the cross-country section within this organisation.

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⁶ It should be stated for the reader who might be unfamiliar with winter sports that the NSF is not exclusively responsible for the development of cross-country skiing in Norway. Even though cross-country skiers are with 77% (i.e. 153,000 paying members) the biggest group in the NSF, the organisation caters also for Alpine Skiing, Ski Jumping, Nordic Combined, Freestyle, and Telemark Skiing.

Table 5-5: Organisational size of the NSF

S t a f f	Overall # of people NSF pays for (part & fulltime employed, consultancy contracts, lecturers in seminars, etc.)	350
	# parttime & fulltime employed staff and service members at the NSF	150
	# fulltime staff members in the NSF	about 100
	# NSF fulltime staff members in the head office in Oslo	45
	# fulltime admin. staff in the district federations (PLUS: coaches they have employed)	22
	In the NSF Head office	
	General administration	8
	Coaches in total in the head office	35
	Medical support staff (mostly part-time base, seasonally working) in the head office	30
	Technical service and support staff (mostly part-time base, seasonally working) in the head office	15
M e m b e r s	The XC Unit in the head office, i.e.	5
	Coach Education & elite sport, Per Nymoen	1
	Elite sport, Bjørnar Håkensmoen	1
	PLUS: National team coaches	6
	# District Federations	19
	# (National) Ski Gymnasia	3 public ones (11 coaches) 2 private ones (3 coaches)
	# Elite Athlete University Projects (in development)	Several project initiated through OT; Most developed one in Lillehammer
	# Local Clubs	1140
	# NSF Members	195,000
	# of XC skiers (77%)	153,000
A c t i v e	# of "ski forening"	50,000
	# of people skiing once or more a year	2,000,000
	# Competitive orientated members	3900 (between 12 and 50)
	# Athletes in gymnasia (3 public + 2 private)	153 (118 + 35)
	# Athletes on the national team (total)	39 = 27 senior team + 12 JNT
	# Athletes on the OT A Programme	9
	# Athletes on the OT B Programme	6
	# Athletes on the OT Talent Programme	6

(Sources: Hermod Bjørkestøl, Kristin Felde, Bjørnar Håkensmoen, Per Nymoen)

The NSF represents 153,000 cross-country skiers, nearly 4,000 of which are considered as performance orientated. The cross-country section in the NSF office is managed by 5 administrators and 6 fulltime coaches. One of the administrators is the national team captain, Bjørnar Håkensmoen. As Hermod Bjørkestøl indicates, he is responsible for all non-sporting matters of the national team and especially the day-to-day liaising with OT:

Bjørnar is the chief of cross-country sports, the medical support team, and the waxing team. He is also in daily contact with Atle Kvålsvoll who is responsible at OT for the endurance sports. They have their day-to-day contact with each other.

The national team captain works closely together with Per Nymoen who is primarily responsible for the education of club coaches. The link between these two individuals in the NSF office appears to be very important as the NSF has blurred successfully the line between club and national team environments through their cooperation and the education programme they have designed together. This has been confirmed by some of the interviewed coaches, such as Jan Muren and Torbjørn Broks Pettersen as well as by Kristin Felde:

Bjørnar and Per [...] have a shared responsibility. Bjørnar for all elite sport and Per for all sport under national level – all kind recruitment and education activities, working with the district federations and the employees in the districts to get more activities in the district clubs.

In addition, due to the strong economic foundation cross-country skiing enjoys in Norway, the NSF has its own network of specialists and support staff members besides those provided by OT. As Table 5-5 indicates, the majority of these support staff members are waxers or medical specialists who work, according to Hermod Bjørkestøl, on a part-time or demand basis for the NSF.

We have got two doctors, working half time each. And then we have two others who are working for us on a day-to-day base. They have their own practice.

Table 5-6 provides an overview of the financial situation of the NSF. The NSF had in the past years an annual budget of about £15 million. The cross-country section itself has an allocated budget of about £2.15 million which is spent mainly for the support of elite sport (£1.71 million). £0.43 million are spent for mass sport development and coach education.

Table 5-6: Financial situation of the NSF

Sources & Areas of expense		Sum
M a j o r s o u r c e s	National lottery - Mainly for mass sport (via NIF)	£ 0.94 million
	Slot machines licences - Mainly for youth & mass sport (changing)	£ 6.5 million (less than £0.43 from 2006 on)
	Support from international federation (FIS)	£ 0.22 million
	Direct financial support from Olympiatoppen - Exclusively for elite sport	£ 0.19 million (£ 43,310 for XC)
	Hosting events	£ 0.63 million
	TV licenses	£ 1.55 million
	General Sponsors - Mostly for elite sport	£ 3.15 million
	Ski Pool (equipment providers) - For elite sport	£ 0.95 million
	PLUS: Equipment from the members of the equipment pool—	
Used budget/expenses in 2005 (Does not include savings the NSF built up)		£ 12.19 million
M o r e i n e x p e n s e s	General Admin.	£ 1.33 million
	Event management	£ 2.24 million
	Organisation & Development	£ 1.41 million
	Elite sport in general (All 6 national teams)	£ 5.08 million
	Recruitment in each discipline	£ 1.42 million
	XC unit - Total budget	£ 2.17 million
	Cross-country unit - National team budget	£ 1.73 million
	Cross-country unit - Coach education & recruitment	£ 0.43 million

(Sources: Hermod Bjørkestøl, Per Nymoen, Bernt-Olav Rottingsnes)

A substantial threat to the financial situation of the NSF is a change in the Norwegian slot machine market. For the past years, 43% of the NSF's income has come from licences for slot machines which the Norwegian government issued to the different sport organisations. From 2006 on, this income has decreased by 90%. (Kristin Felde). Hence, the NSF tried to build up savings from past income.

It is at this stage also important to considering that the NSF *was practically bankrupt* (Ulf Morten Aune) after the 1994 Games in Lillehammer. While Table 5-6 might indicate that the federation managed to recover from this economic shock quickly, it is for the context of this study most interesting that despite this economic problem, the sporting success of Norwegian cross-country skiers did not decline after the Lillehammer Games.

In the interviews with Jon Lars Tore Ronglan and Kristin Felde it was thereby discussed that this economic shock might in fact have been an important episode in the development of the Norwegian cross-country skiing environment, in particular for the development of the culture within it. Despite the general economic potential the Norwegian cross-country skiing market offers, this development can be considered to have helped to preserve a specific culture in this sport environment which is characterised by a strong team spirit among athletes and coaches in the national team and the close link between the voluntarily organised mass sport and the financially supported elite sport. After Lillehammer neither the NSF nor OT would have been able to organise a comprehensive squad system and since this task had to be left with the volunteer-based club infrastructure, this required the development of an appropriate interaction between the club sport and top sport environments. That these considerations are still on the agenda of the NSF will be further discussed in the next section, however, the NSF looks rather optimistically ahead to the economic challenge of the expiring slot machine licences. Kristin Felde commented:

That is what we tell them all the time now, that it is possible to make good results with less money. And we are now going into a period with less money. And everyone knows that so we have to work even closer, even better and use every single coin better than we did before: always think how you use it and why you use it.

5.2.2 Strategic Vision – The Striving Aim of the SAA

The management of the NSF has a set of strategic aims along which they would like to see their organisation to develop in the future. For the cross-country unit, Hermod Bjørkestøl summarised these strategic aims as a simple vision to have *many happy and skilled skiers* while he stressed that this would for him refer to both, *being good on the top* [i.e. in elite sport] *and the recruitment of many people*. The implied conviction that success at the top level is interdependently linked with the development of sport as mass movement, appears to be deeply integrated in the policy of the NSF as the head of the cross-country skiing section also argued as follows:

The mass is actually the bases. I would like to have a net all over Norway to take care of the talents, finding the talents. [...] And all the talents should know, that if I enter the cross-country sport there is a possibility for me to become world or Olympic Champion. Every athlete should know that. That is for me very important. (Hermod Bjørkestøl)

The recruitment of new skiers as well as keeping skiers of all performance standard in the sport is traditionally considered as to be the responsibility of the local clubs and their voluntary coaches and administrators. The residual key task of the NSF and the staff members in the offices of the district federations is understood to be to support the clubs and their members on this matter. Hermod Bjørkestøl described this approach of shared responsibilities as follows:

It is normally the clubs who work with the skiers. So, what are the clubs doing? They recruit youngsters and they teach them, teach them to train, to organise event, to develop venues. That is the main tasks of clubs and they need some support. There the district and the national federations support the clubs. That is the way we think we reach our vision. (Hermod Bjørkestøl)

A major initiative the NSF has introduced in the past years to serve this aim is the *Competence Programme (CoPo)*. While the general target of this initiative is considered to bring the local clubs and the central federation - the mass and elite sport even closer together - one of its elements is the organisation of specific “training hubs” across Norway. As Hermod Bjørkestøl described, performance orientated athletes are regularly supported at these hubs in their training by national team coaches:

Under the national team we have now three or four environments where the best athletes who are not in the national team can be together to study and train together. So these are normally related to universities. So they can study and train together and we now also organise some training there.

This allows ambitious and interested skiers to conduct their training at the highest possible level while not having to leave their home, club, working, or education environment.

5.3 Comparison of the SAA and NSF Environments

This section will outline where differences and similarities lie between the general Norwegian and Swedish sport environment. The discussion will include a comparison of the general organisation of the two sport systems, an investigation of the general elite sport support environment in both Scandinavian countries, as well as an analysis of the general structural and economical situation of the NSF and the SAA.

5.3.1 Norway vs. Sweden - The General Sport Environment

Both Scandinavian sport system show several fundamental similarities concerning their macro level structures. Both are confederation-based systems; both show low governmental involvement; both are lottery-funded; both are heavily dependent on voluntary work; and both show a strong emphasis on sport as a mass movement.

Despite their formal independency from their respective national governments and their dependence on lottery money and voluntary work, in both countries the sport movement is more or less regularly supported by governmental grants. For example, the Swedish government provided, between 2003 and 2006, the RF with a total grant of over £70 million. Such support appears in both systems however to be provided on a rather irregular base or its extent appears to be relatively marginal. It is also focused mainly on the support of the sport-for-all movement and targeted to secure the independency and further development of the sport movements as a voluntary-based one.

Also similar in both countries is the importance of the financial support with which local authorities provide the sport movement. In both countries a more or less formal agreement exists that the provision of sport facilities are the responsibility of the public authorities while the non-governmental sport organisations (especially the voluntary-organised local clubs) have the duty to organise and develop the sport movement as such.

In terms of the infrastructure which is available in Norway and Sweden for the support of elite sport there are several parallels. There are, however, also rather fundamental organisational and political differences concerning the details of the Norwegian and Swedish elite sport support programme.

In Sweden as well as in Norway, the National Olympic Committees are traditionally responsible for the support of elite sport. While the NIF represents the Norwegian Sport Confederation as well as the Norwegian Olympic Committee, the RF and the Swedish Olympic Committee (SOK) are two separate and independent entities. As the RF's prime focus is the support of mass sport activities and the SOK focuses exclusively on the support of those individuals who are already top performers, Janne Carlstedt indicated that the Swedish sport system struggles today with the systematic support of those athletes who fall between both realms: those who are in their development process.

But it cannot stay like this I would say. In the next three years, we have to change that as well as the organisation of the top sport – the RF and the SOK, they have to do it together. As sometimes, [athletes] fall between the chairs. (Janne Carlstedt)

While this situation may explain the drop out problem the SAA is confronted with among its early senior athletes (discussed in more detail later on in this thesis) the situation in Norway is different today after the merger of the sport confederation and the National Olympic Committee. Since 1996, in Norway a certain economical, political, infrastructural, and organisational link exists between the national mass and top sport programme. Referring back to what Janne Carlstedt indicated, this appears to be a situation some Swedes aspire for their sport system as well.

However, it must be emphasised that the Norwegian OT system, like the SOK support programme in Sweden, does not provide athletes and coaches with support along an long-term talent development pathway. In fact, both organisations, the SOK and OT, share the same strict selection criteria and focus primarily on the support of already highly developed top athletes. As the discussion in the following chapter will however indicate, it appears that OT is more flexible than the SOK in allowing developing athletes to use their support services. One important reason for this difference is probably the lack of a physical support infrastructure in Sweden. While the support portfolio and the support staff of the SOK and OT are similar, and while the OT training site in Oslo is technically comparable with the sport complex in Bosön in Sweden, the SOK itself does not have its own physical training and support centre.

Figure 5-8 lists the different elements of the two sport systems and indicates for which performance levels the different institutions are predominantly responsible. It remains however to be discussed in the following sections if and in how far these support institutions actually effect the sporting performance of the two investigated sport federations.

Figure 5-8: The support systems in the two Scandinavian sport systems

5.3.2 The Role of the General Elite Sport Support Institutions

In both Scandinavian countries, the organisation and administration of performance and elite athletes is first and foremost the responsibility of the sport federations, their national team captains and coaches, and the different clubs and individual coaches in these clubs. The sport federations, the clubs and the individual coaches can however make use of the different general elite sport support institutions which have been described above: the network of sport orientated secondary schools, which is in Norway and Sweden an element of the national education system; the OT system in Norway (including its three regional sites); as well as the SOK and the sports complex in Bosön, including its eight regional sites, for the Swedish case. This section discusses what impact these general sport support institutions have and have had on the success of the here investigated national teams.

Sport Gymnasia

The Swedish and Norwegian governments provide dedicated and talented young athletes between the age of 15 and 19 with the opportunity to join sport-orientated boarding schools (5 for cross-country in Norway, 7 for athletics in Sweden). The general purpose of these gymnasia are similar in both countries: to give young athletes the opportunity to gain a conventional school education while the curriculum is delivered in a way that it can be combined with training and competing in the respective sport. There are of course several differences in the organisational design of the gymnasia in Norway and Sweden. The most substantial difference is that the gymnasia in Norway are actual schools with their own teaching staff while the Swedish athletics gymnasia are more based on agreements between local communities and normal schools.

For the Norwegian case, Bjørnar Håkensmoen indicated that about 50% of the skiers in the cross-country national team come from one of the five gymnasia. This seems to be a greater impact than the athletics gymnasia have in Sweden. Here, the athletics gymnasia appear to bring many athletes into the junior national teams. But most athletes on the Swedish senior team either do not come from one of the gymnasia or they have been at a gymnasium because it happened to be at their hometown (Lennart Julin, Anders Ryden).

Interestingly, the a high social cost of leaving home at an early age and joining a gymnasium has been discussed critically with a similar rhetoric in Norway (Jan Muren) and in Sweden (Lennart Julin, Anders Ryden). This has led in both countries to the emergence of local gymnasia solutions; to agreements between local communities, schools, and clubs in the home towns of specific athletes. This is intended to allow talented youngsters to combine education and training in their home environment.

OT vs. Bosön vs. SOK

It is important to stress that it is very difficult to evaluate, let alone to compare, the actual design, role, and practical impact of OT, Bosön, and the SOK in the two investigated sport systems.

Considering, for example, the physical support infrastructure (i.e. testing and training facilities), it can be argued that OT in Norway is a combination of the

support programme the SOK offers and the physical infrastructure Bosön provides in Sweden. As indicated, the sport centre in Bosön (owned by the RF) and the SOK are however separate organisations and hence they work according to different sport-political agendas which make a final comparison difficult.

However, the general support spectrum both organisations provide is similar and covers many of the services advocated by Digel (2003) or Green and Oakley (2001). The philosophy which underpins the general support provision and interaction between the support institutions and the athletes and coaches from the different sports they support also appears to be very similar. While OT has in the past been considered to be *arrogant* and *patronising* (Alex Wisnes) in the way it approaches the athletes and coaches from the Norwegian federations, the interviews with Ingrid Bahr, Atle Kvålsvoll, and Alex Wisnes suggest that it would today apply a support philosophy which is very much similar to the *support from the side* approach which the SOK follows according to Peter Reinebo:

So the philosophy is of adding thing, of adding support. I think it is important that our specialist act towards athletes and coaches in a way that this is my knowledge, I think this would work, but it is up to you the coach to make use of it.

A most fundamental difference between the SOK and OT seems however to be their economic and their structural situations. While both systems support about the same number of athletes, the SOK does this with less than 2/3 of the budget OT has currently access to. These general budget considerations do not incorporate the OT's own physical support infrastructure. Even though the SOK may have a similarly network of support staff members (SOK: 16 fulltime staff members and about 40 specialist on a consultancy base, OT: 20 fulltime staff members and 40 to 50 specialist on a consultancy base), the Swedes do not appear to have their own training and diagnostics infrastructure.

Considering the informal exchange between the different sports which both systems support, OT has the advantage to be able to offer physical meeting places where athletes and coaches from different sports are able to train regularly together and continuously exchange their ideas. This lack of a physical support infrastructure and the smaller financial budget might also explain to a certain extent why the SOK appears to be stricter in allowing access to its support services.

Considering what Martin Eriksson and Thomas Engdahl indicated about the SOK compared to what Jan Muren described about his experiences with OT staff, the latter appears to be less exclusive concerning who is allowed to benefit from the support services and infrastructure.

However, most difficult to evaluate and compare is the actual, practical impact OT and the SOK have on the success Swedish athletics athletes and Norwegian cross-country skiers enjoy (Augestad et al. 2006). This has already been indicated in the discussion of the chosen methods for this research (see section 4.3). The interviewees in both systems provided rather different, at times even contradicting, accounts concerning their own cooperation with the central support institutions or concerning the role they perceive these organisations have for the daily training of athletes in Sweden and skiers in Norway. These differences can on the one hand be explained based on the different experiences the individuals might have made cooperating or trying to cooperate with these institutions in the past (Martin Eriksson, Ulf Karlsson, Alex Wisnes). It must however also be considered that the response of some interviewees might have been, consciously or unconsciously, influenced by the own political agenda of the respective athlete or coach, or by the agenda of the institution they represent (Erlend Hem, Vidar Jakobsen, Per Nymoen). As discussed in section 4.3, the responses of the individual interviewees were therefore considered carefully and triangulated with each other and other information.

As the picture the different interviewees created in the two countries has been highly ambivalent, it is of course even more difficult to evaluate if the impact OT has on the success of Norwegian cross-country skiers is greater or smaller than the impact the SOK has on the recent successes of Swedish athletics athletes. It can be argued that due to its more tangible infrastructure and pure economic strength, OT seems to be an important partner of the Norwegian elite sport in general and the NSF national team in specific. It must at the same time also be remembered that cross-country skiing constitutes a very strong force in Norway. The NSF was therefore able to build up an extensive support network in addition to the OT support infrastructure and thus does not depend so much on the services OT provides.

Considering on the other hand the economic situation of the SAA after hosting the world championships in 1995, Thomas Engdahl indicated that most of the support Swedish top athletes and their coaches had access to over the past 10 years was whatever the SOK provided them with.

If we would not have had the SOK to support our ten best athletes, we would not have had the good medals today. They have rescued us in this economic situation. (Thomas Engdahl)

While the support the SOK provides might not be as mature and physically extensive than that of OT, it appears that the SOK support has been over the past ten years very essential for the SAA.

Based on the interviews with Hermod Bjørkestøl and Jon Lars Tore Ronglan as well as Stefan Holm and Ulf Karlsson, it can also be concluded that that the clubs are traditionally a very independent force in the Swedish athletics system in comparisons to the central institutions (OT and the NSF) which are relatively strong in Norway. This suggests that the current success of Swedish top athletes is more founded on the work carried out in the clubs and by the coaches in the field than it is in Norway.

It can be concluded that OT appears to have more direct and indirect impacts on the "success" of the Norwegian cross-country skiers than the SOK has on the recent success of the SAA athletes due to the general economic scale of the organisation and the number of supported athletes⁷. However, the support the SAA received over the past 10 years from the SOK appears to be more essential for the SAA than the OT support is for the NSF skiers.

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⁷ OT's annual budget of nearly £6.4 million compared to the SOK's budget of about £3.9 million; 11 athletes supported by the SOK by 75 athletes in the wider SAA national team vs. 21 cross-country skiers supporter by OT by 39 skiers in NSF national teams

5.3.3 Comparison of the SAA and NSF in their National Sport Environments

Based on the discussion in section 5.1 and 5.2, Table 5-7 provides a sample of key figures with which to compare the organisational and economic situation of the two investigated sport federations. A specific focus is put on the structural size of elite sport unit in the SAA and NSF environment. The table also includes basic information which describes the structural and economical scale of the respective general elite sport support organisations the two sport federations cooperate with, OT and the SOK.

Considering the size and economic foundation of sport organisations in other countries, it appears as if both Scandinavian federations organise their sport movement in general and their elite sport programme in specific on a relatively small budget. Based on the general information which is available on their homepages (www.ukathletics.net and www.uksport.gov.uk), it can for example be stated that UK Athletics supports in its top sport programmes nearly 120 athletes. The organisation does this based on an annual budget for its performance and development programme of about £7.6 million which includes £5.2 for the performance programme, £0.2 million for competition coordination, and £2.2 million for the development programme. The Swedish national team captain has less than 20% of the UK Athletics budget at his disposal while the Norwegian cross-country skiing national team has less than 1/3 of it. In addition, UK Sport works currently on an annual budget of about £29 million compared to £6.37 million for OT and £3.93 million for the SOK.

Table 5-7: Structural and financial key figures

		SAA & SOK	NSF & OT
Special Sport Federation - General (SAA, NSF, UK Athletics)	Members	300,000	195,000 in total 153,000 in XC, PLUS 50,000 in " <i>Ski Forening</i> "
	"Competition" orientated members	75,000	3,900
	Annual budget	£3.35 million	£ 12.19 million for NSF £ 2.17 million for XC (XC is one of 6 units)
Special Sport Federation - Performance unit/ National team	"Supported" senior elite athletes on the national team (including centrally supported athletes)	About 75 in the wider senior national team	39, 10 elite men, 9 elite women, 8 sprint, 12 junior
	Annual budget for national team	about £ 1million	£ 1.73 million for XC national team
	ESS admin. staff & coaches	1 national team captain, 1 assistant, since 2005 2 fulltime coaches	1 administrators, 5 coaches on the senior, 1 for the junior level
Central ESS providers (SOK, OT, UK Sport)	Athletes supported by ESS Unit (gen.)	About 200 supported individuals, including team sport athletes	About 150 supported individuals, plus specific team sport support projects
	Athletes supported by ESS Unit in specific discipline	11, 6 on the top and 5 on the talent programme	21, 9 on a top, 6 on a B, 6 on a development programme
	Annual Budget	£ 3.93 million, £3.2 million for the support of the sports	£ 6.37 million
	Allocated for the special sport federation	TOTAL (!) SOK budget for the SAA and its athletes: £ 0.21 million	DIRECT (!) financial support from OT: £ 0.19 million for the NSF, £ 43,310 for XC PLUS access to OT services

To understand the current economical and structural situation of the two sport systems, it is important to consider their recent development. Both federations were confronted with a bankruptcy after they co-hosted the 1995 Athletics World Championships in Gothenburg and the 1994 Olympic Games in Lillehammer. However, as Table 5-7 suggests, the NSF is today financially better positioned than the SAA and it appears as if the Norwegian system recovered from its economic crisis rather quickly. Ulf Karlsson and Thomas Engdahl confirmed this perception as they indicated that the SAA has overcome its bankruptcy only in the last one or two years. Despite the fact that the SAA has about 1/3 more members than the NSF, the Norwegians have an annual budget which is four times higher than that of the Swedes. Focusing on elite sport, the picture is also in favour of the Norwegians as the Swedes have to cater for their 75 senior national team athletics athletes with a budget that is about 40% smaller than the one with which the NSF manages its 39 (junior and senior) national team skiers.

This provides a general indication of the economic strength of the cross-country skiing market in Norway.

The information about the economic background helps to explain some of the specific features which have been observed especially in Sweden. Stefan Holm indicated for example that it was due to the lack of economic resources that the SAA has found it difficult over the past decade to support clubs, coaches, and athletes, and in particular in performance sport related matters. Due to this general situation each athlete and coach has learned to handle their affairs independently from the central office. Consequently, the clubs have today developed into strong, independent, organisations, leading the staff in the SAA head office to apply the *laissez-faire* and *supporting from the side* approach discussed earlier. This was noted by Kerstin Rosen from the SAA head office, who commented that:

We here in the federation we should support, listen, indicated that something has to be changed or has to be looked after. But we do not really give general orders. That would not work here in Sweden, in our system. (Kerstin Rosen)

It can be concluded that both federations represent in general true mass sport movements of a similar size in their respective countries. The SAA is organised and run based on a smaller budget while the Norwegian cross-country skiing market appears to be economically stronger than the Swedish athletics market. Both organisations depend however completely on the voluntary work of their members and voluntary coaches can be found at virtual every performance level. Due to economic situation of the SAA, even the coaches on Swedish national team are mostly volunteers.

Three fundamental similarities between both sport systems which affect the further discussion in this thesis should thereby be summarised at this point:

First, the transition between voluntarily organised club sport, national performance sport, and top athletes is in both systems very blurred. In fact, the two sport systems created a strong impression of one coherent sport “community”. Several reasons can be found for this situation which range from the cultural and historical context, to consciously made interventions which have developed this specific culture. One of the most decisive factors which created the coherency in the sport communities appears to be the design of the coach education programme in the two countries.

In particular, the close cooperation between the national team captains and the respective coach education officers seems to be essential. As Per Nymoen (coach education officer of the NSF) indicated, he perceives his role to be more than to just deliver coach education certificates. He perceives himself and the coach education programme of the NSF to be the link between the federation, the national team, the national team coaches and athletes, and each individual skier or coach in the local clubs. In specific, he stated that:

And as a personal slogan, I feel that my role is to be the link between the federations, the national coaches, and the clubs and the people. A club coach should not feel that the federation is something far away. It is important that if a club coach has a question, he or she should dare to ask and somebody will answer him and we will have a communication. [...] It should not be that the people in the federation are up here and the others down there. We can communicate.. (Per Nymoen)

Second, many elite sport support matters like coach education and sport science support are in both countries handled on a laissez-faire basis. It will be shown in the discussion in the following chapter that both federations do not force their athletes or coaches to cooperate with a specific diagnostic centre or to join a specific education seminar. The underpinning support philosophy can thereby be described, using the rhetoric Peter Reinebo introduced, as to *offer support from the side*.

Thirdly, interviewees from both systems apply a very similar rhetoric concerning the general role of financial support in terms of the financial resources for the development of sporting success. Ulf Karlsson, who managed the Swedish athletics national team from 2000 to 2004 - a financially very critical period - indicated that "more money = more success" is too simple:

... that is wrong. I am 100% sure that money is not the most important factor now. After the WC 1995 in Gothenburg the SAA was completely destroyed. And during the following years, we build up the clubs, created a good spirit and we showed that it is possible to win without money. Money is not necessary. Yes, you need it to travel, to organise activities together. But it is not too important.

This was argued also by Lennart Julin from the SAA and Peter Reinebo from the SOK. The latter stated that the lack of resources have actually made the Swedish coaches more innovative, while the former suggested that paying athletes for their sporting development may create athletes who are satisfied with being on a support scheme and not develop the required enthusiasm for the sporting achievement as such:

... you cannot buy an athlete's enthusiasm. It does not work like: if you throw this javelin, then you will get that candy. It must be: I want to throw that javelin and we say that we can help with this. (Lennart Julin)

Reflecting the situation after the 1994 Games and being confronted with serious cutbacks in the budget of NSF over the upcoming years, Jan Lars Tore Ronglan and Kristin Felde argued very similar to their Swedish colleagues. Even though enough money must of course be available to buy equipment and host training camps, both indicated that *the real reason for success - that this is not money, that are other things* (Jan Lars Tore Ronglan).

5.4 Summary

This chapter provided a general overview of the sport systems in Norway and Sweden. It has been described how these are structured, organised, financed, and run as well as how the two sports, which are investigated in this research, are embedded in these environments. It has also been outlined what the general elite sport support policy and infrastructure in these two sport systems look like.

In the next chapter, the practices and processes which underpin the service provision in these two elite sport systems will be investigate in more detail.

6 Specific Situation of the SAA and the NSF – Applied Support Practices and Their Origin

This chapter describes and compares the practices and structures relating to the Benchmarking Objects which have been observed in the two Scandinavian sport systems. It will be established how athletes and coaches from the two investigated sports use the services offered by general elite sport support institutions and comparisons will be made between the situation in Norway and Sweden.

The discussion in the different subsections of this chapter will not only try to evaluate if the Scandinavians develop similar or different processes but also what led to the respective practices. For example, it will be discussed if the practices are a result of consciously made interventions, if they depend on the specific competences of certain support staff members; or if they have developed as a result of the general cultural context in Norway or Sweden. How far the observed practices and structures can be translated into generalisable and transferable recommendations for other elite sport systems is then evaluated. Based on these considerations, the potential of the benchmarking approach in the context of elite sport systems will be further evaluated in chapter seven and eight.

However, before it is possible to discuss the practices concerning the actual Benchmarking Objects which have been chosen for this study, it is important to describe and compare the general atmosphere between and among athletes and coaches in the two investigated sport environments. This analysis is provided in section 6.1. During the course of this study, it has become apparent that it is important to understand the nature of these more abstract matters as they affect the specific design of the actual Benchmarking Objects.

6.1 Atmosphere and Culture in the two Sport Environment

During the course of the investigation it was determined that the atmosphere and culture in and around the two Scandinavian sport environments are of crucial importance for the design of the Benchmarking Objects. This section will provide a general overview of the nature of the culture in the two sports, of the atmosphere between and among athletes and coaches in the two sport systems, as well as of the different factors that can be considered to be responsible for the development of the observed atmosphere and culture.

6.1.1 General Image and Nature of the Sports

It has been stated that the two investigated sport federations enjoy a similar image in their respective countries. Considering participation numbers and that being an athletics coach in Sweden can be considered as a *calling* (Anders Borgström) while Norwegians often considered themselves to be *born with skis on their feet*, this shows that both sports are more than just mass sports. They are national or *Folkssports*. A second important similarity is that voluntary work constitutes in Norway and Sweden the organisational backbone of the two sport movements. Thanks to this, it is easy to take up the respective sports as clubs that provide an appropriate training environment for any performance level exist nearly everywhere – and joining these clubs is very cheap. The great number of clubs creates furthermore a great variety of competitions in terms of frequency as well as age groups and performance levels. As it has been indicated in chapter five, this is linked to the fact that a major source for financial income for the local clubs in Norway and Sweden is the hosting of events.

The volunteer-foundation means however that many coaches in both systems do not have a sport specific education. Hence, while the training-knowledge is very practice-based in both countries, coaches from both systems might at times appear to be conservative in their training methods, reluctant in terms of cross-sport knowledge exchange, and especially sceptical concerning cooperation with sport scientists. In fact, *a lot of coaches are sometimes sort of scared to talk to scientists* (Martin Eriksson).

Despite both sports being *Folkssports* it appears as if cross-country skiing in Norway has a significantly stronger economical foundation than athletics in Sweden. This has been created by higher media coverage and greater spectator interest, and might explain the quick recovery of the NSF after the financial crises of 1994. This stronger economic foundation created at the same time a competition circuit which allows many skiers to train and compete on (semi) professional terms either as members of racing teams or as individual athletes without much support from the federation or any other central support unit. While Lennart Julin indicated that only very few athletes can earn a living as an athlete in athletics in Sweden, the competition infrastructure in Norway was introduced to enable a significant number of individuals who perform even below national team standards to organise their lives around their sport. They finance themselves through study loans (as in Sweden) but also with prize money, summer jobs during the off season and personal sponsors (Jon Anders Gaustad). These economic differences of the two competition environments have certain implications on any lifestyle support related questions.

The research suggests that the social and national importance of achieving international sporting successes might be higher on the political agenda in Norway than in Sweden. While this might be due to the younger history of this country (Bairner 1996), in terms of winter sport and cross-country skiing specifically, Norwegians consider results such as those of the 1988 Olympics as a national disgrace:

Then came Calgary 1988 [...]. It was the most dismal Olympics on record from a Norwegian point of view with no single gold medal and a meagre 5 medal in all. The Norwegian government decided that their athletes would not only be given the chance to participate, but they would also have a chance to win. (Seiler 1998)

This influences the general social status of being, or trying to become, an elite athlete in Norway. It appears as if many skiers in Norway decided to focus, at least for a few years, more or less exclusively on their sport. Ulf Morten Aune or Morten Schønfeldt indicated that this would be an acceptable decision in the Norwegian society. The latter stated as follows:

My experience from my time in Switzerland is for example that everybody would be like: "Okay, you are good in sport but ... you have to show what you can do in business. We do not really care what you do in sport, you have to succeed in business." In Norway this is much more like. "Okay, you have shown that you can win something, you have shown that you have certain qualities to make a goal and go for it – we can use that." So it is much easier for an athlete in Norway to get a job after the sporting career compared to other countries. I think that is one of the Norwegian ways of doing sport because sport is so highly ranked in Norway. And I think that is also why it is not so risky to go for 100% into sport, as when you succeed you will automatically have a kick start in the business world. (Morten Schønfeldt)

This was also confirmed by one of the interviewed senior skiers in the national team, who, upon reaching the end of his sporting career, was looking optimistic to his post-sport development:

But I am just taking it very easy as at my home place there had been many people who came to me in the last year who told me that when I will stop doing sport on a top level, they want me to work with them. And this is in different areas. (Kristen Skjeldal)

In Sweden, however, very few athletes decide to be a fulltime athlete, and most of them do this, like Christian Olsson, Stefan Holm, or Kajsa Bergqvist, only after they have reached a performance level which secures their economic status anyway. It can however at this point not be determined whether athletes in Sweden simply lack the economic opportunity to become fulltime athletes due to the weaker financial foundation of the Swedish athletics market or if they tend to combine studying and sport due the lack of a social acceptance of doing sport as the only occupation.

As the general technical nature of the two investigated sports is rather different, it should also be briefly considered as to how far the respective training volume and the characteristics of the athletes differ from each other. Such considerations are important for the comparison of the provided lifestyle support services as well as the general relationship between athletes and coaches. The conducted interviews suggest that the volume and the nature of the training for cross-country skiing is less compatible with conducting a fulltime university programme than that of an athletics athlete who competes in the events Swedes tend to be successful in. Stefan Holm, who studied during the early stages of his athletics career at the university in his hometown, stated for example that he would not consider it to be a great hurdle to combine high jump training with an academic education:

To be fair, being a fulltime student is not that hard when you are just doing one course. You might have two or three times lessons for 3 or 4 hours – that is not that tough [to combine this with training].

Jon Anders Gaustad, a skier who just entered the national team, stated on the other hand that even though it might technically be possible to combine cross-country training with an academic education, only very few individuals would find the time and energy to achieve this:

Of course, you can manage to do both things. I know a lot of good skiers who are doctors and physiotherapists and everything. They managed through education and training – but they did not have any life besides: just training, reading, competitions.

It is also important to indicate that the development of an athlete from a successful junior to an equally successful senior career might take considerably longer in cross-country skiing than in athletics. Cross-country skiers tend not to enter the senior national team before they are 23 years old even if they have been on the junior national team. While these skiers have to bridge the time between junior and senior national team with little support from the federation or OT, Swedish athletes who are on the *elitidrottsskolan* (EISP), a support scheme which appears to be comparable to the Norwegian Junior National Team, tend, according to Ulf Karlsson, normally to be on the senior national team as well.

A major similarity between Norwegian skiers and Swedish athletes seems to be that they are strong-minded and independent individuals. Several reasons were mentioned for this. Lennart Julin indicated that the athletes' independency reflects the liberal context of the Swedish society. This was similarly argued by Ulf Karlsson. He also suggested that the recent sporting successes of role model athletes like Carolina Klüft, the current atmosphere which has been created over the past four years in the national team, as well as the well-managed relationships between athletes and coaches has further improved the athletes' moral. For the Norwegian case, Are K. Blyverket indicated that the traditional nature of cross-country skiing and the way it is trained in Norway would develop among and require from skiers a high degree of independency. As the following quote indicates, only considering the cultural context as an explanation for the attitude and independency of sportsmen and women appears therefore to be too simple as athletes from other sports in Norway do not seem to achieve a similar level of maturity:

I worked with different athletes and different sports throughout the years. I think that most of our cross-country skiers on a certain level – these are strong-minded individuals. They know how to organise a lot within their lives. If you compare it to other team sports as e.g. football or ice hockey, there I would be more concerned about those athletes. [...] There you have to provide them with a job, have to help them to get through college, they do not focus on themselves as much. (Are K. Blyverket)

Such considerations influence not only the design of an appropriate lifestyle support programme but the general relationship between an athlete and his or her coach.

6.1.2 Atmosphere among and between Athletes and Coaches

In the early stages of the data collection it became apparent that it would be necessary to investigate the specific nature of the relationships between the different individuals in the two sport systems: between club and national team coaches, between the individual coach and his or her athlete; as well as between the different athletes in the closer and wider national team environment. This is necessary as the nature of these relationships has been shown to affect directly or indirectly all selected Benchmarking Objects. This section will describe these three areas. As it will be shown that they are similar in the two countries, the origin of this similarity will also be investigated.

(I) Atmosphere among the Different Coaches

Before the atmosphere between the different coaches (especially between national team and club coaches) can be investigated, a significant structural difference between the SAA and NSF squad system must be emphasised. While the NSF appears to follow the conventional idea of having a fixed team of coaches who are employed by the federation and who work together with the national team athletes, the Swedes have developed a rather unconventional approach. Here, athletes tend to stay together with their volunteer coaches from their home clubs throughout their whole sporting career. This was summarised by Anders Ryden in one of the key slogans of the SAA: *athletes and coaches always go together*.

Despite such structural differences, there are clear similarities between the atmosphere among the coaches from the two Scandinavian systems. It has been indicated that in both countries coaches tend to have a general respect for, and an open and active interest in, the training approaches of their colleagues even though these might contradict their own beliefs. This is underpinned by the general conviction that there is not just one way to train an athlete. Svein Tore Samdal stated for example that:

We have respect for doing it in different ways. We know that there is not one way which is leading to results – there are a lot of ways. There are just some ways which are better or quicker than others. [...] So we have respect for doing this in different ways. But we want to know about how we do it – and we are curious how the others are doing it. And we are very curious about new knowledge.

As the following two quotes indicate, this situation creates a continuous, and more or less formally organised, exchange of experiences and training ideas between the coaches in the two investigated sport systems:

And [concerning our team of coaches] I think there are not many other sport nations in which the coaches work so well with each other. We constantly exchange ideas and thoughts among each other and try to look ahead. (Ulf Morten Aune)

[Our coach education works in] a very informal way but it is a kind of a system. There is always this motivation to want to learn more, to learn from others, and this is our red line. (Kerstin Rosen)

Jan Muren, Hermod Bjørkestøl, and Kerstin Rosen indicated that this exchange is not limited to the community of top level coaches, but also incorporates a strong knowledge transfer between elite and normal club coaches. This indicates that this ethos of sharing knowledge to a large extent influences the design of the coach education and further education programmes which the NSF and SAA provide:

For the junior and elite coaches, those trainers tend to learn from each other. There is a culture of sharing knowledge. Concerning jumping events, people tend to go to Yannick Tregaro [who coaches e.g. Kajsa Berquist] to learn from him. They ask him to come to make a seminar. And Yannick learned from Patrick Sjöberg's trainer. [...] So there is an interaction between those who know and those who want to learn. There is a culture of learning from each other and curiosity and eagerness to learn. (Kerstin Rosen)

This curiosity, the desire to learn more, and the motivation to share ideas with other coaches is according to Torbjørn Broks Pettersen based on the intrinsic motivation of the individual coach to develop his or her own knowledge:

I want to become a better coach. I am hungry for more knowledge. And a good way of getting more knowledge is to share my knowledge with other people and other coaches. (Torbjørn Broks Pettersen)

Agne Bergvall indicated, as a second major factor, which explains this feature in two coaching communities, the general motivation of the coach to support the individual athlete as much as possible:

Some Finnish heptathletes had been training with us this autumn and spring. And they were very confused that there were sometimes 3 or 4 coaches in one training session. They have never seen anything like that. And I explained to them that this coach is in that area better than me. So, it is better to get his experience and his knowledge. And when I am in this session he give, then I am learning.

Considering the nature of the investigated sports as the *Folkssports* of their countries, a third explanation for the cooperative behaviour of the different coaches was introduced by Jon Arne Schjetne as the desire to further develop the sport system and its athletes in comparison with international competitors.

We have the same goal I think. We try to get the coaches to kick everybody's backsides: Swedes, Finns, Germans, etc. When we are working together, we are just so much stronger than being just one individual. (Jon Arne Schjetne)

It can be noted for further discussion in this thesis that the general coaching community in both sport systems is characterised by an open communication culture and a very short hierarchical distance between the elite and club coaches – or simply put, by team work and open communication:

[Among the coaches in the national team], we are thinking in one common way – there is a clear target. And we are taking care of each other. We have good communication. These are three main elements: Honesty, clear targets, and communication. (Bjørnar Håkensmoen)

Considering the way this team spirit among the coaches influences the Benchmarking Objects, it has already been indicated that this knowledge-exchange culture provides a strong factor for the design of the coach education in Norway and Sweden. As coaches approach each other's training concepts with mutual respect, this culture appears to open the door for new, more scientifically founded training concepts: while it is in general accepted in the coach community to follow new approaches and try out new methods; pioneers, who cooperate successfully with scientists and diagnostic labs, become role models for others.

(II) Atmosphere in the Athlete-Coach-Relationship

The interviews revealed that the relationship between athlete, home, and/or national team coach is more similar in Norway and Sweden than the structural difference of the coach hierarchy suggests. Even though the NSF coaches have the official responsibility for the training of the Norwegian top skiers, many interviewees indicated that many national team skiers, especially in the men's team, would still have very close relationships with their home coaches:

And often, they still have their club coaches when they join the team. And then there has a combination to be found between the club coach and the team coach. (Per Nymoen)

While the Swedish athletes stay officially together with their home coaches throughout their career, it appears appropriate to assume that skiers in Norway preserve a similar deep relationship with their home coaches despite being formally trained by the national team coaches.

In terms of applied coaching styles, i.e. the way coach and athlete interact with each other, several striking similarities can be identified between Norway and Sweden. In both systems coaches like Agne Bergvall or Ulf Morten Aune stressed that they would integrate their athletes to a very high degree in the actual planning of the training sessions and competition season. Ulf Karlsson indicated in this context that the coaches have learned that it is good for the athletes sporting and non-sporting development to leave a lot of direct responsibility concerning the training design and conduction with the athletes:

Now you are very close to what we call coaching. We here in Sweden think today that the athlete has to learn what is best for him or her – that is a bit different to the way we used to work.

This was confirmed by one of the skiers, who stated that he himself decides how he trained, based on the discussion with his coach:

I am the boss, I decide what to train. It is more like that neither of them tell me what to train directly. I have done some things I am very confident about that it works. And nobody can stop me from doing those things. And nobody is trying to stop me from doing those things. [...] I like to discuss training with different people. And then I come up with some ideas, Morten can come up with some ideas, and we two decide what we are going for. (Jon Anders Gaustad)

In Norway, it was in this context often indicated that the national team coaches consider themselves as the athletes' *sparing partner* who *discuss ideas how to think and train better* (Are K. Blyverket)⁸. The national team coaches of the NSF appear to consider their task to bring new ideas into the training that athletes have already done for years before they joined the national team instead of dictating them their own training regimes. Coaches from both systems, such as Ulf Karlsson or Jon Arne Schjetne, suggested that their final goal would actually be to educate the athletes to become their own coaches:

I am working with the athletes so that they can be their own coach when they need it the most. (Christian Augustsson)

Another fundamental similarity in both countries concerning the athlete-coach-relationship is the rhetoric of the idea of the *24 Hour Athlete* (24hrA) in Norway and the *Holistic Coaching Concept* (HCC) in Sweden. Both concepts emphasise that athletes are more than just sport machines and that the coach should not limit his or her attention to sport related matters. On the contrary, according to these concepts the coach should also be interested in, and cater for, the non-sporting development of his or her athlete as troubles and problems from there influence sporting performance and vice versa. According to Lennart Julin, the *message is: do not just go on with the training without considering the life situation of the athlete*. Anders Borgström and Ulf Karlsson from Sweden and Ulf Morten Aune and Per Nymoen from Norway argued also similarly that it is important that an athlete has a balanced life in order to realise his or her physical potential. Agne Bergvall, one of Sweden's top coaches today, stated for example that:

There is no word for it in English: "trygghet". It means feeling comfortable with your life. When you are going to training or competition or whatever, you must think that this is the [most enjoyable] thing in the world. (...) to achieve this, you must feel safe economically, in your relationships with your family, your boyfriend, your girlfriend, or whatever.

However, and despite the fact that both concepts are well communicated in the respective coaching communities, it must be emphasised that neither the HCC nor the 24hrA constitute a standard practice that every coach follows and applies: one coach might not understand the concept, another simply not believe in it, while a third may not have the time to cater for his or her athlete's non-sporting problems.

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⁸ Interesting is however that this approach seems to be more developed among coaches of male skiers while e.g. the women's coach in the national team is considered to provide his athletes with rather rigorous training plans (Vidar Jakobsen)

As Ulf Karlsson indicated, even though he would consider it to be *the best situation if the coach is the athlete's mentor* the key problem of the HCC in Sweden is *that not everybody has the same approach to this problem*.

It can be summarised at this point that the athlete-coach-relationship looks similar in Norway and Sweden. In both contexts, this relationship can be characterised as one of equal partners in which the coach is more a discussion or *sparing partner* for the athletes than just a provider of a training plan. Secondly, coaches and administrators in both Scandinavian countries seem to understand the emotional aspects of the relationship between an athlete and the home coach. Thirdly, and related to the latter consideration, the athlete-coach relationship is in both systems not limited to sporting matters. In order to help the athlete realise his or her sporting potential, the coach is advised based on the HCC and the 24hrA to consider the athlete's sporting as well as non-sporting situation. Ulf Karlsson concluded in this context that:

The Swedish coaches are not very highly educated in physiology or so. But they are good in handling the athletes. We are building up our philosophy in a human way and not in a theoretical way. That is a more Swedish way to work. Our team, when we go to big championships, I can see that our team members feel very safe compared to others. And this is more important than you can imagine. That is maybe the Swedish way.

Jon Anders Gaustad summarised more simply concerning the relationship between him and his national team coach:

But I know that a trainer like Morten is as much a good friend as he is a good coach.

These considerations about the athlete-coach-relationship have several implications for the Benchmarking Objects which have been selected for this project. They influence the general design of a squad system and the hierarchy of coaches. While this might be a rather obvious effect, the practices also indirectly influence coach education related matters as well as the integration of new sport science support services. Last but not least due to the internet, athletes are today well-informed about new training methods as well as more theoretical aspects of their sport. Hence, coaches in Norway (Jon Arne Schjetne) as well as in Sweden (Ulf Karlsson) indicated that the discussions with their athletes force them to further develop their own knowledge. Finally, the HCC and the 24hrA influence substantially any lifestyle support related considerations.

(III) Atmosphere among the Athletes

Norwegian cross-country skiers and Swedish athletics athletes are considered to be very independent and mentally strong individuals. Most interesting is that despite this high degree of individuality, the two national teams seem to form coherent units with a strong team spirit and friendship among and between the different athletes. This is shown in the following quotes from a Swedish athlete, the Norwegian national team manager, and a Norwegian skiers who used a very similar rhetoric to describe:

- That the athletes have fun being in, on, and with the national team. They support each other and feel secure when they are with their team mates:

[One factor for the success we have today] is the whole team spirit we have and which the former captain [Ulf Karlsson] started. Before that is what very individual – some people were staying in another hotel you know. They were treated more like stars. And now it is more like a team even though it is an individual sport. I think that has helped many people in our team. [...] Because then when you come like this to a big meeting or a championships – then you know: it is friends and not just competitors in your team. You can trust everybody and you know that they will support you when you are on the track. (Jenny Kallur)

- That there is an open communication culture among and around the teams;

I have a rule: If I will get in the position to develop one guy, I have to be honest every day, 7 days a week, 24 hrs a day, 365 days a year. I can talk with him on bad and good days. (Bjørnar Håkensmoen)

- That this team spirit has a direct impact on sporting success.

I think some of the coaches developed a good culture. They realised that being on training camps and competing hours after hours is not that funny you know. So we have to make things funnier. And that is what I learned from the guys here in the national team: It is all about having fun. If you do not have fun the results are not coming. (Jon Anders Gaustad)

Considering the general nature of the two investigated disciplines as individual sports and that the top athletes in and around the two national teams are often their greatest rivals, this team work culture among the national team athletes is surprising.

The team spirit seems in both systems not only to be limited to those athletes who are already on the respective national team. The behaviour of the top athletes in Sweden and Norway towards new or non-team athletes and coaches seems to reflect a strong awareness of the individual athletes for the general development of their sport as such.

It was, for example, indicated in both countries that new athletes on the national team level are actively approached, integrated, and supported by the established team members. And Lennart Julin described that Swedish top athletes are available to help out in the organisation and administration of their home clubs as voluntary workers, while Jan Muren illustrated that the Norwegian top skiers are very much approachable for club coaches and athletes to support their training:

We went up to the mountains in the summer to do summer skiing and two guys from the national team were there at the same time. And I ask one of them if it would be okay to take a video of him, because I would like to use it in the local club for demonstration purposes. And they were quite keen: "yes for sure, just ask me, I will be open to help you." And that is just meeting national team athletes in the mountains. And that is exactly the way we would like them to have: open, sharing. And I think the idea behind it is that if you are open and share downwards, the quality in the local clubs, with all the unpaid, enthusiastic people, if you raise their knowledge a little bit, it will have an enormous impact in the top of the pyramid in five or ten years. (Jan Muren)

Considering the impact this atmosphere among the athletes has, it has been stressed in both countries that the *non-diva* like behaviour of the stars show young and upcoming athletes that athletes like Stefan Holm or Tor Arne Hetland are despite their sporting success, normal people. Hence, their success appears reachable and their performance "copyable". As not only Ulf Karlsson indicated, such success creates success.

And the last thing is that our best athletes are super fine people. They are good role models. There is no diva among them. They are normal people. So everybody can see that you can get there when you are a normal person. They are still staying with both feet on the ground. That is an important signal for the youngsters.

The discussion in this section has shown that the atmosphere among the coaches, the nature and quality of the relationship between athletes and coaches, and the team spirit among the athletes are similar in Norway and Sweden and constitute factors which are considered to have influenced the performance of the two elite sport systems. In particular, the atmosphere among the coaches and the nature of the athlete-coach-relationship appear to have direct and actual impacts on the design of the Benchmarking Objects which are analysed in this thesis. Thus, they have to be considered in the remaining discussion of this thesis.

In summary, this is how Thomas Engdahl described the relationship between and among coaches and athletes in the Swedish athletics environment, which is similar in many ways for the Norwegian cross-country skiing system:

So, special about the Swedish system is the flat hierarchy in the system and the sticking to the teams and personal relationships which makes it so special. (Thomas Engdahl)

6.1.3 Origin of the Culture

The discussion in the previous section showed that the culture and atmosphere in the two elite sport systems is rather similar and that both are considered to be essential factors for the sporting success the two systems enjoyed over the past five to ten years. This section investigates the origin of the observed cultures and atmosphere in Norway and Sweden. The discussion will differentiate between socio-geographic and socio-economical factors, the general background in and of the sport environments, as well as consciously made interventions.

(I) Social-Geographical and Socio-Economical Factors

Several factors can be identified in the socio-economical and socio-geographical environment of the two sport systems which explain the emergence of the observed culture in the two sport environments. Some interviewees, such as Janne Carlstedt in Sweden and Jan Muren in Norway suggested that the tradition to cooperate, to support others, and to get organised around shared interest areas are strong features of both Scandinavian societies, due to the size of their countries, the fragmented urbanisation, and the late economic development:

And we have to do it in another way then the USA e.g. And what is the Swedish way? The Swedish way is to come together and: 1 + 1 = 3. (Janne Carlstedt)

...the normal Norwegian way of doing it: if you have a good idea, you tell anyone who would like to listen. (Jan Muren)

This is manifested in the strong tradition for voluntarism and for working in voluntary organisations which is in the two Scandinavian countries by no means limited to sport related matters.

It also appears that social hierarchies in both countries are traditionally flat. While this can again be explained by the small population size and the high degree of fragmentation of the population across the two large countries, Jan Muren suggested that this also helps to understand the observed close connection between the sporting elite and its foundation:

Between the elite – politically or in sport – down to the normal boy and girl, it is a short distance. And when you see successful sport people on TV and when you know then that your best friends brother is best in junior on the national level, then it is really easy for a kid to see that it is possible for me, that it not far, it is a short distance the way up there

Both Scandinavian countries are also well-known for their general social-liberal tradition. Only Swedish interviewees indicated however a clear connection between the general liberalism in their society and the atmosphere in the sport movement. In particular, the HCC and the *coaching from the side* approach were considered as clear reflections of the Swedish context. This was emphasised by the example of coaches from Poland, who often try to coach in Sweden. Despite their successes with junior athletes, these coaches tend to lose their athletes when they become more mature due to the coaches' authoritarian coaching style:

It is a bit in the Swedish nature. In school e.g. everybody can say what they want. The system is very generous that you can speak and you will be handled with respect. We have a lot of coaches from Poland and Romania – and these are super good coaches until 18 or 19 years old. They achieve a lot of good results with the youngsters. But when the athletes grow up and have their own ideas and want to discuss, it does not work anymore with these trainings. (Anonymous)

Even though the Norwegian 24hrA, the idea of considering the coach as the skiers sparing partner, and the approach to develop training and competition plans in cooperation with the athlete reflect a more or less identical approach as in Sweden, the origin of these practices was only linked by one Norwegian interviewee to the social-liberal context of the Norwegian society. The rationale for these approaches in Norway was linked more to performance orientated matters. As Jon Arne Schjetne suggested, skiers have to learn to coach themselves to secure consistency in their training as their coaches tend to change during their career. It was however also emphasised by some coaches that, due to their general strong-mindedness, cross-country skiers would not accept a more autocratic, *head master* – like (Jan Muren) coaching style.

More specifically, the Swedish *study circle tradition* was mentioned in the SAA case. Kerstin Rosen indicated that this traditional Swedish way of organising and conducting education constitutes an important base for the design of the communication culture in the Swedish athletics environment in general and for the organisation of the SAA coach education in specific:

In the past, when many people did not have [more than] 5 or 6 years at school, people realised that they have to [teach] themselves all the time in their lives. But how can you arrange lifelong learning out in the bushes in Sweden with a total of three universities? And then this study circuit concept was invented. People come together – 5, 6, maybe more, maybe less. And in these groups, they learned by discussing. Maybe they decided that they want to learn more about sport club management. Then they would agree on a book, everybody would read the agreed chapters and then they would meet again. And in this meeting, they would then discuss what they learned. For another meeting they would invite somebody to talk about the respective subject. Or somebody from the study circuit would go out on a study trip, make his or her experiences and would share these with the others. (Kerstin Rosen)

Even though it was also indicated that this study circle concept constitutes a general Scandinavian way of learning rather than only a Swedish tradition, it was not explicitly referred to by any of the interviewees in Norway. The interviewees in both countries however used very similar rhetoric to describe the motivation of a respective coach to share knowledge and experiences with others: *1 + 1 = 3* (Janne Carlstedt) vs. *selling ones knowledge, one will only gain more knowledge* (Torbjørn Broks Pettersen). As in Sweden this rhetoric was directly linked to the idea of the study circles, this suggests certain elements of this tradition might also exist in the NSF system.

(II) The Sport Environment in General

Social-geographical and socio-economical factors have influenced the general design of and atmosphere in the two Scandinavian sport systems. This then influences more or less indirectly the culture in the two national teams and the elite sport programme of the NSF and the SAA.

Voluntarism and open cooperation is still today the only possible strategy to organise, run, and further develop a sport movement of the scale of the NSF and SAA in Norway and Sweden due to the lack of a systematic and substantial governmental sport support programme. This has already been indicated in chapter five.

As the elite and mass sport schemes in the NSF and the SAA still have a relatively small financial budget, this is likely to be an important factor which reduces the general *mental distance* (Kristin Felde) between the athletes and coaches in the two Scandinavian sport systems. While this general situation forces athletes and coaches to cooperate in order to develop themselves and their sport, Kristin Felde stated that this might in fact be a crucial advantage of the Norwegian - as well as the Swedish – sport system compared to other, richer ones:

I think one of the reasons why the cooperation between OT and the special sport federations is good in Norway is that we are a small country with few people, with not too many resources, and not too much competence [i.e. sport-related research institutions]. So to be good, we have to cooperate and to share competence and experiences. And OT is a body, a place, a structure where we can share.

As both sport systems are voluntarily organised, they are also driven by a lot of enthusiasm for the sport. Many coaches and administrators indicated a strong intrinsic motivation to do the best for each individual athlete as well as to further develop the sport movement in general. In the Norwegian cross-country environment, there also appears to be a very offensive and competitive international element in this general motivation to further improve the own sport movement. As it is considered as the true national sport, Norwegians would like their skiers to win against athletes from other nations (Jon Arne Schjetne). Sharing knowledge and experiences among the coaches from the different levels appears today to be considered as an important element in achieving this aim.

Considering the organisational and economical development background of the SAA and the NSF, it is also interesting to consider that both sport systems have faced a similar major financial crises in recent times. It has been suggested that this tense financial situation might constitute one important factor which has made the individual coaches more innovative and independent while it brought the different coaches from the different performance levels closer together (Kristine Felde, Stefan Holm). The economic crises appear to have been more severe and longer lasting in Sweden than in Norway due to the smaller economic scale of the athletics market. As for example Stefan Holm indicated, without the informal and continuous cooperation of the coaches in the field, the achievements of Swedish athletes would not have been possible as the support from the federation especially for the development of the elite sport was marginal.

Unique to the Norwegian case was that the financial crises had been preceded by a strong pressure to improve the sporting performance due to the disaster at the 1988 Olympics and the nomination of Lillehammer as the host for the 1994 Games. This situation in the early 1990s supported the development of the central elite sport support unit OT and led to its “relatively” strong integration in the training practice of the different special sport federations.

It was also in Norway that it was frequently stated that coaches would openly share their training concepts as any attempt to copy a given approach would lack the intangible knowledge of the respective coach or athlete (Ulf Morten Aune, Torbjørn Broks Pettersen). This general attitude and conviction fosters the exchange of experience in the coaching community, or, as a minimum, it does not create protective behaviour. Even though similar considerations might also underpin the knowledge sharing culture in Sweden (Anders Borgström, Ulf Karlsson), it was only in Norway that this was communicated so clearly and frequently by the coaches.

Unique to the Swedish context is the virtual non-existent demarcation between the national team and the normal club level sport. Hence, while the NSF currently tries deliberately to blur the line between grass route and elite sport (see next section), the Swedes appear to have such a united athletics environment by default, due to the squad system and coach hierarchy concept they developed.

(III) Conscious Interventions

The social-geographical and socio-economical factors as well as the resulting general atmosphere in the two sport systems provide many potential explanations for the development of the observed culture and atmosphere in Norway and Sweden. As many interviews such as Jenny Kallur, Jan Muren, or Peter Altering indicated, there are however also in both systems key individuals like Ulf Karlsson, Anders Ryden, Per Nymoen, or Bjørnar Håkensmoen who developed clear visions according to which they wanted their sport systems to develop and who introduced a specific portfolio of interventions to achieve their goals:

Some people have made some conscious choices - Ulf Karlsson for example. Some people had that working hypothesis that the team is an important factor for success. (Peter Altering)

It can thereby be stated that the different initiatives which are included in this portfolio seem to have a similar net impact in both countries. Thus it should be concluded that the curricula of the Holistic Coaching Concept (HCC), the Coaching Project (CP), the *elitidrottsskolan* (EISP), and the SAA youth and junior national teams taken together have a similar effect on the development of the culture in the Swedish athletics environment as the 24hr Athlete (24hrA), the Competence Programme (CoPo), the Junior National Team (JNT) of the NSF, and the human resource management policy, which the NSF national team captain applies, have on the atmosphere in the Norwegian cross-country skiing environment.

In how far individual initiatives such as the JNT and the EISP are comparable remains difficult to evaluate. Nevertheless, as the remaining discussion in this section will show, the above interventions and programmes have similar targets; they achieve similar effects; and, the way they work and the actual content of their curricula can also be described in great depth and detail.

SAA's Youth and Junior National Teams vs. NSF's Junior National Team

Despite structural and organisational differences, the underpinning goals and implications of the different junior national teams of the SAA and the JNT of the NSF are very similar. Both should not just be considered as simple age-specific training groups. On the contrary, a major part of the agenda both schemes provide is the education of the athletes and, especially for the Swedish case, the education of the athletes and their home coaches. The general goal is to enable the talented youngsters to coach themselves during their development from the junior to the senior level. A second target is to introduce upcoming talent from a very early age into the general culture and atmosphere in and around the senior national team.

SAA's Holistic Coaching Concept (Sweden) vs. NSF's Idea of the 24hr Athlete

As indicated before, the rationale which underpins the HCC and the 24hrA is also similar. Both concepts suggest that a coach should not only focus on the athletes' sporting affairs but also help him or her with non-sporting problems. While it might be the case that the HCC is more directly integrated into the coaching practice in Sweden than the 24hrA in Norway, both concepts appear to be well communicated throughout the two coaching communities and foster in both sport systems the development of a coach-athlete relationship of equal partners.

NSF's Competence Programme (CoPo)

The Competence Programme (CoPo) which was introduced into the NSF recently has no direct equivalent in Sweden. The CoPo follows an already familiar aim which characterises both sport systems as it was primarily introduced to blur the line between the club sport and national team environment. The CoPo includes four major elements while all these activities are coordinated by Per Nymoen, the coach education officer in the NSF head office:

1. A series of seminars have been set up during which national team coaches present to the participating club coaches their training regimes. The aim of these sessions is to:

... is to educate the coaches and athletes, telling them what we are doing on the national level. So they can pick up something to develop their technique. (Bjørnar Håkensmoen)

2. The national team coaches organise and offer joint training sessions and training camps. While the senior national team travels through Norway for their regular training camps during the summer, the coaches would for example invite skiers from the local clubs or gymnasia in the area they stay to join the national team athletes for selected sessions.
3. The NSF set of a network of training hubs across Norway, which are close to the hometowns of the six national team coaches. Here, the respective coaches would help and support the local coaches or athletes to run specific training sessions.
4. Finally, the national team coaches might also visit individual clubs to give direct education sessions about specific topics for the local coaches and athletes.

The following quote is taken from an interview with a club coach which was conducted during a CoPo seminar in Trysil. It suggests that the scheme appears to fulfil the goal it aspires to achieve:

But these seminars, which have been organised in the past 3 years, are a large improvement. We get ideas and experiences from the top level down to the foundation much fast. I mean, I am not an expert in these things, not very experienced, but I am enthusiastic, I like working with the kids and youngsters. And I had the head coach looking at my videos today. Then you get a direct link from the national team head coach down to one or two athletes in our club when the coach looks at my videos. And I think that is marvels. (Jan Muren)

SAA's Elite Sport School Programme (EISP)

The *elitidrottsskolan* or elite sport school programme (EIPS) constitutes to a certain extent a substitute for the lack of a CoPo in the SAA system. The EISP targets 18 and 22 years old athletes who *have the potential to make it into the SOK top group* (Anders Ryden). The strategic aim of the EISP is to ensure that more *successful juniors* become *top senior athletes* (Lennart Julin). As the following quote indicates, the programme focuses on two major problems which have been identified to be the cause for this low transition rate: firstly, the lack of team work among athletes and coaches; and secondly, the self-perception of the athletes.

One thing which became obvious in the middle of the 90s was that the attitude of athletes and coaches on the junior level was not good enough to do the step from being a good junior to being a good senior athlete. So the SAA started a programme in the middle of the 90s to educate both coaches and athletes. That was very important. [...] Before this programme was initiated, all the coaches were e.g. very much afraid of sharing their own knowledge about training as they did not know each other – there were a lot of secrets. And also the athletes thought they were much better than they were as athletics is a well known sport. And because they were doing athletics, they were thinking they were great athletes – but they were not. [...] This education made it possible for coaches to share experiences and to seek other's knowledge as well as doing things together on the track. Before this programme, it was all secrets everywhere. But this programme opened doors. (Peter Reinebo)

The EISP curriculum focuses exclusively on the education of athletes and their coaches and not on sport related matters. Besides providing conventional lifestyle support topics like media management seminars, nutrition advice, and sport theoretical education, the more unique target and goals of the EISP are:

- That coaches and athletes are always educated together;
- That the EISP fosters the idea of the HCC;
- That the participants discuss on a more general and abstract level what it takes and means to be an elite athlete;
- To develop one coherent group out of the participants rather than to further develop the individual performance.

These goals are achieved by conducting conventional team building exercises during the seminars which are organised for the EISP every two months.

In addition, the seminar sessions are also designed to serve this purpose. Anders Ryden described for example that for one seminar they were:

...away for five days and the athlete lived in small cottages, three in one house, and we had our nutritionist with us and she educated them and after this they had to do the practical thing themselves, they had to do their lunch and dinner themselves.

NSF's Human Resource Management

Another difference between both systems lies within the consciously developed human resource management concept the NSF applies to the coaching and support staff in its national team. Bjørnar Håkensmoen indicated that he aspires primarily to have in his team of six national coaches a "healthy" mixture of practically experienced and theoretically educated coaches. He, as well as Ulf Morten Aune, indicated at the same time however that subject-specific knowledge is not the only important factor. The NSF would also look for social competence, communication skills, and an open team work attitude among potential new candidates:

And this also influences the search for coaches and service staff. We cannot have people who just stay in their corner – that does not simply work. These competences are very important and we try to make sure that those guys who cater for the athletes at major events have certain social competences – otherwise it would not work. (Ulf Morten Aune)

This affects directly the general knowledge sharing culture in the national team.

SAA's Coaching Project (CP)

As the SAA does not have a team of fulltime-employed national coaches, the national team captain has only limited means to follow or apply a similar approach. The *Coaching Project* (CP) which Ulf Karlsson introduced appears however to constitute a sufficient substitute as it follows two major aims:

- Firstly, to create a strong cooperative atmosphere and a culture of sharing knowledge among the coaches in the closer and wider national team environment
- Secondly, to make the Swedish national team coaches better in dealing with their athlete as a person, i.e. the coaches mental training and leadership skills of those coaches who are selected for the CP.⁹

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⁹ The curriculum for the programme was developed together with Nils-Egil Rosenberg who is considered as one of the leading experts in mental training.

According to Peter Altering and Ulf Karlsson, during the CP seminars, how a coach should interact with an athlete in general, how he or she can support the athlete to handle the atmosphere on a competition (the media attention or the environment in the village), and how the coach can improve the environment in the athlete's home club environment is discussed. Many of these elements reflect the idea of the HCC. A special element of the curriculum is also to develop a comprehensive list of action plans for all possible incidences which could occur during a major competition: lost poles, bad food, *even a scenario if someone gets overrun by a car – what to do then?!?* (Ulf Karlsson). Ulf Karlsson, the initiator of the CP explained the rational behind the scheme as follows:

The idea was that we would know what to do in any possible situation. That might not exactly be coaching, but in the whole role of a coach, that is one part. It is about good preparation for everything. And this project was one factor for our success. When the athlete knows that the coaches are able to handle every potential scenario, if they are well prepared, they will feel safe: no matter what might happen, the coaches will be able to fix it. And if athletes feel safe and are in harmony – they will do good results. This is a symbiotic effect.

The 16 coaches who were initially selected for the CP were not necessarily recruited due to their discipline-specific knowledge. For Ulf Karlsson, *it was important that they were able to build up a relationship, that they were able to handle people.* These CP coaches form the core group of “official” national team coaches as for example for the 2004 Games.

But CP coaches do not only form the team of official national coaches who accompany the team on the major championships. Outside the competition situation, they have the role of mentors for specific athlete - home coach - teams to which they are allocated:

[...] during the whole year, every coach in this group had two to six athletes he had been responsible for. They had to visit them during the preparation phase in their home environment. They had to build up relationships with their home coaches. In smaller competitions in Sweden, the home coach and the responsibility coach coached the athlete e.g. together. This makes the athlete very safe when he or she is alone with the responsible coach from the national team on competitions. That was the goal of the work. (Ulf Karlsson)

In this process the CP coaches' tasks were not only to build personal relationships.

As Kerstin Rosen indicated, they were also supposed to help their allocated athletes and coaches to manage non-sporting matters in their home town environments; offering support to solve specific problems they might have come across; and develop an active link to the national team, the SAA office, and the general support network. In short, the CP coaches' *main task was to look after these athletes, making sure that they have what they need to develop* (Kerstin Rosen). Thus, the CP is not just linked to the concept of *coaching from the side* and the HCC. It also constitutes a substitute for lifestyle support and, like the CoPo in Norway, brings the local clubs, the national team, and the SAA office closer together:

[The SAA] have put a lot of focus in team building and all these different factors which matters for the athletes performance development. That is my point. Many coaches are getting this approach of a good coaching technique. Coaching in the sense of dealing with the athlete but also in the sense of other persons: coach to coach, coach to scientist, Coach to psychologist, coach to many people. (Mikael Johansson)

SAA's Team Building Interventions vs. NSF's Goals, Rules, and Values

With a focus on the athletes who are already on the national team, the NSF and the SAA appear to have found different but complementary approaches as to how to form a group of very individualistic athletes like cross-country skiers and athletics athletes into one coherent team.

Across and between the six different subgroups in the cross-country skiing national team (sprint, All-round men A and B, All-round women A and B, Junior National Team), the NSF coaches organise regular meeting with their skiers during the national team training camps. These take place even during the summer at least once per month. Besides the discussion of sport related affairs, the coaches and athletes continuously discuss, develop, and finally agree on a set of common *Goals, Rules, and Values* according to which the different skiers, coaches, and the whole support team should act and behave during the racing season. Bjørnar Håkonsmoen described this process as follows:

Every spring, each team makes its own rules. In the autumn we pick everything up and the rest of the organisation – the waxers, the doctors, etc. – sit around a table and pick something we should work after. This is a big meeting without the athletes because they have their own set of rules in their three teams. So the coaches, they really use what the coaches and athletes agreed on.

This reflects of course a rather direct, rational, and conscious approach to forming a coherent group spirit. The Swedes appear on the other hand to have developed a more indirect approach to achieve the same goal. In detail, they apply the following practices.

First of all, Ulf Karlsson introduced what could be considered as a general open access policy for all national team meetings and training camps. In short, everybody is allowed to bring everyone he or she would like to have with him or her to the training camps:

The idea is to make everybody feel safe and comfortable. And the most important thing are the home coaches. That was the revolution. Before my time it was like in Germany, the home coaches were not welcome. The federation can only rent the athletes for the Championships. Normally they are with their home coaches in their home environment.
(Ulf Karlsson)

Secondly, Ulf Karlsson introduced the idea that every training camp and team meeting should also have certain non-sporting components and team building exercises. In addition, the SAA holds even regular meetings for the different athletes and coaches who have no sport or training related purpose at all:

We meet over the weekend to do team building exercises. We work for example together in groups, going out into the wood, solving problems and tasks in these groups like getting up in a tree or something like that. And this is everybody – the national team athletes with their coaches. And the teams get mixed up that the thrower coach is in a group with the middle distance runners etc. [...] It has not necessarily something to do with sport. We have these exercises, we discuss problems, everybody is presenting each other in front of the group, they talk about their life, how they grow up, etc. (Ulf Karlsson)

Key players in this team building process of the SAA are again CP coaches and also those athletes and coaches who went through the EISP.

In Norway, such team building activities are also common but less dominant. Hermod Bjørkestøl considered such more event-orientated interventions as *door-opener* which prepare the ground for the process of agreeing on Values, Goals, and Rules.

It can therefore be summarised that the general cultural context in Norway and Sweden is likely to have influenced the nature of atmosphere in the two national teams, and favoured the development of the observed culture in the investigated sport environments. It has also to be stated that the observed culture has come about because of consciously developed initiatives which were introduced by specific key position holders that led the culture in and around both national teams to develop into what it is today. It is also important to emphasise that the success of the interventions were, in both systems, dependent on the cooperation and openness of the people in the field, i.e. the athletes and coaches. A certain amount of luck, which has helped creating the observed culture in Norway in Sweden, must therefore also be considered as an important factor – the luck to have the right people available who embraced the ideas the HCC, the 24hrA, or the ESP introduced.

6.1.4 Summary and Transferability

Despite all organisational and economical differences between the two Benchmarking Subjects, several striking similarities have been identified in the course of this study. At a more general level, it can be shown that compared to other elite sport support environments, the support budgets of the SAA and the NSF - respectively the SOK and OT - are rather small. Also similar appears to be that both systems show a short social or hierarchical distance between the mass and elite sport movement. In fact, both cases appear to represent rather coherent sport systems. Thus, coaching knowledge is in the SAA and NSF system openly exchanged and this occurs formally, through coach education sessions, as well as informally through personal contacts between the different coaches. Not only is the atmosphere among the coaches similar in Norway and Sweden but it has been shown that also the athlete-coach-relationship is rather specific as athletes and coaches meet as equal partners while the latter do not consider the former as simple sport machines. This has led to the development of the HCC, the 24hrA, and the *coaching from the side* approach. It should finally be indicated once more that even though athletics as well as cross-country skiing are known to be highly individual sports, the coaches as well as athletes in the NSF and SAA national teams perceive themselves as members of one coherent team and it could be shown, that “team work” is indeed considered to be an important element in both systems.

The origin of these common features is on the one hand linked to the general background of the two Scandinavian countries and to the history of the sports movements as such. There are however also certain key interventions that can be identified in both contexts which have at least partly influenced the development of the outlined atmosphere and culture. Considering the nature of these interventions it can be stated that some of these concepts and approaches such as the HCC and the 24hrA are nearly identical in Norway and Sweden while others differ in their details. This might be due to the differences in the organisational contexts of the two sport systems, but still, these interventions seem to follow, reflect, and achieve similar ideas and aims as for example the discussions of the human resource management policy of the NSF and the Coaching Project of the SAA as well as the team building exercises around the team meetings in Sweden and the Goals, Rules, and Values setting routines in Norway have shown.

It can be stated therefore that the observed atmospheres in the two national teams are at least partly a result of consciously made interventions. As the discussion so far has shown, these interventions can be described in great detail, the way they work is traceable, and their impact appears comprehensible. In how far a successful application of these practices in a non-Scandinavian context is realistic, is however difficult to evaluate. Based on the gathered information, it remains difficult to judge in how far the socio-cultural context in Norway and Sweden provided the required fruitful ground for interventions like the EISP or the CoPo to work.

Considering however the HCC and the *coaching from the side* approach as an example, the following quote might indicate that these should not be considered as an approach applicable only in the Swedish context. According to Lennart Julin the HCC, coaching athletes side by side, and supporting or guiding athletes and coaches rather than steering them are much more approaches necessary for today's generation of athletes and coaches in general:

It is a system of supporting the athlete, rather than steering them. And this is again reflecting our anti-authoritarian society. Sport is just something you do as a free choice – you do not have a contract to do this. And this is very typical for Sweden. [...] That is maybe also a part of our success that our approach is more modern to the kind of people living in the society today – independent people. They want to make their own decisions and we just there to give advice and support but they are free to take the advice or support.

6.2 Squad System

This section compares the design of the squad systems investigated in Norway and Sweden and analyses the development pathways these two systems offer athletes and skiers. As the discussion in this section will show, the design of the athlete development pathways in both countries is closely linked to the respective national club infrastructure and competition environments. Thus, both of these factors will be briefly outlined at the beginning of this section.

6.2.1 Competition and Club Environment in Norway and Sweden

The very foundation of both sports systems is the extensive, voluntary-work based club environment that provides more or less everybody, everywhere with the opportunity to get involved in the respective sport. It is also a similarity between Norway and Sweden that an extensive and diverse competition environment exists in both countries that offers athletes of all performance levels the opportunity to compete. These include not only child and youth competitions or mass sport events for seniors, but also different competition series for national performance athletes such as the Folksam Grand Prix, national championships as well as regular inter-Scandinavian competitions like the Finkamp, or such prestigious events like the Birkebeiner Race or the Holmenkollen Ski Marathon.

In both sport systems, the combination of a strong club infrastructure and an extensive competition environment provides realistic and interesting intermediate aims for athletes of all performance standards to train for and the general opportunity to get involved in the sport. Furthermore, the combination of an extensive club infrastructure and a prestigious competition environment also provides a substitute for a centrally-organised talent identification and development scheme as the clubs themselves scout for talents in their respective regions in order to succeed on the national competition circuit. The coaches of the national teams just need to “scan” the result of different regional and national competitions to identify regularly winning athletes when recruiting for the national team.

Besides these similarities, there are, however, two important differences between the two competition circuits.

Firstly, the economic foundations of the two sport systems appear to be different. While only a few athletes can live off their sport in Sweden, it appears as if the Norwegian cross-country skiing market supports a substantial number of (partly) professional skiers.

Secondly, clubs in Sweden and the SAA consciously try to provide promising young athletes early in their development with access to international competitions. However, the young Swedish athletes travel on rather Spartan terms. As Lennart Julin indicated, a group of middle distance runners would often sleep in youth hostels when travelling by minibus to and from small or minor competitions in Germany:

And you get these experiences, if the athletes go out and travel competing on lower lever events. The federations as well as the clubs, as this procedures is established now, are supporting the athletes on this. For example, the middle distance runners, they might hire a car and tour Germany or so for a week to go from competition to competition. It is not luxury or so but it is important to get experiences to compete in unfamiliar circumstances. That is a way of preparing athletes for the future. It is important to feel trygghet, that means safe, secure, not worried, etc.. This is important to perform well. You cannot perform if you worry too much.

As the quote indicates, besides providing athletes with realistic and interesting intermediate aims and motivation, one of the important effects of this early exposure to international competitions is that Swedish athletes are rather calm and confident when they travel later in their career to the major international championships.

6.2.2 The Squad System of the NSF and the SAA

This section describes the actual structure of the two investigated squad systems. Based on this information, the next two sections investigate the processes and criteria on which athletes and skiers are granted access to the different squads and support programmes. It can be stated that the different entities and institutions, which form the NSF and SAA squad systems, look very similar:

Home Club and Home Coach

The foundation of both systems is the home club. Athletes in both systems have close connections to their home coaches and clubs before they are selected to the national team. Hence, the volunteer coaches appear to be more than just a starting point on an athlete's development pathway in Norway and Sweden. They appear to be the backbone of the two systems.

Gymnasia

In both sport environments, a similar network of national and local sport gymnasia (secondary schools) exists. There are, however, organisational differences between the Swedish athletics and the Norwegian cross-country skiing gymnasia. The most striking difference is that the latter are schools with an own teaching infrastructure, i.e. with an own school building and teaching staff. The gymnasia in Sweden are, on the other hand, based on agreement with the conventional schools in the respective towns, i.e. while the athletics gymnasia staff organise the coaching and after-school support for the young athletes, the teaching itself is provided in normal schools. However, the basic idea of these sport-orientated secondary schools is similar in Norway and Sweden: they allow talented and dedicated athletes (15 to 19 years) to conduct their training while gaining a conventional school education.

Youth and Junior Level

The first "squads" which are organised and supported by the respective federations are in both countries the junior national team(s). However, even though the net support the NSF and the SAA offer their top junior and early senior athletes (U18 to U23) through the different support institutions, schemes, and programmes is arguably similar, the way this support is provided and structured differs between the two systems:

The Junior National Team (JNT) of the NSF supports the twelve best skiers in Norway (six boy and six girls) who are between 18 and 20 years old. They are supported by one fulltime coach and meet regularly for specific training camps. However, these twelve skiers do not constitute the whole team which would go to international junior competitions. The twelve JNT athletes are joined for these competitions by skiers from the clubs or gymnasia who also qualified to participate.

The three national teams the SAA organises and supports on the junior national team include all athletes - and their home coaches - who have qualified for the international youth and junior events (three different age group championships: U23, U20, U18). Besides travelling together to the different competitions, the athletes and coaches meet for training camps and education sessions which are organised by a (volunteer) coach who works exclusively with the respective team, i.e. he or she would stay for two years the U18 team coach and become afterwards the U20 team coach. The support of the different SAA junior national teams, however, does not seem to be comparable to the support the skiers in the more extensive JNT in Norway receive. The twelve Norwegian skiers have one fulltime coach working only for them.

In addition to the junior national teams, the SAA runs the *elitidrottsskolan* programme (EISP) which provides the most talented junior and early senior athletes (n ~ 15, age U23) and their coaches with direct and indirect sport-related education. It was indicated earlier that the EISP should not be considered an actual training support scheme like the JNT in Norway as it does not provide any direct training related activities. However, athletes who are on the EISP tend also to be on the national team. It can therefore be considered that the net support, which top-talented athletes in Norway (through the JNT) and Sweden (through EISP and national team) receive is, after all, similar.

A clear similarity between the NSF and SAA approaches on the youth and junior level is that both systems focus their support not only on the provision of age group specific training, but on the development of the athletes' and (particularly in Sweden) the home coaches' knowledge. This refers to the provision of direct sport related knowledge (injury prevention or training in the transition phase) as well as to the discussion of more general matters as the culture in and around the national team environment.

Senior Level – Clubs, Competitions, National Team, SOK and OT

The next step in the centrally-provided support infrastructure after the JNT, or the junior national teams and the EISP, is in both sport systems the senior national team. Neither the NSF nor the SAA provides an additional connection squad to support the athletes' transition from the junior to the senior level.

The senior national teams are run in both systems by the sport federations and partly supported through the central elite sport support institutions. Not all athletes and skiers on the SAA and NSF national teams are supported by the SOK, or OT as only those individuals on the national teams who have shown a true potential to succeed on the international top stage (making the finals at the World Championships and Olympic Games) are considered for the centrally provided support schemes.

In 2005, the SAA had about 70 athletes on the senior national team. Eleven of these 70 athletes are on the SOK programme. The SOK offers a top programme and a talent programme. The latter caters for the most promising junior and young senior athletes, the former for senior athletes who have already succeeded on the international sport stage. Six of the eleven SAA athletes, who are on the SOK programme, are on the top programme and five on the talent programme of the SOK. In total, about 50 coaches are considered national team coaches, while only about 15 coaches are organised in the Coaching Project (CP) that forms the core of official national team coaches who travel to the international championships.

On the other hand, the Norwegian senior national team includes 27 skiers who are organised in three main sub-groups: ten skiers are in the men's all-round team; nine skiers are in the women's all-round team; and eight skiers are in the men's sprint team. Fifteen of these 27 skiers are also on the support programme OT offers. OT differentiates between two sub-support schemes: nine of the 15 SAA skiers are on the A scholarship scheme and six on the B scholarship scheme. OT offers furthermore a talent scholarship. Of twelve skiers who are on the JNT the NSF offers, six are on this scheme. The NSF senior national team is organised by 5 fulltime coaches, plus one coach for the JNT.

Connection Squad through Club Infrastructure and Competitions Circuit

As indicated, neither the NSF nor the SAA provides a formal connection squad. As skiers are not expected to enter the senior national team before they are 23 or 25 years old, it is very unlikely for a cross-country skier to join the national team directly after they have been on the JNT. Hence, skiers rely heavily during the transition period between JNT and national team on the extensive club and competition infrastructure in Norway (see section 6.2.1). This includes numerous racing teams organised and financed by local clubs, district federations, or private sponsors.

The competition infrastructure which underpins the Swedish athletics environment is of equal importance for Swedish athletes as it caters in similar ways for those athletes who cannot enter the national team after leaving the U23 team national team. The different clubs and competitions in both cases provide developing athletes with realistic and interesting intermediate goals during their further development.

In other words, the club and competition environments appear in both countries to provide an important “bridging function” between centrally provided support for late junior or early senior athletes (especially the JNT and the EISP) and the actual senior national teams. In other sport systems this bridging function might be provided by a specific connection squad, which is run and supported by the national federation and which caters for those young senior athletes who do not fulfil the requirements to enter the senior national team but who are at the same time too old to be supported by the support schemes offered for junior athletes.

6.2.3 Access to the Squads and Support Programmes

Interesting similarities were also identified between the two investigated sport systems concerning the access policy for the different squads and support programmes, in terms of the criteria and procedures on which athletes are granted access to the different teams and schemes.

Programmes and Squads offered by the SAA and NSF

Access to the different programmes and squads the NSF and the SAA offer is handled identically. Due to the lack of a development, potential, or connection squad, the access to the existing schemes is more or less exclusively based on results achieved in competition: the most successful athletes in the national competition circuit will be chosen for the national teams. Ulf Morten Aune confirmed this with the following statement:

In total our system is not based on a point scale or something like this. It is simply the discussion if an athlete is good enough or not: competition results. And I think this system has proven its usefulness.

As the quote shows, the officials in the NSF do not consider this simple procedure as a disadvantage.

SOK and OT

Access to the schemes the SOK and OT offer is also handled with a similar, two-staged process. First, the sport federations have to submit an extensive application for each national team member they consider most likely to succeed at the next Olympic Games. In the second step, OT and the SOK evaluate the applications using the sport federations' recommendations and each athlete's competition results as the evaluation criteria (this is for the SOK top programme and OT's A and B scholarships).

Most exceptional talents among the younger senior athletes can also be considered for the support programmes of the SOK and OT, if they show outstanding success at the respective international junior championships (this is for the SOK talent programme and OT's talent scholarships). As Ulf Karlsson emphasised, in all cases the sport federations are required to provide a solid argument for the future potential of each candidate, which has to be backed up by each athlete's past sporting achievements. Successful applicants are for example required to have finished third or fourth at the European or World (senior or junior) Championships.

Besides the strictness of the selection criteria, the second key similarity between both systems appears to be that it is not the sport federations that decide which athlete is granted support, but the general support institutions. For example, Anders Ryden indicated that the SOK would support 100 SAA athletes, if the SAA would have 100 true potential medal winners – if they have only five, only five will be supported.

Gymnasia

The only exception to the use of competition results in the selection process is the access management to the gymnasia. Here, the applicants' school grades, competition results, as well as their raw sporting potential are considered. In both systems the evaluation is based on written applications, trial days, and training camps. The final selection is made by the respective coaches at the gymnasia.

Deselection

The deselection policy from the different support schemes is strict and simple in both countries: if the competition results decline the athletes will lose their places on the national team or support schemes. However, it is also the case that the step down from the national team – apart from any emotional implications of being deselected – does not constitute a substantial change in the athlete's sporting life. In Sweden, the training of national team athletes is conducted by the home coaches in the home clubs anyway, so deselection from the team does not change the athletes' training conditions; and in Norway, every national team skier who does not want to retire after he or she has been removed from the national team, would normally be able to (re-) join one of the different racing teams (Ulf Morten Aune). This reflects, of course, once more the importance of the mature club and competition environment for this "Scandinavian Squad System Design".

Flexibility

Injured athletes or other special cases, which require a certain flexibility from the general selection and deselection rules, are handled similarly and informally in both cases: athletes stay on the team or support scheme if they show the ability as well as the motivation to make it back onto the international top stage. This is evaluated through constant but informal communication between the athlete, his or her home team manager, and, if required, the contact people in the central support unit (SOK and OT).

6.2.4 Service Portfolio on the Different Schemes and Squads

It remains difficult to evaluate and compare the width and depth of the service portfolios that are provided on the different support schemes in the two investigated sport environments. Such an evaluation is complex as it has to consider the nature of the support the two sport federations provide; the support the general elite sport support institutions offer (i.e. OT and the SOK); the extent to which the athletes of the investigated sports use the support the central support organisations provide (e.g. to what extent the cross-country skiers in Norway use the support OT offers); and the support the sport environments themselves provide, such as the support the district federations, the local clubs, and the individual coaches offer.

Considering centrally provided support, it can be concluded, based on the gathered data, that the general nature of the support OT and the SOK offer is similar. It can also be concluded that the quality and the width of the net support the two sport federations provide through their different support programmes (i.e. EISP, CP, junior national teams, CoPo, JNT, and national team taken together) is also similar.

On the other hand, and primarily due to a stronger economic foundation, it seems as if the quantity of the support OT and the NSF can make available for the skiers on the national team is more extensive compared to the situation of the SOK and the SAA. Norwegian skiers get, for example, direct financial support from the NSF in addition to the OT scholarships. Athletes in Sweden currently do not get any direct financial support from their federation.

It seems possible to conclude that the lifestyle support infrastructure, especially for athletes who are in the transition phase between the junior and senior levels, is further developed in Norway than in Sweden. Both systems, the SOK and the SAA and the NSF and OT, try to provide their athletes with specific study conditions in conventional university programmes. These programmes aspire to provide athletes the possibility of completing a conventional degree while only undertaking 75%, 50%, or only 25% of the typical workload per term, stretching the conventional curriculum over twice the normal study time. The Swedes have just begun to promote this idea and the four athletics-specific programmes currently available are only accessible for athletes who are already of national team standard. OT and the NSF have on the other hand already developed a wider, more extensive network of universities and colleges which cooperate more or less formally with the sport system. Today, the Norwegians are even able to offer the special study conditions in some places to athletes on a lower performance level than the national team.

At a more general level, it can be concluded that the support that is available for cross-country skiers in Norway appears to be more centrally-organised (i.e. through the NSF and OT) as well as more formalised and standardised. The general athletics environment in Sweden seems on the other hand to constitute an even closer community than the Norwegian cross-country skiing environment, in that the coherence between international elite, national performance, and mass sport levels appears to be higher.

Hence, the support which is available in Sweden might be distributed faster and provided on a more individual basis as Christian Augustsson statement suggests:

Our system until now was that we take each flower and let it grow at their own place and we support it there. That is also where I am standing. You have to have a person coach for every athlete so that you can find the right solution for each athlete. And if it comes to money, we do not have any money.

6.2.5 Summary and Transferability

Several similarities can be found between the two investigated squad systems. The first and most striking similarity is that the role of the local clubs, the voluntarily working coaches, and the mature competition environment appears to be fundamental for the success of both sport systems. Secondly, both systems appear to be equally “Darwinistic” especially in the transition phase between the junior and senior level. Either an athlete enters the senior national team right away, or he or she has to manage this development phase with the support the club or racing team coach provides. This strictness is also reflected in the access requirements for the existing support schemes as they are more or less exclusively based on achieved competition results. Thirdly, it can be considered that the quality and width of the overall net support the NSF and the SAA, respectively the SOK and OT, offer are rather similar even though the Norwegian system appears to have a certain advantage concerning the available support budget.

Considering whether the identified practices are transferable to another context, and how far the observed structures provide an informative lesson for another elite sport systems to follow, the picture is rather ambivalent. The key problem in evaluating the transferability of the observed practices and structures is that both systems are highly dependent on their national club and competition infrastructure. Such an infrastructure is not directly transferable to a sport system which does not have a similar national backing like cross-country skiing in Norway and athletics in Sweden. However, it might still be possible to draw certain general recommendations from the two investigated cases.

As this section indicates, it can be concluded that both systems show that success at the international top sport level is achievable based on a rather small elite sport development and support programme as long as the general sport infrastructure is appropriately developed, i.e. club and competition infrastructure, and the elite sport programme are well connected in these structures. Based on these observations, it can be concluded that the two Benchmarking Subjects suggest that the national grass roots, performance, and top sport programmes in a sport system should be well integrated into each other and not treated as separate entities. This observation is going to be further emphasised through the discussion in the following sections.

On a similar note, the NSF and the SAA both emphasise the importance of voluntary work for the long-term development of a national sport system and for securing systematic elite sport success. It becomes difficult to maintain a sufficient flow of talented young individuals into an elite sport programme if these *dedicated souls*¹⁰ lose their enthusiasm by feeling marginalized by top athletes and professional coaches. Thus, it can be argued that other sport systems should carefully investigate how far they cater for these dedicated souls and how they keep them motivated. Interventions like the CoPo the NSF introduced provide precise ideas on how other systems can improve this situation.

Besides these more general conclusions, there are also certain areas where more tangible recommendations for other elite sport systems can be made.

Considering the different support programmes, which have developed in the NSF and SAA environment, a clear similarity between the different schemes appears to be that those which provide support on the late junior and early senior level (i.e. JNT and EISP) do not exclusively focus on the delivery of an age appropriate training to the respective talented youngsters. The support includes the theoretical education of the athletes concerning direct sport-related questions (how to train, what to eat, or what to do when injured) as well as indirect sport-related ones (what does it mean and take to be a top athlete or what is the culture in the senior national team). As it appears unproblematic to benchmark the curriculum of a squad system which exists in another elite sport system against this practice, it should be possible to apply this idea in a different context.

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¹⁰ Translation from Bjorn Daehlie's book in which he described the role he perceives enthusiastic voluntary leaders and coaches to have.

A second practice that seems to be transferable to another elite sport system is the strategy of providing simultaneous support and education of the athletes and their home coaches at the same time. This approach was observed especially at the junior level in Norway and Sweden.

Focusing on the senior level, the selection process, which the SOK and OT have developed, also constitute an interesting practice that other sport systems can benchmark against. In both systems, it is not the sport federation that decides which athletes will join the main support programme. The individual athlete, his or her coach, and the sport federation have to convince the general support institution (OT and the SOK) that an individual is worth supporting – and this process has to be repeated for each athlete, every year.

A final lesson which can be learned from both selected Benchmarking Subjects is the importance of early exposure to international, or high-quality national competitions. Doing so is beneficial in motivating the athletes, helping them to set intermediate goals, and providing them with experience they will benefit from later in their career. Considering the Spartan conditions under which the Swedish athletes travel across Europe, this is an economically realistic practice even for smaller sport systems.

6.3 Hierarchy of Coaches

Swedish athletes stay together with their home coaches throughout their whole sporting career. Due to this approach, the Swedish coaching community appears to be a very coherent unit as the transitions between the different types of coaches (club, gymnasium, and national team coach) are very blurred. In other words, a coach hierarchy does not exist. In Norway, on the other hand, a conventional, clearly differentiated hierarchy of different coaches appears to exist. Figures 6-1 and 6-2 provide a general overview of the design of the two coach hierarchies and list the different types of coaches which can be distinguished in the two systems. This section investigates in more detail what the two coach communities in Norway and Sweden look like as well as if and to what extent they differ.

Figure 6-1: The Swedish coach hierarchy

Figure 6-2: The Norwegian coach hierarchy

6.3.1 Key Characteristics of the two Coach Hierarchies

Two key similarities can be identified between the NSF and SAA systems which might differentiate them from other elite sport systems in other countries. Firstly, most of the coaches in Norway and Sweden work voluntarily. Indeed most of the national team coaches are volunteers in Sweden.¹¹ Secondly, in neither system is it compulsory to take part in the education schemes that the federations offer. This counts for coaches at the club level as well as for elite coaches. As the majority of the coaches are volunteers, Per Nymoen as well as Anders Ryden indicated that their federations would not be able to force them to participate in such seminars:

We cannot force anyone to take a course. So we actually think the other way around. It should be so interesting for the people to take part at the courses so that they have to be there.

However, besides these striking similarities, there are also two substantial differences between the Norwegian and Swedish systems concerning their coach hierarchies.

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¹¹ A rather blurred transition between voluntary work, covered expenses, compensation for invested time, and an actual salary exists in both systems. This makes a final differentiation between professionals and volunteers difficult at times.

As indicated earlier, the most fundamental difference between the two investigated systems is that the Norwegians have a formal hierarchy of coaches, as demonstrated in Figure 6-2. Most skiers work with a youth coach in their home club, a gymnasium coach, the coach of the JNT, and a coach of a local racing team during their development, before they start working with the coaches of the national team. In Sweden, however, athletes are normally not coached by more than one or two different coaches throughout their whole careers.

Secondly, due to this structural difference, the Human Resource Management strategy the national team captain of the NSF can apply concerning the team of national team coaches is much more explicit than that applied in the Swedish system. As Bjørnar Håkensmoen describes, coaches working with the NSF national team are first of all selected and mixed according to their educational and practical background:

We in the national team, we are working as a team. So I try to make this group like a cake – one coach is good in this area, another coach is better in that field. Bases for all is that they have a lot of experiences in cross-country. Some are former cross-country skiers themselves from the national level or below national level. Some have been at the university and got a master or something like this. So we have got a mixture right now. The coach of the men's A team is a former cross-country skier himself but does not have a university degree. But he has got a very good feeling and experiences in managing a team. Such personal properties are very important in my opinion. So we have a mixture. I try to mix it in a good way so that we as a group can develop each other.

Besides deliberately mixing individuals with practical and theoretical experience, most important in the recruitment process is the social competence of the potential applicants and their ability to work in a team. This is essential as the national team captain aspires to create a mature communication and cooperation atmosphere between and among the national team coaches. As Bjørnar Håkensmoen indicated, they have also monthly meetings only among the themselves to discuss training and administration-related issues:

Once a month we have got a one day meeting where we put some issues on the table. We are putting every data, training protocols on a data sheet on the computer and exchange this between the coaches. So they can look at the training the others do. [...] I mean you need to think that way and you need to get input – from the athlete, from me, or from other coaches.

This fixed meeting routine, the explicit recruitment policy, and the concept of formally agreed upon Goals, Rules, and Values that guide the interaction between and among coaches and athletes in the national team (see section 6.1.3), create an atmosphere that encourages team-work among the NSF national team coaches. Ulf Morten Aune, who worked also as a coach in other cross-country skiing systems, indicated that:

[I] think there are not many other sport nations in which the coaches work so well with each other. We constantly exchange ideas and thoughts among each other and try to look ahead.

On first appraisal, the Swedish system does not appear to be able to apply such a rigorous Human Resource Management strategy as most of the national team coaches change positions frequently because only those coaches who have athletes on the national team become national team coaches. However, it is also important to consider in this context the Coaching Project (CP). The coaches who are organised in the CP are the official national coaches of the Swedish athletics national team. They travel with the athletes to major events and support them and their home coaches on training and lifestyle matters in their home club environments. If the recruitment criteria for the CP and the Human Resource Management strategy of the NSF are compared, one key similarity becomes apparent: in both systems not only is the sport specific knowledge of the candidates decisive, but equally important is their social competence to be able work together with athletes and other coaches. Mikael Johansson verifies this similarity, noting:

Many coaches are getting this approach of a good coaching technique. Coaching in the sense of dealing with the athlete but also in the sense of other persons: coach to coach, coach to scientist, coach to psychologist, ... coach too many people.

This indicates that the design and the atmosphere in the coach communities in Norway and Sweden are actually not as different as the first comparison of the respective structures suggests.

The importance of such social and soft-skills - specifically the ability to work with athletes - also provides an explanation for the similar way coaches in Norway and Sweden describe their relationships with their athletes. Ulf Karlsson, Christian Augustsson, and Jon Arne Schjetne indicated that their aim would be to make themselves obsolete; to teach the athletes to coach themselves; and that they would consider themselves sparing partners for the athletes rather than providers of training plans.

This indicates first of all that a partnership-like relationship between athletes and coaches exists in the two investigated sport systems. This idea of a coach - athlete - relationship among equal partners provides in turn an explanation for the observation that the relationships between skiers and home coaches seems to prevail when the skiers enter the national team. Even though they might be officially trained by a national team coach, Are K. Blyverket indicated that there is normally the *one coach who made the difference* in a skier's development and, no matter who formally conducts the training for the athlete, this *one coach* often remains an important source for general advice as well as an additional discussion partner for training-related matters besides the national team coach. This was also highlighted by Nils Asle Bergsgard and Pål Augestad when they stated based on their own observations:

... that the home coach was more important than the national team coach. [...] But this is mainly for the male athletes.

6.3.2 Summary and Transferability

The Norwegian system seems to provide a rather conventionally organised coach hierarchy in which athletes develop through different stages and change their coaches accordingly. The Swedish approach appears, on the other hand, to be rather unique and is best characterised by Anders Ryden's slogan: *athletes and coaches always go together*. Even though the six national team coaches are formally responsible for the training of the national team skiers, the Norwegians appear to also value the athlete's connection to his or her home coach, to the *one coach who made the difference*, as much as the Swedes. Thus, Per Nymoen indicated that most national team coaches would allow their athletes to cooperate with coaches outside the team and would be willing to work together with them:

And often, they still have their club coaches when they join the team. And then a combination has to be found between the club coach and the team coach.

It can be concluded that, even though less obvious, the Norwegians follow a similar approach to the Swedes by letting the athlete decide where he or she gets advice and support from. Other similarities between the two systems include that formal coach education certificates not being required and the prevalence of voluntarily working coaches at most performance levels.

Considering the situation of the coaches on the national team as such, the situation of the NSF looks initially to be more professionally organised and mature (six fulltime coaches, clear Human Resource Management, extensive meeting routines) than the situation in Sweden. This first impression changes however if the CP is also considered in this context. A resulting strong knowledge sharing and team work culture appears to be the common feature of both coach communities.

Concerning the transferability of the structure and practice which were discussed in this section, it can be stated that the gathered data suggests first of all that top performing athletes do not only require access to high quality training but also a mature personal relationship with a “coach they trust”. Based on this research, other sport systems, which have, like the NSF, a team of professional national coaches, should note that the importance of the athletes’ relationship with their home coaches should not be underestimated. More specifically, it is necessary to investigate carefully if and how the own system caters for this relationship. As Per Nymoen indicated, it could, for example, be considered the responsibility of the national team coaches to develop an appropriate triangular relationship between athlete, squad coach, and home coach.

A second key finding is that both cases emphasise the limited use of coach certificates as certification cannot show if a coach knows much about practical coaching; if he or she is able to cooperate with other coaches; if the coach is able and willing to develop the own and other coaches’ knowledge; and if he or she is able to approach an athlete appropriately. The Human Resource Management strategy the NSF applies and the selection criteria Ulf Karlsson introduced for the CP suggest alternative or at least additional ways of how to select, further educate, and manage national team coaches.

It is, however, at the same time a different question whether another sport system should or could disregard formal coach certification as education requirement for coaches. A key problem in this context would be the liability of uncertified coaches, which could be a problem in countries with a strong “suing culture” like in the USA.

A more fundamental recommendation that can be drawn as a best practice from the gathered data seems once more to be the approach of blurring the line between top, performance, and grassroots sport, respectively between club, gymnasium, and national team coaches. Bringing them closer together is a common goal in Norway and Sweden and both systems suggest different approaches as to how to achieve this goal: the CoPo, the CP, or using coaches from the gymnasia and national team to educate club coaches. As the two case studies have shown such measurement can be introduced to change the culture and atmosphere in a coach community.

6.4 Coach Education

This section compares the education schemes Swedish athletics and Norwegian cross-country skiing coaches have access to. It is necessary to differentiate between the coach education the sport federations offer and the education which is offered through other sources.

At the beginning of this section, it is also necessary to state that the economic foundation of the coach education programme differs significantly between the two cases. Anders Ryden, the coach education officer of the SAA, emphasised at the very beginning of his interview that coach education - like all other activities the SAA organised after its bankruptcy in 1995 - had to be organised on a very small budget:

And I have a total budget for this year of 22,000 Euros – and this is for whole Sweden. You cannot do so much with this. So my task is to encourage the people to develop their knowledge themselves. You have to find different way. You might meet coaches who will say that we do not have any real education in Sweden. That is right, I do not get the money to do it.

As Anders Ryden indicated, the financial situation influences the design as well as the goal of the education the SAA provides. In contrast, the NSF coach education officer has access to a budget of about £400,000¹².

6.4.1 Education Provided for NSF and SAA Coaches

Despite the significant economic differences, there are two important structural similarities between the two coach education schemes. First, the coach education in general and the coach education officers in specific appear in both cases to be key factors which keep the different elements of the two systems together. As Per Nymoen explains, they bring and hold elite, performance, and mass sport together and provide the link between the federations' head offices and the local clubs:

And as a personal slogan, I feel that my role is to be the link between the federations, the national coaches, and the clubs and the people.

Second, and this has been stated before, it is not compulsory to take part in the coach education seminars the federations offer. Hence, the coach education officers have to consider carefully what they offer and how they present it. If the access to the education is too inconvenient or if the discussed topics are too abstract coaches will not attend the seminars.

Focusing in more detail on the actual design of the programmes the two federations offer, it must first of all be stated that the two programmes vary concerning their general composition and extensiveness. This is indicated by Tables 6-1 and 6-2 which provide a general overview of the different elements in the two coach education schemes. Key similarities and differences between the two systems are to be discussed in more detail in the remaining part of this section.

¹² This also covers other recruitment and grassroots orientated support activities.

Table 6-1: The coach education environment of SAA

Focus of the education	Coaches for athletes	Set up by	Organisational form	Curriculum, aim of the education	Volume	Budget and costs
Participation orientation	7 to 10 years	Local club	SAA education material bases	Have fun with athletics	5 x 2hrs	The SAA budget is about Euro 22,000 (about £15,100) p.a. to provide education
	10 to 14 year	Across different clubs	SAA educates tutors from the region		2 x 2 x 8hrs	
	14 to 17 years	A region	Tutors support the coaches in the clubs working through the material		2 x 2 x 8hrs	
Performance orientation	17 to 20 years	SAA Anders Ryden	Course-based	Empowerment and Networking	5 x 22hrs	Each coach (or the respective club) has to pay about £1000 for the course-based education
	20+		Seminars often conducted by successful coaches themselves	Show coaches what could be learned, how it could be learned, who could be contact, and forming first contacts	5 x 22 hrs	
	Not offered due to lack of financial resources Coaches with athletes on the national team		Sometimes supported by/ hosted at the Idrottsfölkögskola in Bosön	50% sport specific know-how, 50% soft skills	Not offered due to lack of financial resources	Supported by the Idrottsfölkögskola in Bosön
			Learning through teaching	Understand & further develop own training practice		
		SAA Event group coaches	National discipline coaches organise specific meetings, camps, trips to competitions, etc.	Discipline specific know-how		
		SAA Age group coaches	U18 to U23 coaches training camps and education meetings where age group specific knowledge is provided	Age group specific know-how		
		SOK	Reviewing of existing training plans by SOK specialists and researchers	New, updated training framework for a specific discipline		
		SOK	Based on introduction meeting tailor-made support for the specific situation of each athlete and coach E.g. identification of a mentor coach; organisation of trips abroad to coaching hot spots for the specific discipline; invitation to selected seminars or conferences; organisation of cross-sport exchanges (javelin vs. handball); access to network of SOK subject specialists (link to sport science support) Some course-based organisation around specific topic areas/ subject experts where students can also become lecturers	Specific, individualised education Blurring the line between students, lecturers, and SOK specialist team Learning by teaching, cross-sport knowledge exchange, developing the quality of the SOK team Not forcing service upon practitioner and create resistance but develop satisfied, successful role models for the other service	Individualised	Funded by the SAA and the athletes' clubs
Special education	CP	SAA Ulf Karlsson & Nils-Egil Rosenberg	As special seminars among the coaching team the national coach appoints	Mental aspects of how to handle athletes Focus on non-sporting matters Action plans for competitions		
	EISP	SAA Anders Ryden	In group work/ on group meetings With the help of experts from the field and especially famous coaches and athletes as mentors	General subjects like nutrition etc. Team work, knowledge sharing culture What does it take to be a top athlete.	Up to 6 meetings a year which last for a weekend or several days	Jointly funded by the SAA and the SOK
Future Project	Elite level - but sport-unspecific	SISU and Idrottsfölkögskola in Bosön Janne Carlstedt	70% group based education; 30% individual work, project work, home work, study visits, etc. Wide range of coaching skills - from group and athlete leadership to practical training knowledge General topic covered by SISU staff, specific ones covered by special sport federations Curriculum as a buffet where everyone can choose according to his or her own interest and needs (Janne Carlstedt) Every coach has a mentor and is asked to mentor somebody else to develop sport-unspecific leadership skills Annual reunions to form a active network	General as well as discipline specific coaching knowledge Leadership skills Cross-sport contact Cross-sport knowledge exchange	500hrs in 2 years	Fees of SEK 30,000, respectively £2,200 Possibly paid through club, RF, SOK, gymnasia, etc.
		Universities in cooperation with SISU	Currently in negotiations Double edge sword of university based education: high standards which might get too theoretical which might weaken the voluntary foundation SISU considers it however to be of future importance to develop both - the theoretical and practical coach education			
General	<p>No compulsory education scheme No formal further education scheme But focusing on those who want to learn (Peter Reinebo) - other will follow the successful examples in the long run</p> <p>Continuous and informal communication between and among the coaches of all performance level, inside and outside the SAA milieu Possible due to team work and knowledge sharing culture</p> <p>Continuous and informal communication between coaches and lecturers from the seminars or other specialist in and outside athletics Possible because of culture of short power distance</p> <p>Driven by the coaches intrinsic motivation to further develop themselves Designed by the conviction that each coach must find out what works best for him or her The system, i.e. the gymnasia, the club, the SAA, or the SOK, only supports the coach in the realisation</p> <p>Traveling, going abroad and seeking advice or exchanging experiences with other coaches is a natural practice in the SAA milieu Reflects the study circle tradition</p>					

Table 6-2: The coach education environment of NSF

Name/Focus of the education	Coaches for athletes	Set up by	Organisational form	Curriculum, aim of the education	Volume
T1	Youngsters making first contact with XC	NSF & District Federations	Instructors of the district federations travels from club to club and organises education sessions based on learning material	Prime focus How to plan a active session, aiming technique, endurance, and balance	18hrs
T2	13 to 14 years		Make it easy to take part.	T2 A bit more systematic training included Both Having active sessions (Per Nymoen) Having fun skiing (Jan Muren)	32hrs
T3	Competition orientated juniors	NSF	Weekend Meetings, Education conducted by higher-level coaches, especially gymnasia coaches	How to conduct and plan the training Increasing amount of theoretical considerations (T3 30%, T4 50%)	60hrs
T4	Competition orientated seniors			AIM Background information - why you should do this or that (Jan Muren).	Organised only once every two years for only 10 to 15 people
CoPo	Late junior and senior performance athletes		National team coaches talk about their training National team athletes talk about their training Support staff members/ researchers talk about their work and projects	Bringing the knowledge (and culture) from the national team to the club level	3 to 4 weekends each year
Special Topic Education	Special topics, special support functions		On demand, respectively individually organised	Waxing, team taking (splitting), event organisation, etc.	On demand
NSF National Team Coaches	Top late junior and senior athletes		Consultancy team Through formal and informal interaction with athletes, other coaches, and special support providers in and around the national team milieu Linked to HRM policy, general openness and team spirit, meeting policy, and athlete coach relationship among equals Through educating other coaches	Support on facility development project	Constantly
T5		OT	Sport-unspecific education concept Education conducted by support specialists from OT (i.e. mainly OT Trondheim) Every coach on the programme is mentored by one experienced coach	Giving retiring performance athletes with no coach education an elite sport orientated education To give coaches with a completed special sport education new input	in total 2 years 4 blocks of 3 times 3 days seminars
Olympic Prep Sessions			Organised by OT Seminars and lectures held by OT staff, former/current medal winners, former/current coaches	Mixture of team building, motivation, provision of sport-related and sport-unrelated knowledge and experiences	Twice a year with shrinking group
Regular Seminars			Across the different OT sites Organised by site staff and supported by OT-Oslo staff Especially announced to the graduates of the coach education scheme Group specific meetings (endurance, strength, team sport) Discussion of specific topics between athletes and coaches Even leads to joined training camps	Specific education, cross-discipline exchange, cross-discipline networking	Each site, 5 evening sessions p.a. Twice a year
Special Seminars			Announced and organised by specific staff members in OT system; about new developments in a specific topic area etc..		
University	General coaching degree		Coaches with university education are in the general club and racing team milieu rather rare. Gymnasia coaches have however a formal, academic coach education.		
General	<p>No compulsory education No formal further education scheme But making the education so interesting that the coaches themselves want to join (Per Nymoen)</p> <p>Continuous and informal communication between and among the coaches of all performance levels, between coaches and lecturers from the seminars or other specialist e.g. in OT Possible due to (i) team work and (ii) knowledge sharing culture as well as (iii) culture of short power distances</p> <p>Driven by the coaches intrinsic motivation to further develop themselves and further develop the sport in Norway Facilitated by the conviction that each coach must find out what works best for him or her/ him or her athlete</p> <p>The system, i.e. the coach education through NSF or the OT only provides ideas of how to train - just copying these will not work</p> <p>The Norwegians did not expressed explicitly a similar tradition as the Swedish study circles They expressed however a similar general culture to share knowledge</p> <p>There is an old saying in Norway: If you have a diamante and you sell it, you have lost the diamante. But if you sell your knowledge, you will only gain more knowledge. So, by sharing my knowledge, it gives me focus on what is my knowledge first of all. And I am also likely to get more knowledge. (Torbjørn Broks Pettersen)</p>				

Most striking, and arguably most fundamental, are the differences in the ways the two federations further educate their coaches once they finish their basic education and received their certifications. The NSF developed with the educational elements of the Competence Programme (CoPo) an extensive and formally organised further education scheme. It includes up to four annual meetings which are available for every coach in the NSF environment. The Swedes, on the other hand, do not provide an open further education scheme. Here, organised further education is only available for those coaches who have an athlete on one of the support schemes like the EISP.

As athlete and home coach are always considered as one team, the athletes are invited together with their coaches to the respective meetings and are educated together. For coaches without athletes on the national team(s) or support programmes, the only means of further education in the SAA environment is through informal discussions and exchanges of ideas with other coaches. This lack of a formal coach further education programme is directly linked to the small education budget the SAA has available and it directly influences the curriculum of the education that is provided as well as the rhetoric with which this is done. Anders Ryden stressed that his goal in the education he offers would not be to educate the coaches but to show them what information is available; what interesting and useful sources there are; and who are the experts in the different fields:

I really want them to go out and learn what other people do? And to each session I will bring different learning material. Maybe for one session I will have 50 or 60 books, the next one I will bring 60 video, the next one I will have copies of different journals with me. So that they see that there are different ways to educate themselves. I tell them: Do not think that I will educate you – you have to do it yourself, find your own ways. I try to show them that there are a lot of opportunities, but they have to want to do it themselves.

Based on this approach, all coaches are entitled to decide for themselves what areas to deepen their knowledge in and how to keep their education up to date.

A similar rhetoric was not expressed by the Norwegian interviewees where the NSF has a mature, institutionalised further education programme through the CoPo. However, this does not mean that the informal exchange of information and experiences among club coaches, between club and national team coaches, and between individual coaches and their athletes is not an important element of the coach further education in Norway. On the contrary, especially at the higher and highest performance levels, the continuous, informal exchange among the coaches can be considered as the general engine for coach further education in Norway, similar to Sweden. For example, Bjørnar Håkensmoen developed his Human Resource Management strategy for organising the national team coaches in order to further support the continuous exchange of information among coaches. As indicated earlier, he ensures first of all that all six coaches in the team have different backgrounds; some are former top athletes themselves while others hold a university coaching degree. Secondly, all coaches on the team are required to show good social and communication skills, and they are supposed to be willing to openly discuss their training beliefs and those of others.

While this recruitment strategy creates the foundation for a constant exchange of experiences among the national team coaches, all coaches also meet formally once a month to discuss their training plans or any other new ideas.

It can be concluded that the approach Bjørnar Håkensmoen has developed creates a more formal and institutionalised exchange of ideas and experiences than is the case in Sweden. The communication in the Swedish system seems to occur less formally between the CP coaches, other national team coaches, and those coaches with athletes who perform under the national team level. However, the underpinning idea is the same in Norway as in Sweden in that it is perceived that the best way to develop the coaches' knowledge is through cooperation and discussion with other coaches and not through listening to lecturers or reading books. Janne Carlstedt from SISU, the Swedish sport education organisation, indicated this by stating:

And sitting here for an hour talking, might be more informative for me than taking up a 10 hour course programme.

Besides the measures that are provided by the two sport federations themselves, coaches in both countries have access to education which is offered by organisations like SISU, the RF, the SOK, OT, and the national sport universities. Due to a lack of detailed information, it is, however, difficult to compare and evaluate the general nature of the education these organisations offer and even more so the impact they have on the two sports which have been investigated in this research. It appears as if the SOK provides much more individualised but also much more exclusive and less structured and formalised education than OT. OT offers through the so called "T5" scheme, education for any interested high performance coach who is looking for new or different input in addition to what his or her federation provides. The scheme is designed in a block structure in that it consists of a series of seminar weekends, which focus on different subject areas and takes about two years to complete. However, the T5 education does not provide specific education for one specific sport but follows a cross-sport education approach in that it educates coaches from different sports at the same time.

In contrast to this coherent coach degree, the SOK education looks more like another element of the support service portfolio each athlete and coach has access to. Coaches and athletes meet formally with their contact person at the SOK (Peter Reinebo for athletics) once a year to agree on any required interventions such as performance diagnostics, mental training, new equipment, or training camps for the athlete as well as specific education for the coach. The SOK, similar to OT, has a team of different subject experts who organise, based on the identified areas where the coach requires support, individual as well as group education sessions. The latter would be organised, as in the T5 education, as cross-sport seminars. For example, if a coach requires an introduction to Olympic weight lifting techniques, this would normally be delivered in individual sessions with the weight lifting coach of the SOK. Another coach might be interested in a more general introduction to different aspects of strength and endurance training. He or she would be invited together with a group of other coaches to a seminar that is organised by different SOK experts.

Another interesting feature about the education support the SOK provides is that coaches can also get trips sponsored to a training hot-spot for a specific discipline.¹³ The idea of travelling abroad, meeting specialists of a specific subject area, working together with these experts, and bringing the new experiences back into their own systems reflects once more the Swedish study circuit tradition (Peter Reinebo, Kerstin Rosen). Peter Reinebo summarised the general idea of the education the SOK provides as follows:

We are not running something like a seminar programme. We try to tailor made everything. We meet with the coaches and create a specific development plan for the specific individual. In this plan, we might find a mentor for the coach, or a trip to a different training abroad site which could be useful for you, maybe an international clinic or a trip to China, or maybe a few days with a coach from a different discipline like a handball coach.

Such an individualised approach was not described in Norway by the OT staff members. Here, it was only indicated by interviewees from the NSF that a coach can be encouraged and supported to develop his or her individual competence in one specific area, for example, by the national team captain (Kristin Felde, Bjørnar Håkensmoen).

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¹³ Anders Ryden from the SAA indicated that he provides a similar service to individual coaches if his budget allows it.

This has, however, also been indicated for the SAA case. Here, it is one of the responsibilities of the CP coaches to regularly visit the different national team coaches and athletes at their local training sites to find out if they require certain educational support. This is likely to be an especially important feature for those coaches who are on the national team but not supported through the SOK.

Besides the T5 programme, OT and its regional sites offer a seminar programme which suggests certain parallels to seminars that the SOK offers. In both systems, the subject specialists of the institutions give presentations about their work, new developments in their fields, as well as insights into research projects they are working on. One of the key elements of the seminar programme OT organises is that the Special Discipline Coaches (SDC), such as Atle Kvålsvoll for endurance sport, organise twice a year a meeting for the coaches in their discipline group. In these sessions, either the OT support staff members and subject experts themselves present their material or successful coaches from the different sports are asked to talk about their work and the way they use the support OT offers them. As it will be outlined in the next section, the latter strategy is also a key feature which emerged over the past years in the SOK system as well as in the SAA and NSF environment.

As the discussion in the second part of this section showed, it is difficult to compare the educational support the SOK and OT offer. There are on the one hand clear differences between the two systems. The SOK does not offer a structured and coherent elite coach degree programme such as OT does with the T5 degree. However, there are also key similarities between both systems as the SOK as well as OT apply a cross-discipline education approach: coaches from different sports are educated at the same time. Another similarity is that both systems use the most successful coaches they support as presenters in their programme. It is difficult to compare the nature of the offered support, and becomes even more so when trying to evaluate the role the OT and the SOK education plays for the two investigated sport systems. It is difficult to evaluate to what extent the top SAA and NSF coaches are actually involved in and benefit from the education OT and the SOK provide. Even though the OT and SOK support appear to be rather sophisticated, the formal and informal education the NSF and the SAA environment provide has also been considered by many interviewees (Janne Carlstedt, Bjørnar Håkensmoen) to be very well developed and sufficient.

6.4.2 Common Features and Characteristics

Section 6.4.1 provided a general overview of the coach education the SAA and the NSF, the SOK and OT provide. Based on that overview, this section focuses in more detail on the actual delivery of the education. It will be shown that there are many similarities between the two systems concerning the operational delivery and the detailed design of the two coach education systems.

It can be stated that the most important aspect of the coach education is the open, continuous, but also informal exchange of knowledge and experiences between the different individuals in the two sport systems. This refers to the interaction between the individual coach and his or her athlete; between the different coaches in the closer and wider national team environments; and between individual coaches and specific support staff members or subject experts (see section 6.5, provision of sport science support). In this context, it can be stated that one of the key functions of the formal elements of the coach education - the seminars OT, the SOK, the SAA or the NSF provide - is to provide the platform which initiates and facilitates this informal and continuous exchange of experiences. While it can be concluded based on the interviews with Anders Ryden and Kerstin Rosen that the informal *interaction between those who know and those who want to learn* (Kerstin Rosen) is especially important for the Swedish case, it must also be considered that comments of interviewees like Atle Kvålsvoll suggest that the role of the informal knowledge exchange is also important for the Norwegian case:

So we have got these series of different meetings. And through these meetings the coaches are building a network among themselves and start working together after these meetings. This is then not organised or so – organised are the meetings that form this network.

Referring back to the discussion about the limitations of conducting qualitative research in general and using interviews in specific (see section 4.3), it must, however, also be indicated, that one interviewee stated that the described communication among the coaches might be less active, extensive, and inclusive than the general rhetoric in the respective sport system might suggest:

And I am not quite sure how far the coaches actually do talk [together]. Because at a lot of times ... I do not think they do.
(Anonymous)

While it might constitute an area of future research to investigate in how far the open knowledge sharing culture in the SAA and NSF coaching communities is fact or fiction, it shall for the remaining part of this discussion be considered as an important feature of the two sport systems.

This, last but not least, being because the above quoted critical comment was provided by a fairly new member in the respective sport system.

If the informal interaction between athletes, coaches, and support staff members is considered as the engine for the further education of the coaches in both systems, the following three factors can be considered the “petrol” for this engine: first, the general knowledge sharing culture among the different coaches; second, the short hierarchical distance between the national team and club coaches; and third, the close and balanced relationships between the coach and his or her athlete, which has been repeatedly described as being one between equal partners. Referring back to section 6.1, it has already been indicated that the general-cultural context of the two sport systems (the general social-liberal context in Scandinavia and specific study circle tradition in Sweden), the specific sport-structural environments (both sports are based on a strong foundation of voluntary coaches and supporters), as well as a series of discrete interventions, such as the EISP, the, CP, and the CoPo, are factors which can be considered to have influenced the development of this knowledge sharing and cooperative atmosphere.

Besides this general cooperative and knowledge sharing culture, it was identified that both systems have as a common practice that coaches from the higher performance level are involved in the education of the coaches on the lower level. This approach reduces the hierarchical distance between the different coaches as it allows the development of personal contact and relationships between national team and club coaches.

It has also been frequently stressed in both countries that the strategy to have the more experienced coaches educating other coaches constitutes for the top level coaches an important element in their own further education. Interviewees like Anders Ryden or Torbjørn Broks Pettersen indicated in this context that to educate others, the respective lecturing coaches have to prepare themselves to be ready for unexpected questions; and in the process of doing so they further develop their own knowledge:

By teaching, I learn. [...] When I give courses I have to keep myself on my toes. (Torbjørn Broks Pettersen)

An issue that relates to the development of a coach education curriculum as well as to the provision of sport science support, which is the focus of section 6.5, is finding an appropriate balance between providing practical coaching advice and theoretical sport science knowledge. This research suggests that both investigated systems appear to have found a similar method of approaching this problem. Anders Ryden as well as Per Nymoen indicated that they would in general try to avoid using sport scientists and academic university staff to discuss more theoretical matters about training and sport science in the coach education. They prefer to cooperate on these matters with practically working coaches who developed a more theoretical approach for their training; who frequently cooperate with scientists and performance diagnosticians; who specialised in one specific area (e.g. strength diagnostic and training); or who have a university coach education degree. According to Per Nymoen, such individuals understand the more theoretical consideration of scientists but are at the same time familiar with the actual needs and abilities of their fellow coaches:

For the courses, I can say that the scientists are not necessarily the first persons I would ask to give lessons. This would often be too much theory. It is better to have a presenter who is a coach and has besides this a good theoretical education and who is also a very good teacher. He, in his education, has listen to the scientists and he can then present this to the coaches in a way that combines theory and practice.

Similar sentiments were expressed by Atle Kvålsvoll from OT and Peter Reinebo from the SOK. The former indicated that OT, in its T5 programme, would not necessarily work with academic sport scientists. Instead, he and his colleagues approach the diagnostic and support staff members who deliver the support services OT provides (strength, technique, or endurance diagnosticians) to talk about their work:

Many of the teachers are from OT. The best people from OT are there to teach the students. Then they know what they can get from us. That is a very important part of it. We are educating the best coaches in the future to work together with OT in Norway.

This strategy of letting support staff members educate coaches has also been indicated by Peter Reinebo as the approach the SOK follows.

The key for the integration and further development and distribution of new knowledge and practices in the training, however, appears to be in both systems the exchange of ideas and knowledge between and among the coaches. The formal coach education sessions themselves constitute the medium to show interested coaches what diagnostic interventions are available, how these could be used, and how the coaches can get access to further information about such matters. Interested coaches follow these ideas and apply the new training and diagnostic methods in their own training and, if they are successful with it, become role models for other coaches to follow.

Another similarity between both systems appears to be the role of the coach education officers. It was indicated before that Anders Ryden and Per Nymoen are more than just the provider of a series of coach education seminars in their federations. Based on the gathered data, it can be concluded that their role also includes being the interface between the federation's head office, the national team, and the local clubs. Through the way they design the education seminars, for example by using top level coaches as lecturers for the club coaches, they appear to have achieved this goal quite well considering the following quote from one of the participants at an CoPo seminar:

But these seminars, which have been organised in the past 3 years, are a large improvement. We get ideas and experiences from the top level down to the foundation much fast. I mean, I am not an expert in these things, not very experienced, but I am enthusiastic, I like working with the kids and youngsters. And I had the head coach looking at my videos today. Then you get a direct link from the national team head coach down to one or two athletes in our club when the coach looks at my videos. And I think that is marvels. (Jan Muren)

6.4.3 Summary and Transferability

The evidence suggests that the coach education OT provides is more formalised and extensive than the education the SOK offers. The SOK education appears, however, to offer education that is combined for the specific situation of a respective coach. However, referring back to section 6.3, it must also be noted that the situation and background of SAA and NSF coaches differs substantially: the coaches of the Norwegian cross-country skiing national team are well educated, highly experienced, and professional fulltime coaches.

Most of the coaches in the SAA national team, hence those on the SOK support scheme, only come with their respective athlete into the team. They are usually volunteers and some have not coached an athlete at the international top level before.

Considering the education the sport federations themselves provide, substantial, structural differences also became apparent. The general budget the two federations have available for coach education differs significantly and thus the extensiveness of the education and further education programmes does as well.

Despite the significant structural differences, the investigation revealed several, similar approaches in the two sport systems concerning the operational delivery of coach education. These may constitute lessons for other sport systems to follow. For example, the SOK and the SAA as well as OT and the NSF often use successful coaches to teach other coaches: national team coaches are asked in both systems to talk to other top level and club coaches about their training concepts and the way they use the support services organisations like OT or the SOK provide.

Also similar in Norway and Sweden appears to be the strategy of avoiding having university lecturers and academic sport scientists as tutors in the coach education. Even for the delivery of more theoretical knowledge, both federations prefer to cooperate with specific coaches from their own environment who have specialised in one specific area or who have a sport science degree besides being practically working coaches.

A general lesson which can be drawn from this research is also the integrative function and role of coach education and the coach education officers. The coach education is in the SAA as well as in the NSF not only a means to develop the knowledge of coaches but is also a way of bringing together the people from the federation, the national team, and the local clubs.

Another lesson of a similar, general nature which can be drawn from both investigated cases is that coach certificates and degrees are considered not to say a lot about the practical coaching competence of an individual. Coaching is in both countries considered a very individual skill that depends on personal and practical experiences, dedication, the relationship between the athlete and the coach, as well as technical knowledge. Coach education can provide the latter but just having a certificate does not mean that somebody is a good coach – and a good coach might not have an official certification.

It has been argued previously that disregarding formal coach education certificates is not an option for every country because of liability issues. Based on the observations discussed in this section, other sport systems, no matter the legal environment they are embedded in, can however be advised to investigate if the curriculum of the coach education schemes fulfil only administrative targets (e.g. a coach on a specific level must have to attend a specific number of seminars per year) or if the atmosphere in the actual seminars meets the objective Per Nymoen suggested: the courses should be made interesting for the coaches that they feel that they have to be there. As especially the Norwegian case shows with the CoPo, an education scheme which achieves this goal can be designed and delivered without severe administrative effort and economic expenses.

Considering the general culture of the two sport systems, the open knowledge sharing atmosphere between the different coaches can hardly be over-evaluated as the driving force in the education of Norwegian and Swedish coaches. In both systems, the formal and informal exchange between and among coaches as well as between coach and athlete constitutes the most important factor in the coaches' development. In Sweden, this appears to be even more important due to the lack of an institutionalised coach further education scheme.

However, the questions are if, and how far, this knowledge sharing culture, which is undoubtedly a key factor for the success of the Norwegian and Swedish coach education system, can be created in another context. It was argued earlier in this chapter that the general cultural context in Norway and Sweden as well as the tradition and recent development of the two sport systems can be considered important factors which have influenced the development of this atmosphere.

But clear interventions could also be identified which have formed this culture: the CoPo, the Human Resource Management strategy in and around the NSF national team, the setting of Goals, Values, and Rules, the EISP, the CP, conventional team building interventions, and having top coaches as role models for this knowledge sharing philosophy by using them as lecturers for club coaches. This suggests that the creation of a similar team orientated, knowledge sharing culture by using similar approaches could at least be an "aspirational goal" for other sport systems.

6.5 Sport Science Support

Sport science support shall for the purpose of this thesis be understood as the portfolio of sport-related services an athlete or a coach is provided with by specific subject experts such as biomechanical technique analysis, physiological endurance diagnosis, nutrition advice, and specific strength and conditioning training. This section compares the general attitude towards sport science support in the two sport environments, the available and used sources of sport science support, the degree to which the offered support is integrated into the training practice by skiing and athletics coaches, and the processes which underpin the service delivery in Norway and Sweden.

6.5.1 The General Attitude toward Sport Science

As Nils Asle Bergsgard and Pål Augestad suggest in the following statement, the attitude among athletes, coaches and administrators towards the role of science sport science support in elite sport is rather ambivalent for the Norwegian case:

I think some of the coaches are very interested in new impulses – from different sports, from science, etc. [The women's coach] is for example very interested in new impulses from the scientific community. But the coach for the men, he is more traditional: "We know how to do it, we trained like this for many year".

Similar comments were also made concerning the Swedish case. It can therefore be summarised that Norwegian cross-country skiing and Swedish athletics coaches are very traditional, even conservative in their approach to training. The training design is in both countries considered a matter of the coaches' experience and the relationship between them and the athletes. Thus, interviews from both countries indicated a certain scepticism among some coaches towards the current and potential role of science in elite sport:

We work a bit according to the bumblebee theory: according to all aerodynamic rules, the bumblebee should not be able to fly. But since the bumblebee is not aware of it, it flies anyway. (Anders Borgström)

In Norwegian cross-country we do not have a tradition of doing a lot of testing. Norwegian cross-country is performed in the woods – work hard as often as you can. That is the story of cross-country skiing in Norway. (Torbjørn Broks Pettersen)

However, both systems are at the same time considered to be very open and liberal in that everybody may train how he or she considers most appropriate as it is generally believed that there is not just one way to train.

Hence, some coaches (and athletes) like Agne Bergvall, Anders Borgström, or Svein Tore Samdal work closely with sport scientists, do regular performance diagnostic tests, or seek exchanges with sport scientists. Despite the general scepticism, this appears to be accepted in both coaching communities.

It must also be considered in this context that the climate among coaches in both sport systems is characterised by a relatively open exchange of knowledge and experiences. Thus, while the decision of an individual coach to cooperate with sport scientists is accepted in the coach community, this knowledge-sharing culture ensures that the ideas and practices of such *pioneers* can spread, albeit slowly, in the coaching communities. As a result, the “successful” cooperations between specific coaches and sport scientists, for example, in Sweden do not appear to be the result of a proactive support policy or organised diagnostic programme. It is more that interested coaches such as Agne Bergvall and their athletes develop their own contacts, networks, and tools to try out new ideas based on their own initiatives. If such *pioneers* are successful or content with a respective diagnostic lab or with the tools they apply, they share their experiences and ideas in the respective sport environment informally or during coach education interventions. This process can be considered to be a relatively slow way to improve training practice or to introduce new practices compared to a top-down imposed development programme. It may also lead to the introduction of diagnostic practices that are not necessarily based on a sophisticated theoretical foundation, nor might the used measurements reflect the leading edge of scientific interventions. In fact, as Ulf Morten Aune indicates, the scientific sophistication of the conducted diagnostic measures and training concepts are in Norway probably not as sophisticated as in many other countries:

If you would discuss what we do with scientists, then we are in the stone ages, that is clear - but is the way we work.

However, in those cases, in which such a cooperation evolves (Agne Bergvall, or Anders Borgström, Johnny Holm, and Ulf Karlsson, or Jon Anders Gaustad, or Erlend Hem, Ulf Morten Aune, or Alex Wisnes) the result appears to be a successful balance between introducing new ideas and conserving traditional training knowledge and practices in that the result appears to be a successful blending of knowledge and experiences (Alex Wisnes). Ulf Morten Aune summarised this when he stated:

We do little, but what we is not only be liked by the athletes but we actually measure what we are doing. And this then has got a practical value in the daily training – especially concerning what we do in the altitude. And this is where we really apply performance diagnostic. In other areas, we just use the support as a control mechanism. We do one test in the spring, at the beginning of the training season, then we do one test now, at the end of August, and then we do one in October. This is more or less everything we do – when everything is developing as planned. And for a German sport scientist or coach, this is more or less nothing. The Germans told me that we would just be working according to our feelings. And this is of course not correct. But it is still quite far away from what the guys are doing in Leipzig. There are worlds between what we are doing and what the German cross-country skiers are doing.

Based on this research it can be concluded that a decisive element for the successful integration of sport science support services in training practice is the depth and maturity of the relationship between athlete, coach, and the respective support staff member in both systems. A good climate in this relationship allows for a continued, balanced, trustful, and detailed discussion of test results as well as an open debate of new diagnostic and training approaches. Erlend Hem argued, for example, reflecting Ulf Morten Aune's above considerations, that the support he provides could probably be further developed and extended from a technical-scientific standpoint. He raised however the concern that more frequent, more sophisticated, and more complex tests would require a bigger, more specialised, and, arguably, more anonymous support team. He doubts that such an extension of the sport science support programme would be able to grasp the complexity of the factors that determine sporting performance better than the current diagnostic regime. Erlend Hem suggested that the introduction of a bigger and more impersonal support team could even turn out to be counter productive. The current performance analyst of the Norwegian cross-country national team argued that this approach might not leave enough room to consider the soft factors which determine a sporting performance such as an athlete's family background and situation, the athlete's current situation in the team, or the personal trust between athlete, coach, and support staff member:

I do not think [what we do] is on the highest standing possible - but it is not very easy to find the right thing to do as your head is still part of your body. To tell [a senior skier], who is the father of two children, that he should be able to train more and harder – it would destroy his family life. There are so many things which have to fit together. There are always possibilities to make things better. And [...] it is not just the training but the atmosphere around the athletes.

In conclusion, cases of close cooperation between coaches and sport scientists can be found in both systems (for example Agne Bergvall and Svein Tore Samdal) as well as examples of coaches who are *sort of scared to talk to scientists* (Martin Eriksson) – and of course many cases exist between these two extremes. Several factors can be found which explain this ambivalence.

The high degree of scepticism towards a theoretical approach to sport and training can be explained through the nature of the coaching infrastructure of the two sport movements. While the volunteer movement in Sweden has traditionally a working class base (Anders Borgström), cross-country skiing in Norway used to be *the sport of the forest workers* (Per Nymoen). This background might explain the lack of a common language between the sport and coaches on the one hand and science and scientists on the other.

Older coaches in the two systems such as Ulf Morten Aune or Ulf Karlsson seem also to have had unsatisfactory experiences in the past with arrogant, patronising and overly-bureaucratic attempts to force a more science-based training regime upon the coaches:

We are talking for years know how we could include the high level sport science support in the training. [...] When you come out into the practical training process, it is not sure if all the theory will work out in the practice. (Ulf Karlsson)

This is likely to have created a certain resistance among the coaches to sport scientists and sport science support. Alex Wisnes confirmed this for the OT case when he indicated that the support staff members in OT used to lack a more balanced approach towards athletes and coaches and had a too overpowering attitude in the provision of their support:

I think OT sometimes has been described as a little bit arrogant. But we have worked on that. Arrogant in the meaning of [patronising the coaches] But we have worked on this I think. We have managed to get rid of image or attitude. [...] We have discussed it and we have focused on not to work like that. And I think that is important. Hard to achieve but it is possible.

On the other hand, the sport movement in both countries must also be considered in the general cultural and social context in which technical and scientific solutions are more and more often a part of the daily life. A more scientific approach to training is therefore, especially for the younger generation of athletes and coaches, *just the next step* (Kristen Skjeldal).

Furthermore, despite all conservatism, coaches and athletes realise that other sport systems have had certain successes by founding their training on cooperation with scientists and research institutions. Hence, international competition can also be considered to be setting new standards in the sport systems.

Finally, despite the general similarities concerning the perceived role of sport science support and the way, as well as the degree, to which this service is integrated into the training practice in Norway and Sweden, there are also certain differences to be considered between the two systems. For example, it appears as if it is more common in the NSF national team to cooperate with sport scientists or other subject specialists (strength and conditioning coaches or physiologists outside the OT team) than in the SAA environment. Nearly every national team coach and skier of the NSF cooperates with either Erlend Hem or, for the female skiers, with a diagnostic team in Trondheim. While the degree to which diagnostic results influence the training practice might vary from skier to skier, it was not indicated that all athletes on the SAA national team regularly conduct performance diagnostics measurements. This difference might be due to factors like the general nature of the sport (endurance vs. technique performance diagnostics), the longer existence of the central support unit OT (the strong position of OT in the Norwegian elite sport system), or the stronger economic foundation of cross-country skiing in Norway where the NSF can buy in more support services if required.

6.5.2 General Sources of Sport Science Support

Different sources and means of sport science support exist in Norway and Sweden. First, some coaches or athletes develop their own support network, consisting of national and international subject experts and sport scientists they cooperate with (Christian Augustsson, Jon Anders Gaustad, Ulf Morten Aune, Svein Tore Samdal). Some coaches, such as Agne Bergvall or Anders Borgström, have even developed their own diagnostic infrastructure. Secondly, the two sport federations themselves cater for certain support services. This is primarily the provision of a medical support network (team doctors and physiotherapists) the NSF and the SAA have developed. Based on the evidence it can be suggested that the coaches who develop their individual support networks and infrastructure, appear to be especially important and well developed in Sweden, while the NSF appears to have a medical support team that exceeds what the SAA currently offers.

Thirdly, a common factor between both systems is that the top elite athletes and coaches have access to support from the general national elite sport support institutions. For the Swedish case, this refers to the SOK, which has a team of support experts (sport psychologists, nutritionists, physiologists, or strength and conditioning coaches), as well as the RF, which runs the sport support centre in Bosön and its regional sites. In Norway, this refers to OT and its three regional sites, which have a similar network of experts like the SOK and a physical support infrastructure similar to the centre in Bosön.

Considering the first case in which coaches developed their own support network and testing infrastructure, it must be carefully considered how far they benefited in their initiative from the direct and indirect support the central support organisations provide. Rather than accepting that these coaches developed their own infrastructure without any central support, it must be considered how far the individual support network of a specific coach is related to or emerged from the last-mentioned centrally provided support infrastructure. Even though the individual coaches might have emphasised in the interviews their own initiative in contrast to the role of OT or the SOK on this matter, such accounts must be reflected in the context of the limitations of conducting interview-based, qualitative research (see section 4.3). Based on the available data, it remains difficult to evaluate if the respective coaches have indeed developed their support networks without support from the central institutions; if the central support infrastructure has provided the environment which has enabled the individual coaches to develop their own networks and the coaches simply did not realise this indirect impact of the centrally provided infrastructure; or if the coaches deliberately tried to emphasise their personal initiative in the interviews by dismissing the role of OT or the SOK for their achievements (Nils Asle Bergsgard and Pål Augestad, Vidar Jakobsen, Per Nymoen, Alex Wisnes).

The processes which underpin the service provision from the two central support organisations, OT and the SOK, to the two investigated sports are the focus of further discussion in this section. Based on the data it can be assumed that the SOK support is more exclusive than to the programme OT offers as only those athletes and coaches who are on the SOK talent or top programme are eligible to access the competences the SOK provides.

As OT has, in contrast to the SOK its own training and diagnostic infrastructure in Oslo, the Norwegian system appears to be more flexible concerning the support of athletes and coaches who are outside the official support schemes. Despite the criticism that the NSF coaches expressed concerning OT, it can also be considered that the cooperation between the NSF and OT has a long, active, and mature history. The cooperation between the SOK and the SAA has certainly been important for the SAA especially during the years after the bankruptcy of the federation in 1995 (Thomas Engdahl). The cooperation has however not been communicated as being similarly intensive or built on an equally mature history. Thirdly, as the discussion in this section will show, it can be supposed that most administration and communication processes in the Norwegian OT system are more formalised than in the SOK system.

While the organisational size and maturity of the overall support programmes appear to differ in Norway and Sweden, the general principles which underpin the provision of the programmes appear to be similar.

The provision of sport science support is in both countries based on a series of meetings. First, there are meetings that are held between the management of the sport federations and the general support-providing organisations, i.e. between the performance directors and general secretaries of the federations and OT or the SOK. Second, other meetings take place between the support staff members, such as endurance performance diagnosticians, and the individual athletes and coaches. While the general support framework is agreed in the first, the latter meetings are considered to “fine tune” the support provision. Several striking similarities can thereby be identified concerning the general service provision policy that underpins these meetings.

A fundamental rule in both systems appears to be that support is only provided to or through the coaches. The support staff member should not try to become coaches themselves or approach athletes without the coach’s “invitation” (Peter Reinebo). Similarly fundamental is the general guideline that has been expressed in Norway and Sweden that sport science support staff members should follow the idea of blending theoretical knowledge with practical experience so that both - theorists and practitioners - can further develop their knowledge. Peter Reinebo from Sweden and Alex Wisnes from Norway put it as follows:

So the philosophy is of [...] of adding support. I think it is important that our specialist act towards athletes and coaches in a way that this is my knowledge, I think this would work, but it is up to you the coach to make use of it. I am here, I am here to help you and maybe we can learn something together. (Peter Reinebo)

But there is some improvement in the coaches' knowledge during these discussions. And where does it come from ... it is a discussion, it is a kind of a blending of theoretical and practical knowledge. So, to measure how much we can give – that is not possible I think. (Alex Wisnes)

Also similar between both systems is the policy that support is not forced upon athletes and coaches but, as Peter Reinebo stated, that it is only provided as an offer. He indicated that this constitutes a less resource-intensive strategy, rendering it a more efficient and more appropriate way for the Swedish case than a compulsory sport science support scheme:

It is also a matter of philosophy and also a matter of resources. We could set up a compulsory system, maybe achieving a bit better results. But it would cost us so much more resources to set it up to make it work for people who think they have to but actually do not want to – these do not learn anyway. So why not just focusing on those who want to learn?

As already indicated in section 6.4, both systems try also to use their “customers as colleagues”, i.e. the SOK and OT try to convince successful coaches to educate other coaches about what they do in their training and how they use the support they are offered. This reflects the idea of cross-sport knowledge transfer and might also increase the authenticity and the practical relevance of any provided support. In the long run, this approach may also improve the general relationship between the respective sport and the central support unit.

Finally, and this refers particularly to the Norwegian case, Atle Kvålsvoll made it also very clear that the aim of OT is not just to support the coaches but to empower them so that they learn help themselves:

... it is very important to educate the coaches so they can do [a lot of the diagnostics and analysis] themselves afterwards.

Figure 6-3 summarises the philosophy that underpins the delivery of sport science support in OT. As the discussion above has shown, there are many areas that parallel the policy Peter Reinebo described for the sport science support programme the SOK offers in Sweden.

Figure 6-3: Successful provision of sport science support

Considering the organisational structures of OT and the SOK, it was argued before that the SOK lacks, in contrast to OT, its own physical support site. Concerning the size and organisation of the staff of the two organisations (i.e. general administrators as well as specific support providers like performance analysts, lifestyle support manager, or nutritionists) the situation looks rather similar in Norway and Sweden. OT and the SOK have a core team of about 20 staff members and a network of 40 (SOK) to 50 experts they cooperate with on a part-time or on-demand basis. In both systems, these subject specialists are organised into different topic groups (physiological vs. biomechanical performance diagnostic). The communication within and across the different groups is founded on a series of meetings. The evidence suggests that this communication routine is more formalised and matured in the OT case, however, the exchange of experience between the different support branches in OT is not considered to be as fluent as it could and should be (Alex Wisnes).

Thus, a common feature in the current discussion in both organisations is to find ways to increase the degree of documentation and formalisation in the communication in and between the different service groups. Peter Reinebo (SOK) as well as Jostein Hallen (OT) indicated that their systems depended too much on the individual staff members and their personal relationships as not many support interventions and their implementation were briefed, documented, and evaluated. However, while attempts are being made to increase the formal part of the communication, it has at the same time been expressed in both systems that the formal part can, and should never be, the dominant one of the communication. Spending too much time on administrative tasks would not leave enough time to actually develop the personal relationships, which are, according to Peter Reinebo and Jostein Hallen, required for a successful service delivery of support: ____

Up to now I would say it is 80% informal communication. And I think it could be wise to increase this to 50-50. But it definitely has to be a huge part informal communication as this is how you build up the relationships. Only writing reports, that will not help. It is very important that all the people writing the reports understand that these reports are used. It is not just going into the draws. So people receiving the report should therefore give feedback about how they read the report and how it will be treated. (Jostein Hallen)

An interesting feature of the human resource management in the OT case is the policy of personal unions, which is the policy that different OT staff members have different roles inside and outside the OT organisation. For example, Alex Wisnes is the head of the technique analysis unit at the OT head office in Oslo, the leader of the local OT site in Bergen, and a lecturer in physiology at the university in Bergen. This strategy has the potential to increase cross-discipline interaction (biomechanics vs. physiology) as well as to develop stronger relationships between the different regional sites (OT Oslo vs. OT Bergen).

A second feature, which appears to be unique to the Norwegian case, are the positions of three Special Discipline Coaches (SDC). The SDCs have one of the most crucial functions in the OT system. As outlined earlier, every sport supported by OT is categorised as either a team, strength and technique, or endurance sport and each group is supported by one SDC (for example Atle Kvålsvoll for endurance sport and, thus, the SDC for cross-country skiing).

The SDCs have the following tasks to fulfil:

- Evaluate and comment on the training plans, which are sent to them from the coaches from the different sports the SDCs are responsible for;
- Have close contact with the coaches in the field, their national team captains (performance directors), and with the different specialists in OT;
- Keep themselves up to date - or better: they are supposed to be kept up to date by the other OT support staff members - about what services are currently provided by OT, what could be offered, if and how offered services are integrated into the training practice, as well as what other services could be interesting for the different coaches;
- Negotiate the general support framework between OT and the different sport federations;
- Coordinate the actual service delivery, i.e. coordinate OT-internally the service delivery across different support units;
- Control and support the service delivery to the sports and openly *criticise* the provision practices to the athletes and coaches if necessary;

As Ingrid Bahr stated, this extensive task spectrum, in particularly the last responsibility in the list, indicates the important role of the SDCs in OT:

On our last meetings, we said that for [the SDCs] it must be allowed to [...] criticise. They must be able to say that they are not happy with you if it comes to the support of this sport or athlete. These people must be allowed to criticise and to go on and on. They should not stop if they are not happy. That is important for the system to work. Because that comes back to the question you ask. It is a big challenge to get such a system to work. That is why we have to work hard on it. [...] to make sure that we work together and put aside professions to ensure that we do the best for the athletes.

The SOK system does not provide a position comparable to the SDCs. It appears, however, as if the described task spectrum is fulfilled in the Swedish system as a shared responsibility of the individual subject specialists who work for the SOK, the contact person for the different sports in the SOK (i.e. Peter Reinebo for athletics), and specific “sport science coordinators”, who have been placed in selected sports by the SOK. This suggests again that, while the Norwegians appear to have a more mature support infrastructure and specialised support staff than the Swedes, the task spectrum, as well as the ways how this is fulfilled is actually similar despite the organisational differences.

6.5.3 Common Features in Operational Service Delivery

Based on the detailed observations of the support processes that were made in this research, specific practices and approaches will be discussed in this section which appear to facilitate the successful provision of sport science support in the two investigated sport systems.

Similar (Self-) Perception of Sport Science Support Staff

A first striking similarity between the Swedish and the Norwegian sport science support programmes appears to be that coaches, athletes, and the support staff members express the same, critical opinion concerning the role of sport science support in elite sport. It has already been indicated that some athletes and coaches in both systems expressed great scepticism concerning the value of sport science, sport science support, and science-based training for the training practice at the elite sport level. The interviews revealed that many sport scientists show a similar self-critical rhetoric concerning their potential impact. The key statement, which was repeatedly expressed in both countries by diagnosticians and sport scientists as well as coaches was that one, perfect training recipe for high performance sport does not exist. Anders Borgström, who conducts strength, speed, and technique diagnostics in Karlstad, argued the following concerning the role of the training frameworks that are introduced in the coach education:

[...] it is allowed to work outside of these general plans - we actually recommend it. As everybody who sticks to such general training plans, is probably going to become pretty good. But if you want to reach your limits, then you have to have the courage and work a bit outside of these training frameworks and recipes.

Other frequently mentioned issues concerning the introduction of sport science support, which were expressed by support staff as well as athletes and coaches, were that the integration of too much sport science support and too much academic knowledge in training practice has a danger of overloading coaches and athletes with information that is not relevant for their sporting development (Stefan Holm); that too much testing might disturb the training more than the results help to develop the athletes (Jostein Hallen); that the test situation itself might stress the athletes (Erlend Hem); and that coaches start to focus on improving tests rather than competition results if too many tests are conducted (Anders Borgström).

In contrast to this critical evaluation and self-evaluation, some interviewed coaches and support staff members also stressed - again with similar arguments - that sport science support can help the coaches (and athletes) to *think smarter*, that scientific research can make them *think more systematically* (Peter Reinebo, Josten Hallen), and that a general key role of science in sport can be to provide coaches and athletes with explanations for the different phenomena they witness in training practice (Agne Bergvall, Erlend Hem). For example, why does a given athlete react to a specific training in a particular way and why does the same training programme not lead to the desired results with another athlete?

It can be concluded that the interviewed support staff members in both systems apply a very self-critical and humble attitude towards their role and the potential impact of the service they offer for the elite sport practice and this attitude and self-perception mirrors to a large extent the critical rhetoric that coaches and athletes use about sport science support.

Approaches used to Communicate with Athletes and Coaches

Communicating this humbleness and self-criticism in cooperation with athletes and coaches is also considered the first important step sport scientists have to apply in order to convince athletes and coaches to initiate a successful cooperation. As Jostein Hallen and Peter Reinebo indicated, it is important to develop a cooperation in which the sport scientist tries to support the coach and athlete *from the side* (Peter Reinebo) and not in which the sport scientist is the teacher while coach and athlete are the pupils:

I think it is a very important factor to realise as hard as you can that the coach is the expert, not you. [...] He is the expert who puts all the things together. (Jostein Hallen)

Similarly, Anders Borgström indicated that a too authoritarian approach would not lead to a successful cooperation:

When the scientists go to the coaches and tell them to do this in that way – then this will not go very well.

Linked to this *support from the side* philosophy is also the strategy of not making sport science support a compulsory service. According to Peter Reinebo, a more compulsory sport science support scheme would only lead to *bad cooperation* and that any recommendation given in such a forced cooperation would not be integrated to the training practice:

We could set up a compulsory system, maybe achieving a bit better results. But it would cost us so much more resources to set it up to make it work for people who think they have to but actually do not want to – these do not learn anyway. So why not just focusing on those who want to learn?

The strategy to cooperate only with those coaches who are interested in sport science support means that it takes a while until a significant number of coaches apply a support offered. The strategy is however considered to create more substantial cooperations between theorists and practitioners as successful cooperations set new standards in the coaching community in the long run. As Vidar Jakobsen indicated, the respective coaches become role models for others to apply a more scientifically-founded training regime:

It is probably not only like this in NOR: if the bests are satisfied and have certain progress, that gives you much more credibility than having scientific arguments [based on experiments] on lower level athletes.

For the actual diagnostic situation, Erlend Hem indicated that it is important to have a good and relaxed *atmosphere* between athlete, coach, and diagnostician during the testing and the test analysis. Similarly, Anders Borgström from Sweden stated that creating the *right atmosphere* would be the responsibility of the diagnosticians.

Erlend Hem suggested furthermore not to lose sight of the bigger picture of an athlete's situation as a performance analyst. It is not only an athlete's VO2max value or the skating technique that determines success or defeat. It is also the family situation (Erlend Hem) or if being in the team *feels like home* (Peter Altering) which decides how far an athlete can realise his or her potential in competition. Erlend Hem indicated, by introducing too many subject specialists and too sophisticated measurements this general picture might easily be neglected.

In other words, it should be considered that the formal availability of sophisticated support services does not guarantee the successful integration of balanced sport science knowledge into training practice.

Successful Delivery Depends on Personal Relationships

As this research shows, the successful delivery of sport science support appears to depend, in both systems, on the specific characteristics of the support staff members and the resulting “chemistry” between them and the coaches or athletes. While many coaches in both systems did not necessarily consider the SOK or OT as providers of essential support for their training practice, many referred however to individuals like Rickard Nilsson (strength and conditioning coach in the SOK) or Erlend Hem (endurance performance analyst at OT) as important partners. Morten Aa Djupvik, a coach from the NSF national team, stated:

[Erlend Hem] is our man, as we call him, at OT. We use him to discuss altitude training and things like that. He is also coming with us to the training camps to do field tests, measuring the lactacide.

It should therefore be concluded as a key finding of this research that it is not so much the availability of sophisticated support services or the introduction of a rigorous service delivery programme which is a crucial factor for a successful delivery of sport science support services. It is more important to deliver such support in an environment of close, personal relationships between coaches, athletes, and subject experts. Jostein Hallen indicated in this context that it is one of the strengths of OT that such close relationships develop over time between OT staff members and the practitioners from sport, and that OT has learned to allow the development of such close relationship within and outside the OT infrastructure.¹⁴ Even though this practice makes an evaluation of the success of the organisation and the systematic control of the applied practices difficult, Jostein Hallen indicated that knowledge and experience can move fluently in such an open climate and find an easy, non-bureaucratic, and politically neutral way into training practice:

I think a very important factor is that you should not rely on your success, on your position, or on having acknowledgement from the others. It does not matter if the coach did something because I told him to do so. What matters is that he is doing this or that. So I should not feel that it is very important for me that the athletes or coaches say that the system helped me to achieve this or that. And I think this is a strong thing about OT: It depends of course very much on the people. But it is partly also because OT is here and all the athlete can meet here in this cafeteria, the rowers, the cross-country skiers, etc. and they know each other. And so communication emerges and ideas move around all the time. And nobody knows exactly where it is coming from.

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¹⁴ The women's team coach cooperates today mainly with sport scientists from the university in Trondheim.

Characteristics of Sport Science Support Staff Members

The discussion so far leads to the conclusion that the successful delivery of sport science support appears to depend heavily on the characteristics of the involved sport science support staff members. The conducted interviews revealed rather clear qualities that individuals with the “right personality” are supposed to show. Interviewees in Norway as well as in Sweden indicated that support staff members are not so much required to have a highly sophisticated and detailed theoretical knowledge. As Peter Reinebo argued, they are more required to be good interpreters, i.e. they must be able to interact with and be accepted by other scientists as well as athletes and coaches:

It is much more important to have people who can stand with one leg in one area and with the other leg in the other area – the interpreter, they are much more important. [...] So it is very important to have the right personality as a specialist. You can be a very good specialist but you could have the wrong mentality. We try to recruit people with a good personality for our support network. [...] It is much more important to have people who can stand with one leg in one area [i.e. sport practice] and with the other leg in the other area [i.e. sport science research] – the interpreter, they are much more important.

Other interviewees suggested that it is important for support staff members to have a personal background as a coach or athlete as this reflect their true understanding of and *passion for sport*. This is considered to be required in order to understand the view of coaches and athletes and to appreciate the physical and mental stress of elite sport training. Jon Anders Gaustad summarised this by stating:

I think it has something to do that a lot of sport scientists here in Norway have a background from the practical sport. They have been in the sport environment themselves. Like the SDC of endurance in OT – he is a former cyclist. So everybody listens to him. Maybe they are not following everything but at least he has got a good reputation and respect – as a practitioner and a theorist.

Jostein Hallen indicated that it would be equally important for the sport science support staff members to understand the basic nature of academic research - its design and its limitations for its application in elite sport practice. Support staff members should express these limitations in the dialogue with the practitioners.

Such humility is not only necessary to realise the suggested *support from the side* approach. Erlend Hem indicated that this is also necessary not to raise incorrect expectations concerning the potential impact of sport science support:

We have had people working in the system who had been very ... scientific-arrogant. They were as if they would have had all the right answers. And they got good positions but after two months or half a year they realise that some of things they had been very clear about, that it does not work like this. Then they fall apart.

There is also the requirement to develop an inter-disciplinary teamwork attitude. Erlend Hem argued that *nobody is an expert in everything*. Thus, successful sport science support staff members listen to other specialists (physiology vs. biomechanics vs. psychologists) as well as to coaches and athletes:

And I listen to others and I ask others when other people are listening to me. [...] That is what sport on the top level is about: nobody is an expert in everything. So, if you have got a guy who is open for all who have something to tell and all can talk with each other – that is a good thing to do.

Peter Reinebo and Alex Wisnes summarised these considerations in the following general guideline for applied working sport scientists: *blend theoretical knowledge and practical experiences - and try to learn and develop together*.

In order to realise these practices and communication guidelines, the interviewees in Norway and Sweden mentioned a list of soft-skills sport science support staff members should show. First, diplomatic skills, as sport science support staff members have to find the right balance between offering their support and not overpowering the coaches. Second and third, general empathy and didactical skills, as they have to understand how to balance the degree of theoretical discussion and practical advice they give. Alex Wisnes offered this description of the way he approaches coaches:

... you have to be a little bit sensitive concerning what kind of person you have got in front of you. Some of them want to know facts, some want to discuss things: what can you do with my athlete. And some of them phrase it like: we have got a slide problem here. Could you look together with me and we can then discuss it – maybe we can find some way to help the athlete. And some want simple facts: could you make some coordination training with my athlete? I want him to do 10 hours spread over 2 months. So there are different kinds of starts in this cooperation.

Fourth, as pointed out by Ulf Morten Aune, patience is an important characteristic for a successful support staff member as the athlete and coach set the pace for any cooperation. Ulf Morten Aune provided also an interesting summary concerning the personal qualities a sport science support staff member should bring with him or her to work successfully in the field:

And social competence is of course very important. If it is just a "subject idiot" that does not help us at all. Then you need to be so extremely good that everybody listens to him. I mean the person needs to be able to join the training camp for 2 weeks without being so special that he only sits alone in his corner. The person must be integrated into the team, then it works best.

Interviewees like Erlend Hem, Vidar Jakobsen, Lennart Julin, or Svein Tore Samdal added also a political element to the discussion as they argued that, in the long run, only those supporters who do not have any hidden agenda besides wanting to help athletes and coaches are successful:

[The people involved in our project] had not so much personal ambitions but they were more interested in the sports. If we would have people here who would have more personal ambitions, people who want to bring themselves in the media, people who want to be the one with the good advice, then it could be different. I think it was learning a lot from these ... let us say old, patient, satisfied with themselves people ... who were not putting themselves in the centre. (Vidar Jakobsen)

Svein Tore Samdal stated that this can be a general issue with supporters who come from an academic context. He argued that academic sport scientists might want to promote the standing and image of their institution by working in an elite sport support systems and do not get involved in elite sport for the support of the individual athlete:

... we had a lot of people who just want to be in the system as an image think, to get a better name besides being a lecturer. We tried them, but they are not successful in the long run.

It can therefore be concluded that good support staff people must be happy with a position in the second row (Vidar Jakobsen).

Structural Implications of Required Practices and Characteristics

The considerations about the personal characteristics that support staff members have to show and the practices they apply leads also to certain structural implications as the elite sport support environment must give the support staff members the opportunity to build up the required personal relationships with athletes and coaches. As Torbjørn Broks Pettersen argues, a record of successful cooperation provides support staff members with reputation in the sport system – and building up this reputation requires time:

They have results, they have kind of a reputation. They have a reputation as a good coach or as a test leader who understands the sport. It is all about reputation. You have to earn a name for yourself. [...] And this takes time, oh yes.

Thus, the general elite sport support environment must facilitate and support the slow development of such relationships.

Svein Tore Samdal's argument about the danger that individuals, who come from an academic background, might only be interested in making a name for themselves besides being a lecturer, describes yet another phenomenon that may directly affect the organisational structure of a sport science support programme in an elite sport system. It must be considered carefully if and in what areas an elite sport system cooperates with universities and university staff members as well as whether in some areas less theoretically educated but more dedicated support individuals might be more important.

Balance between Applied and Basic Sport Science

Such concerns must be balanced with the considerations Peter Reinebo provided when he stated that it would be important for the long-term development of elite sport to have individuals in the support network who provide the link to the academic world and basic research. It seems as if the SOK and OT have found rather similar solutions to deal with this trade-off.

The SOK includes in its network of subject specialists not only the *interpreters* (Peter Reinebo), who are those individuals who are able to cooperate with athletes and coaches, but also some more theoretically-orientated individuals. While the former are more often in direct contact with coaches and athletes, the latter work more system-internally and provide their colleagues in the SOK network with more detailed background information or links to universities.

In Norway, an almost identical strategy is followed. Once more, it appears however to be more institutionalised and structurally developed. For example, Prof. Jostein Hallen is the head of the endurance performance diagnostic group at OT and of a team of several performance diagnosticians. He is furthermore the leader of the Department of Physical Performance at the NIH, which reflects again the policy of personal unions OT applies (see above). Prof. Hallen indicated in his interview that he would, in his work for OT, consciously avoid representing his institutions (neither OT nor the NIH) directly among athletes and coaches but make his knowledge more indirectly available through the OT-internal cooperation with his support staff members or such key individuals as Atle Kvålsvoll, the SDC for endurance sport. He summarised his support strategy as follows:

It could be that I go with [Atle Kvålsvoll] when he is meeting different people from the different sports. So we sit in the meetings as some kind of team. [...] Then we would sit down and discuss this meeting before, agreeing what we think and the message we try to get across. And then I could help Atle with more specific arguments. [...] The women's head coach has for example a Master in Physiology and he can meet Atle with arguments that would be too strong for him to go against. And then I can be there and provide Atle with stronger, more theoretical, arguments. And it can also be practical things like he has got test results of one of his athletes and he then can come to me [...]. And then we can talk about what does this or that mean, that the diagnostic result are like this, can this be true, etc.. (Jostein Hallen)

6.5.4 Summary and Transferability

It was shown in this section that certain structural differences exist between the sport science support infrastructure that Norwegian cross-country skiers and Swedish athletics athletes have access to. The evidence suggests that the provision of sport science support in Norway is in general founded on a more extensive support infrastructure as well as more formalised support processes than this is the case in Sweden. Despite these structural differences between the two Benchmarking Subjects, several interesting similarities have been revealed in this research, which might stand in contrast to the situation in other sport systems. For example, the general scientific sophistication of the training in Norway and Sweden is probably lower than in many other countries. This has been indicated by many interviewed coaches and subject experts in the SOK and OT network.

It has however also been suggested by the same interviewees that the support that is provided in Norway and Sweden, is at the same time deeply integrated into the training practice and that the recommendations sport scientists provide are, due to the close, personal relationships between coaches, athletes, and support staff members, very much customised for each athletes' personal situation. Thus, the evidence suggests that the availability of a technically sophisticated sport science support infrastructure might not be the most decisive factor for the provision of a successful sport science support programme. It appears that it is much more important for a successful sport science support programme to be integrated into training practices and that it provides coaches with recommendations that consider the sporting and social situation of the individual athlete.

This research has shown that this requires a support environment that enables the development of close, personal relationships between athletes, coaches, and support staff members. To work successfully, the latter have to gain credibility among practitioners based on their personal characteristics as well as successful cooperations with individual athletes and coaches in the field. While the technical sophistication of the training and the applied sport science support measurement might not be that highly developed in the two sport systems, both systems appear to enable and foster successfully the development of such personal relationships between individual athletes, coaches, and support staff members.

This research suggests that the development of such personal relationships depends to a large extent on the personal characteristics of the individual support staff members; the way they approach athletes and coaches; and the degree to which the general organisational environment supports its staff members in the development of these personal relationships. For all of these areas, detailed information from both organisations was gathered and has been described in this section. Considering the nature of the points that have been discussed in this section, it seems reasonable to believe that it is possible for other sport systems to compare their staff situation, their organisational design, and their applied practices against those presented and discussed here in order to draw conclusions for future development projects.

For example, personal consistency is crucial for the development of such close, personal relationships which appear essential for the successful delivery of sport science support. Based on this observation, the management of a sport system could critically evaluate if its support staff members are given enough time to form the required connections to athletes and coaches. If an elite sport system recruits its diagnostic staff members from the constantly changing body of Masters and PhD students at a university, this might conflict with this best practice.

It was also argued that the personal characteristics of support staff members are most crucial for a successful delivery of sport science support services. Several personal characteristics that diagnostic staff members should show were identified and discussed in this section. Based on these considerations, other elite sport systems could critically screen their support staff to determine if it includes individuals who are involved in the support of elite sport to *get jackets and lines in the newspaper* (Bjørnar Håkensmoen) or people who have the exclusive motivation and dedication to develop athletes.

Finally, it was also possible to describe the strategies that successfully working sport science support staff members apply in the actual cooperation with athletes and coaches. These observations can be useful to other support staff members as guidelines for their work no matter the organisational context they are working in.

It can be summarised that the investigation of the sport science support programmes of the SOK and OT revealed that substantial similarities exist in the operational provision of this support service despite certain structural differences between the two Benchmarking Subjects. It can also be assumed, based on the research, that many of the practices that such key individuals like Erlend Hem or Atle Kvålsvoll apply constitute interesting practices for other sport scientists to learn from. Based on this evidence it does not appear as if severe, direct hurdles exist to the transfer of these practices to other systems.

6.6 Lifestyle Support

A lifestyle support programme includes those support services an elite sport systems provides its athletes with to secure their balanced sporting and non-sporting development. One of the key goals of a lifestyle support programme is to enable the athlete to fulfil a “double career”: to gain an academic education or vocational training while conducting his or her sport. This section provides a comparison of the lifestyle support programmes, which are offered in the Norwegian cross-country skiing and the Swedish athletics environment.

As the following two quotes suggest, lifestyle support is on the current sport-political agenda in both sport systems. However, Kerstin Rosen’s statement particularly indicates that the provision of this support service is in both systems, at times, problematic and still developing:

It is a big discussion at the moment not only in athletics what kind of responsibility we have for our elite athletes after they retire. We had a wrestler who took his life which raised this question very much. So what responsibility do we have for people who leave the arena who have been top or medium athletes. (Kerstin Rosen)

There has been a lot of focus on this in Norway in the past years, on the careers of the athletes after the sport as well as on the educational plans which run besides the sporting careers. (Are K. Blyverket)

Based on the information gathered during this research, the discussion in this section will outline the general lifestyle support situation in Norway and Sweden; where athletes can get support from; how this support is delivered; what elements in this delivery appear to be unique for the two Scandinavian cases; and which elements of these practices can therefore be considered as innovative practices in the provision of lifestyle support.

This section focuses primarily on the discussion of those cases where the delivery of lifestyle support is realised successfully. Considering Kerstin Rosen’s statement, it is important to emphasize that this is not always the case, i.e. not all athlete in the two sport systems will have experienced the same best practice lifestyle support that is outlined in the following discussion. This has already been indicated in section 4.3.

6.6.1 General Overview of the Lifestyle Support Programmes

Lifestyle support in both countries is primarily based on the maturity and self-responsibility of the individual athlete and the close, personal relationships between athlete and coach. In both countries has developed in the past years the philosophy that an athlete's sporting development should not be considered in isolation from his or her non-sporting one. Hence, athletics and cross-country coaches are encouraged not only to regard their athletes' physical situation when planning the training or competition schedules but also their mental, social, educational, or vocational situation. This idea is summarised in the Holistic Coaching Approach (HCC) in Sweden,

We do not work the way people normally work. We work with the human being 100%. [...] That is the challenge, to work with such people and build them up again and build up a relationship. That is stimulating for a coach. [...] And this is something special in the Swedish model. (Ulf Karlsson)

respectively in the 24hr Athlete Concept (24hrA) in Norway.

It is a philosophy that the coaching job is more than a technical-physical thing and the athlete is more than a technical and physical person. So you have to have all the aspects in mind when you plan the training programme: how is the family situation, how is social life, your education, is there anything bothering you. And then, when all those things are sorted out, then you can say do this or that in the training. (Erling Rimeslaatten)

The depth of the athlete-coach-relationship is in both systems considered as the backbone of lifestyle support matters. However, there are also more tangible support elements and infrastructures in place in Norway and Sweden. At the junior level, both sport systems offer for example a network of sport-orientated secondary schools (gymnasia). Kerstin Rosen described these as follows:

The origin of the system with the schools was that people like Björn Bork and other former sport stars, they dropped school after seven or eight years, never finished a school education. And this is okay for somebody like Björn Bork. But all those other guys who drop school and never earn so much money So we wanted to give them a social opportunity to combine top elite sport with a school education.

The gymnasium coaches appear in both countries to be strong promoters of the HCC and 24hrA. The goal of these institutions is the balanced sporting and non-sporting development of the athletes. Torbjørn Broks Pettersen stated for the NTG in Lillehammer:

We are the first step on the long ladder on a possible international championship. We are trying to teach athletes a way of living – this includes both education and training and every day life – a way of living which prepares them for a life on possible high level.

After graduation from the gymnasia, the structural backbone of the lifestyle support system is in Norway and Sweden the national higher education system, respectively the student loan programme the Norwegian and the Swedish government provides.

Are K. Blyverket stated for example:

I think the biggest sponsor for the Norwegian sport is the Lånekasse – student loans. So athletes live on their student loans. That is the way to finance the sporting career.

However, a university sport culture comparable to the situation in the British (BUSA) or the Anglo-American university system (NCAA) exists neither in Norway nor in Sweden. Thus, it must be emphasised that access to university is completely independent from the sporting performance of the athletes. Hence, to get and stay entitled to the support from the governmental loan programme, the athletes have to study successfully, and studying successfully means they may not fall behind in a centrally prescribed study plan.

A recent development in both countries is the emergence of agreements between the sport systems and different universities. Based on these agreements, student athletes are granted special conditions at some universities, which enable them to combine their training with their competition programme and university schedule. However, these agreements affect only administrative matters such as extending a university programme over twice the normal study time or rescheduling exams and hand-in deadlines if they collide with training camps or competitions.¹⁵ As discussed earlier, it appears as if this development is more mature in Norway than in Sweden where Kerstin Rosen considers the time after the young athletes leave the gymnasia as the *black hole* in the Swedish athletics system.

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¹⁵ Studying with only 50% of the normal study volume per term entitles the student thereby also only to 50% of the study loans. It might even be that studying too long or to little does not entitle the athlete to any loans. It appears to be a matter of current change.

The sport federations' involvement in lifestyle support matters appears to be first of all the communication of the idea of the HCC and the 24hrA in the coach education. As indicated in section 6.1, the CP and the CoPo have also lifestyle support related implications as they offer athletes training and administrative support in their home clubs. It has also been outlined before that the EISP and the JNT focus not only on the sporting development of promising young talents but also on teaching them, and their home coaches, an appropriate *lifestyle* for becoming an elite athlete (see section 6.1 and 6.2). Finally it must be stated that, in contrast to the SAA, the NSF provides also direct financial support for its national team athletes.

The general support organisations in Norway and Sweden, the SOK and OT, appear initially to offer a conventional lifestyle support infrastructure as both organisations have specific support staff who help athletes and coaches realising their non-sporting development plans. They negotiate for example with schools and universities for extra leave for the athletes or help finding suitable part- and fulltime jobs with the help of their partner organisation ADECCO¹⁶. OT and the SOK provide also a means-tested scholarship scheme for the national top athletes.

However, the work of the lifestyle support managers in OT and the SOK should not be misunderstood as a career consultancy service. Interviewed coaches and administrators in Sweden indicated that the lifestyle support programme of the SOK is in most cases only focused on short term *fire fighting* and the support for athletes who are confronted with rather specific problems. Erling Rimeslaatten, the lifestyle support person in OT himself made it very clear that his role was to support athletes and coaches to solve the problems they find themselves confronted with along their development, but that he does not offer any consultancy concerning the question of what an athlete should or could do besides the sport. According to Erling Rimeslaatten, this question has to be answered by the athletes themselves and through interaction between athlete and coach.

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¹⁶ ADECCO, a human resource management company, is the sponsor of the NSF respectively OT and the SOK.

Finally, it must also be considered that a sport itself - its social image and the economic foundation a sport enjoys in a respective society - can also provide lifestyle support. This research suggests that the Norwegian cross-country skiers have in this context a considerable advantage compared to Swedish athletics athletes. It has been stated before that the cross-country market in Norway provides a strong enough economic foundation that even only national-standard skiers can at least partly live on their sport. The Norwegian competition infrastructure attracts so much media and sponsor attention that skiers can develop their own support network and this seems not only to secure the direct economic survival of the athletes during their sporting career. Working with sponsors is also considered to sharpen the athletes' business and entrepreneurial skills as well as to help them developing a contact network through which post-sport employment can emerge.

Jon Anders Gaustad described for example his own development as follows:

You get to know people through the sport and I already work with these firms I have sponsorship deals with. You have to show them what you are about and what you can achieve. So I hope this can develop into a position after I am done with my sport. I hope so. I think this is one of the opportunities. Because you make some good relations during the sport. I believe, if I would quit skiing today, I think I could get myself a decent job within a couple of months.

Lennart Julin indicated that the Swedish athletics market does not provide similar extensive economic support.

6.6.2 The HCC and 24hrA

The HCC and the 24hrA have been introduced as the general backbone of lifestyle support in Norway and Sweden. This section will investigate in more detail the HCC and the 24hrA as well as the rationale behind these concepts; how the two concepts are implemented into the training practice in Norway and Sweden; and where they have problems and challenges.

Idea of the 24hrA and the HCC

The idea of the 24hrA and the HCC is more or less identical in Norway and Sweden – and equally identical is the rhetoric with which the two concepts were introduced and described in the interviews. Both concepts build a *stable structure* around the athletes in which they can conduct their sport. Christian Augustsson describes that such stable structures are by no means limited to direct sport related matters and affairs:

I even watch [my athlete's] dog. That is also sometimes important. I mean it is just important to help the athlete to focus. You have to help them with their lifestyle. You have to build up a stable structure. Then you find the answers to the questions which occur when the competitions are getting closer. Then you know where you can leave the dog, what you eat, how you will sleep, etc..

As indicated at the beginning of this section, Erling Rimeslaatten argued very similarly to Christian Augustsson when he stated that the coach should ensure that all aspects of an athlete's life are organised before athlete and coach develop training plans and competition schedules. Interviewees like Agne Bergvall or Per Nymoen explained that such a holistic or 24hr focus, is important as an elite athlete is not only an athlete during the four or six hours training a day, he or she is an elite athlete 24hrs a day. As the sporting life affects the non-sporting one and vice-versa, coaches and athletes should plan the residual hours of the day as carefully as they plan training and competitions. Agne Bergvall used in this context the Swedish term *trygghet* which means *to feel safe and secure*. According to him, only if an athlete feels *safe and secure* during the whole 24hrs of the day, he or she will be able to realise his or her full physical potential during the hours spent on the sport. Anders Borgström summarised in this context

We believe that it is important for the athletes [...] that they are not concerned about what is happening in the future, their life should not be shattered when they do not hit the javelin right or the bar falls to the ground behind them. It is important that your identity is not only limited to that of an athlete but that the whole life is founded on a solid ground. And this is an important condition for achieving sporting performance. That is why we demand from our pupils in the gymnasium that they are able to achieve good progress with their school and university development.

Realisation in Training Practice

The 24hrA and the HCC suggest that it is the general responsibility of the athlete to decide what he or she should do besides the sport. The role of the coach is then to ensure that the athlete sets realistic sporting and non-sporting development targets (Agne Bergvall, Erling Rimeslaatten). Based on these sporting and non-sporting goals, athlete and coach then develop together appropriate career plans. For those athletes who are at the highest performance level in Norway and Sweden, the lifestyle support responsible staff members in the SOK and OT are then available to help athletes and coaches to realise the plans they have developed. Erling Rimeslaatten summarised this processes as follows:

It is the special sport federations, the athletes and the coaches – and we play the supporting role. So we do not go out and say: you are now an OT athlete – we are going to sit down now and plan your future. We do not do that. [...] When you get into the university you have to have your own programme for training and competition: I will be away at these times – what can we do together. [...] So, one of the basic things is that athletes themselves must have clear plans for his or her sport activity before getting into dilemmas with the staff at the university. (Erling Rimeslaatten)

Athlete - Coach Relationship

Key for the successful realisation of the HCC and the 24hrA is the close and mature relationship between the individual athlete and his or her coach. Neither the HCC nor the 24hrA expect the coach to develop into the athlete's babysitter. On the contrary, it has been emphasised in both countries that the coach-athlete-relationship is one between equal partners. In this relationship, the coach is supposed to encourage an athlete to study or to find a part-time job besides his or her sporting activities. The coach should also help the athlete to balance any study, working, and sporting plans the athlete has developed. As the following quote shows, it was however made very explicit in both systems that developing an initial idea of what to do besides the sport is considered to be the athlete's responsibility:

... we do not want to tell [the athletes] what they have to study or what they have to work. This must come from their interests. We just advice them to get a good balance between work, studying, and sport. If it is only sport, then it gets problematic as too much might be relying on the sport. (Anders Borgström)

If the coach does everything, the athlete does not grow so I do not work with plans like that. It is the responsibility of the athlete but we discuss everything of course and I try to help them. (Ulf Karlsson)

I try to help them with these decision when we are on training camps or I visit them at home or speak with them on the phone. I always try to make them think about the future, what they want to do. But they have to make the decision, I cannot do that. I will only be a part in their discussion with themselves, asking them the questions, questions they sometime maybe do not want to have, but I force them to think things through. (Jon Arne Schjetne)

Thus, it can be concluded that the coach in the HCC or the 24hrA concept has the role of an initiator or a catalyst of the career planning of an athlete. If necessary, he or she should encourage the athlete to do something outside the sport and be available to discuss with the athlete potential study or apprentice options. The coach should also constantly discuss milestones and development plans with the athlete to balance the sporting and non-sporting development of the athlete throughout their career.

As Ulf Morten Aune indicated, the challenge is to find for each individual the right balance between doing sport and preparing a non-sporting career:

Some you have to tell to get some education besides the sport as there is a life after sport and also to have simply something to do besides the training. It is not enough for everybody to sleep, eat, and train. But for others that is enough and for them doing something else would simply become too much. So this depends on the person.

Meeting these goals requires a deep, balanced, and holistic athlete-coach-relationship. Ulf Karlsson described his role as not a conventional trainer but as his athletes' mentor. Similarly argued also his Norwegian colleague Ulf Morten Aune who stressed that his involvement in his athletes' lives would not be limited to sporting matters:

And I as the coach also care about other things. I ask how my athletes live, what does the training environment look like, how does it develop with the parents, the financial situation of the athletes, their relationship to the home club, all these things.

Central Support for the HCC and the 24hrA

The foundation of the HCC and the 24hrA is the individual relationship between the specific athlete and his or her coach. Over the years, the SOK, OT, and the two sport federations have developed a support infrastructure that supports the realisation of the two concepts - an infrastructure that helps the athletes and coaches realising their plans. The different elements of this network are:

SOK and OT

The SOK as well as OT acknowledge that the athletes' sporting and non-sporting development goes hand in hand. Hence, both institutions appear to have a positive attitude towards lifestyle support. As indicated before, the two organisations are however not pro-active on this matter as they do not offer a career consultancy service as such. Their key concern appears to be the support of the individual coaches and athletes in the realisation of the plans they have developed: identifying and developing appropriate study programmes, organising extra leave from work or universities, or finding suitable part- and fulltime vacancies for athletes.

Universities

OT has been very active in past years in developing a network of about ten universities and colleges across Norway that offer athlete students special study conditions. These agreements allow the athlete students to extend the curriculum of a study programme for example over twice the normal study time. They make it also possible to handle coursework deadlines or exam dates flexibly. However, the content of the actual curriculum remains unaffected. As Erling Rimeslaatten stated, the organisational backbone of these agreements are the general student advisors at the respective universities who support students with special needs:

Every university or college has got such student advisor. This is not only for sports. They are also helping out students with special family burdens or students with physical handicaps. It is regulated by law that every university has to pay special attention to each individual student. And we then use these persons for our athletes. Only in Lillehammer, we own that person.

Flagship of the university network is the University College in Lillehammer where OT finances together with the NSF and the Norwegian Biathlon Federation one special student advisor who works exclusively with athlete students helping them to find courses which suit their training schedules.

The Swedes have tried to develop a similar network of elite sport supporting universities. It has however been stated already, that the situation in Norway appears to be more developed than in Sweden. It was in Norway that the central support unit OT started to develop the network of partner institutions. However, the four athletics university project in Sweden emerged as a bottom up initiative in the environment of four strong athletics gymnasia. As Anders Borgström indicated, these local agreements lack a strong financial foundation and are also dependent on the goodwill of the respective universities and their staff members:

With the university, this programme is just developing. We have this programme now for three years and even though we have just began another three years period, we are not yet so save that this will stay like this forever.

Federations

Besides promoting the idea of the HCC or 24hrA in the coach education, the NSF and the SAA have introduced over the past years several interventions which support the realisation of the two concepts, or which have other lifestyle support related effects. For example, the JNT and the EISP do not only focus on the sport-related development of promising young athletes and their home coaches.

Both have also the more general agenda to teach athletes and their home coaches the lifestyle and the appropriate “mind set” of a successful elite athlete. Peter Reinebo described the effect of the EISP as follows:

One thing which became obvious in the middle of the 90s was that the attitude of athletes and coaches on the junior level was not good enough to manage the step from being a good junior to being a good senior athlete. So the SAA started [the EISP] in the middle of the 90s to educate both coaches and athletes. That was very important. Before this programme was initiated, all the coaches were for example, very much afraid of sharing their own knowledge about training as they did not know each other – there were a lot of secrets. And also the athletes thought they were much better than they were as athletics is a well known sport. And because they were doing athletics, they were thinking they were great athletes – but they were not.

Of more direct importance are the CoPo of the NSF and the CP of the SAA. One element of the CoPo is to set up different local training hubs around the country which are each supported by one of the six national team coaches. Like for example in Lillehammer, these hubs tend to be located in areas where agreements with universities have been established and where different athletes from the closer and wider national top performance level train. Hence, the NSF ensures with the CoPo that skiers get high quality training support at towns where they have appropriate living and study conditions – an indirect lifestyle support service which further strengthens the 24hrA concept in Norway. In Sweden, a similar affect is achieved by the CP. According to Kerstin Rosen, the “official” national team coaches, who are organised in the CP, are allocated one or two athletes from the national team and have the task:

... to look after the athletes, making sure that they in their clubs have all the best possibilities – whatever they required. This could refer to their studies, to their living, to their relations with their coaches, medical services, etc.[...] – making sure that they have what they need to develop.

Problems

It can be concluded that the 24hrA and the HCC are powerful tools for the provision of lifestyle support if they are applied by a coach like Ulf Morten Aune or Agne Bergvall who see themselves more as the partner and mentor of the athletes rather than just his or her trainer. However, even though the two concepts appear to be well known in the two sport systems, Ulf Karlsson and other interviewees admitted that the degree to which the 24hrA and the HCC are realised in the training practice varies with the respective coach:

The best situation is that the coach is the athlete's mentor. If it is a good coach, he or she can see what is the problem of the athlete, they are interested in putting together everything to achieve an optimum result in the sport. [...] It is a problem, as not everybody has the same approach to this problem.

Several reasons why the integration differs between the coaches could be identified. Some coaches simply do not believe in the idea of the HCC or the 24hrA.

One coach might for example have the opinion, that his or her realm is purely the sporting development of the athlete while non-sporting matters should be handled by the athlete. Another coach might even say that an athlete should focus exclusively on the sport and forget about university education or vocational training all together (Martin Eriksson).

While such individuals would undermine any lifestyle support programme, a very specific hurdle for the two Scandinavian approaches can be the lack of time a coach has available for his coaching duties. Coaches in Sweden and in Norway are very often volunteers and they already invest a lot of time in the organisation and conduction of training sessions or for travelling to competitions. Caring also for the athletes' non-sporting development is sometimes simply not possible even if a coach might want to do so (Ulf Karlsson, Mikael Johansson). A solution for bigger clubs might be the approach the athletics club in Karlstad introduced recently when the management employed a *social contact person*. While lifestyle-related problems are identified and discussed between athletes and coaches, this staff member in the management of the club helps to find solutions for the problems athletes and coaches come across, such as finding new apartments, equipment, or dealing with sponsors (Ulf Karlsson). This transfers the idea of having a lifestyle support responsible "problem solvers" like the ones in the SOK and OT to the club level.

A third and final problem of the HCC and the 24hrA is that they are too vague (Mikael Johansson). Individual coaches may find it problematic to realise and implement the idea of making an athlete feel *trygghet*. It could be the focus of future investigations to evaluate if the coach education could provide coaches with more specific guidelines and manuals about how to implement and realise the ideas of the HCC or 24hrA.

Comparison between Norway and Sweden

Even though the rhetoric indicates that the HCC and the 24hrA are similar concepts, the research suggests that the HCC is more integrated in training practice in Sweden than the 24hrA in Norway. Several factors were identified that can explain this perception:

First, it has been stated by several interviewees in Norway that the 24hrA is not always explicitly applied in the coaching practice as cross-country skiers are in general considered not to require so much guidance and support in training or non-sporting matters. Are K. Blyverket stated for example:

I worked with different athletes and different sports over the years. I think that most of our cross-country skiers on a certain level ... these are strong minded individuals. They know how to organise a lot within their lives. If you compare it to other team sports as for example football or ice hockey, there I would be more concerned about those athletes [concerning giving them lifestyle support]. I worked also with the local football club. There you have to provide them with a job, have to help them to get through college, they do not focus on themselves as much. They do not have the same strong mindedness about themselves.

It is not possible to evaluate if a Norwegian cross-country skier needs less lifestyle support than Swedish athletics athlete. The evidence suggests however that Norwegian cross-country skiers are well known for their self-management skills and that they are often not only successful in their sport but also in their non-sporting development. In fact, cross-country skiers have - and seem to enjoy - the credo of being strong, independent individuals. Ulf Morten Aune mentioned here the term *lonely wolves*. A coach who starts “nosing” around in the athlete’s life might not always be well received.

It has also to be considered that the economic and social security of cross-country skiers in Norway is different from that of athletics athletes in Sweden, who are much less likely to be able to live on their sport.

Another explanation for why the HCC might be better integrated into the daily coaching practice is the fact that the concept evolved in the coaching community itself. The HCC developed on the back of specific, practical and successful coaches like Ulf Karlsson or Agne Bergvall. Hence, the HCC does not only have a very practice-focused origin, but these figureheads are also active role models for other coaches who copy their practice and approaches.

6.6.3 Lifestyle Support Outside the HCC and 24hrA

During the course of the data collection and analysis it was observed that the different organisations in the two sport systems provide also several lifestyle support related measurements which are not directly linked to the HCC and the 24hrA.

SOK and OT

The SOK organises an annual education programme of a series of personal development courses which focus on areas like media training courses, nutrition, and anti-doping seminars. This programme is delivered in four different education blocks or weekend sessions. Similarly, OT runs two or three times a year specific team building weekends which include all athletes and coaches. These weekends appear to follow a similar curriculum as the education blocks the SOK organises.

Two common features were identified concerning the organisation of these sessions. Firstly, all staff members of the two organisations tend to be present during these events to interact with athletes and coaches, not only those staff members who are directly involved with the lecturing. Secondly, current or former top athletes and coaches are often used as lecturers and presenters in these sessions. Erling Rimeslaatten indicated that he intends to extend this approach in the nearer future to improve the athletes' attitude towards post-sport career planning. According to the lifestyle support staff member of OT, this might be a strategy to create more strategic awareness for more long-term career planning by having role models presenting in these seminars who can talk about how they managed to fulfil a successful double career.

Sport Federations

The two sport federations provide their developing and top athletes with access to personal development courses such as media training seminars. In both systems, these are organised during national team meeting and training camps. In Sweden, due to the nature of the sport and the size of the national team, these sessions are organised on the basis of the special discipline groups (throwers, sprinter, or long distance runners). The general national team camps and meetings would be too big to host such specific education sessions effectively.

University and Gymnasia System

Norway and Sweden have developed over the past years a more or less mature network of universities which grant student athletes certain administrative support. As a result of these agreements athletes can combine their sport with gaining an academic education and access at the same time the governmental study loan programme. The system of sport gymnasia (secondary schools) is however, more mature than the network of sport-supporting universities in both countries. Over 60 national sport gymnasia exist currently in Sweden, seven of which focus on athletics. In Norway, five sport gymnasia offer cross-country skiers support. Three of these are mainly publicly funded while two are privately organised and require tuition fees. In the national athletic gymnasia in Sweden are currently about 172 athletes enrolled, in the schools in Norway 153 cross-country skiers. Besides these national gymnasia, in both countries several regional and local solutions have developed in recent years where bigger clubs have arranged agreements with local communities and schools to offer talented youngsters special study conditions in their hometowns and schools.

The purpose of the gymnasia appears to be very similar in Norway and Sweden. Anders Borgström and Torbjørn Broks Pettersen expressed that it is their goal to give promising young athletes an idea of what would be expected from them if they wanted to follow their ambitions on the senior stage while ensuring their non-sporting development does not suffer under the sport:

We say that those three years at the athletics gymnasium are actually talent scouting. It is just a dream that these three years is going to be a developing period for all athletes who join the school. We consider it much more as a period in which we get the students in contact with elite training. And when they leave our school, then they should have received a good decision foundation to decide if they want to go on with elite sport or if a junior career is enough for me. (Anders Borgström)

While the agenda, purpose, and history of the gymnasium system appear to be similar in Norway and Sweden, their structural design differs somewhat. The gymnasia in both countries are organised as “off-campus” boarding school where athletes who join the schools have to move to the respective towns and live in private apartments on their own. The Swedish gymnasia are however not schools as such. The gymnasium in Karlstad offers only sporting support for the athletes, a coaching and training infrastructure.

The pupils of the athletics gymnasia are enlisted in different local schools that have agreed to offer the students from the athletics gymnasium extra leave, flexibility with exam dates, as well as the opportunity to get lunch at school. In Norway, the Norges Toppidrettsgymnas (NTG) in Lillehammer, is on the other, hand an independent school with its own school building, own coaching, and own teaching staff. Another difference between the two gymnasia systems is that the Swedish ones tend to be single sport organisations. There might be cases where football, athletics, or badminton gymnasia are in the same town, but these would be organised and run independently from each other. The gymnasia in Norway are multi-sport institutions. The NTG in Lillehammer caters for example for cross-country skiing as well as for ski jumping, biathlon, and handball.

As the NTGs have coaching as well as teaching staff working in the same institution, it seems as if the contact between coaches and their athletes' teachers is rather close. All coaches and teachers at the NTG in Lillehammer meet for example once a month in a formal meeting to discuss the development of each pupil athlete. The NTG has also one specific teacher who meets each pupil once a year to discuss what post-gymnasia opportunities exist in Norway after the student's graduation. Such a specific career consulting process has not been described in Sweden. However, the interviewed director of the gymnasium in Karlstad described that they approach the graduation of the athletes from their gymnasium with the following two steps. First, the athletes write an extensive essay about their time in Karlstad as well as their sporting and non-sporting plans for the next five years. Based on these essays, the coaches discuss with their athletes in a private meeting as to how far they consider the plans to be realistic and provide advice how to realise them.

Besides these structural differences, one fundamental similarity between the two gymnasia systems in Norway and Sweden is the criticism they face. Jan Muren stated for example as follows:

[...] we are in general a bit sceptic concerning these institutions. Because not everybody is in a position to move away from home to do more quality training. I think that even the best athletes still benefit from quite a bit of support. And we find that if we can arrange a lot of good quality training, the athlete can benefit more from staying at home with a good schedule at school than going to the ski gymnasium. [...] But that is our perception that it is better for our juniors to have it like that.

Several interviewed coaches and administrators from Norway, but particularly from Sweden indicated that the “social costs” for the athletes and skiers who go to the schools are very high: leaving home, moving into a new school, changing into a new training environment, and having to live alone are all substantial sacrifices for the sport in the age of 15. Even the two interviewed staff members from the NTG in Lillehammer and the athletics gymnasium in Karlstad indicated that the first weeks at the schools are often tough for the young athletes. Lennart Julin suggested that the high dropout rate Swedish athletics is confronted with among the athletes who leave the gymnasia, is linked to these high social costs, the social sacrifices young athletes have to make to join the schools. As a response to this, regional solutions have developed as agreements between local schools, communities, and clubs. The goal is to provide young athletes with similar conditions in their home “club environment the national gymnasia offer them.

6.6.4 Summary and Transferability

This section has shown that lifestyle support is provided very similarly in Norway and Sweden. For example, the general support infrastructure for junior and senior athletes, the network of special sport gymnasia and the emerging network of universities which offer student athletes special study conditions. Concerning the latter, it can be stated that the purpose, design, and especially the actual support these institutions offer is very similar in Norway and Sweden. Due to a lack of centrally provided financial support for these initiatives, the agreements seem however to be further matured in Norway than in Sweden.

The key elements of the lifestyle support programmes are the HCC and the 24hrA. Coaches are advised to encourage and actively support their athletes not only in their sporting career but also in their vocational and academic development and to get involved in the development of appropriate career plans for the athletes which balance sporting and non-sporting goals and milestones. However, it must be emphasised that the key responsibility to find a suitable post or non-sporting career idea remains in both systems with the athlete.

The sport federations and the general support organisations, (the SOK and OT) have no direct lifestyle or career consulting role. Their key responsibilities are to develop an appropriate support and training infrastructure in which athletes and coaches can realise their aims and plans. The organisations also help athletes and coaches if they are confronted with specific problems. Erling Rimeslaatten from OT would for example suggest suitable universities where an athlete can study a subject he or she is interested in or help organising extra leave from work or school. In addition, the two sport federations offer several initiatives which have an indirect impact on lifestyle support matters. Elements of the CoPo in Norway and the CP in Sweden focus for example on strengthening the hometown training environment of athletes in the closer and wider national team environment. This fosters and further develops the idea of the HCC and the 24hrA. Talented athletes can get high quality training in the towns where they study or in the areas where they are supported by their personal coaches.

While the HCC and the 24hrA form the backbone of the lifestyle support concepts in Norway and Sweden, it must be emphasised that the two approaches are not without problems. Some interviewees in Norway discussed that the 24hrA might be used as *an empty phrase* by some coaches while Ulf Karlsson, the initiator of the HCC in Sweden, admitted that not all coaches in Sweden believe in this new perception of the role of the coach or are able to implement it appropriately.

The HCC seems to be deeper integrated into the training practice in Sweden than the 24hrA in Norway. This is an interesting finding as the 24hrA appears to be a longer-existing concept and has been for several years now actively communicated in the coach education system – and this not only in cross-country skiing. The HCC on the other hand appears to have developed in the Swedish athletic environment only recently as a bottom-up idea of specific coaches.

The following section considers in how far lessons can be learned by other elite sport systems from the lifestyle support practices and structures of the two sports in Scandinavia.

The concept of sport gymnasia and the network of sport-supporting universities would clearly be an interesting infrastructure to have. However establishing such a network requires the willingness of the national education system, specific universities, and especially individual staff members at these universities to cooperate with the sport. As the interviewees in Norway and Sweden indicated, building up such a network is not unproblematic especially in countries which do not have a tradition for school or university sport. Considering for example the athletics universities in Sweden, it can be argued that the universities in Karlstad or Vaxjö might not have been so cooperative to join in on the agreements the local athletics gymnasia suggested if the athletics movement did not currently enjoy so much moment and positive publicity in Sweden.

In conclusion, these agreements might be relevant for other sport systems. However, even though the amount of direct funding they require is relatively limited, countries without a mature collegiate or university sport system or sport systems which do not enjoy a certain amount of public backing and positive publicity, will probably struggle to develop a similar system of agreements between the sport and university system.

Of most relevance are the 24hrA and HCC. Even though both concepts have clear pitfalls and problems, they can provide certain recommendations as to how a lifestyle support programme can be (re-) designed. Figure 6-4 lists five main task in a lifestyle support programme: identifying sporting and non-sporting career goals for an athlete, developing career plans based on these goals and the athlete's individual capabilities, keeping these plans up-to-date, and helping to realise these plans by providing personal development courses or finding appropriate vacancies or university programmes. As the upper half of the figure suggests, all these tasks are, in a conventional lifestyle support programme, covered by a specific athlete support manager. Figure 6-4 also shows, however, one of the key problems such lifestyle support managers are confronted with: developing close connections with the individual athlete to provide him or her with appropriate advice and recommendations which suit his or her specific situation.

Figure 6-4: Lifestyle support manager vs. HCC and 24hrA coach

A coach might lack the specific consultancy competence of an athlete support manager, but he or she spends several hours a week with the athlete. Thus, the 24hrA and HCC argue that the coach knows the athlete probably better than most other people and is thus well able to evaluate the suitability of a specific study aim and schedule for a specific athlete. A coach might also not know of all existing study programmes which could be appropriate for the actual realisation of an athlete's study aims. Providing such information is in Norway and Sweden the responsibility of the centrally working lifestyle supporters who can be approached by athletes and coaches to gain such information (referred to in Figure 6-4 as "Problem-Solvers").

Hence, it can be concluded that the Scandinavian approaches provide an alternative to traditional lifestyle support services. They advocate an increase in the involvement of the coaches in the actual career consultancy and planning processes while centrally working athlete advisors might better focus on the support of the actual realisation of career plans as their main responsibility.

The detailed discussion of the 24hrA and HCC can also provide specific advice as to how other elite sport systems can avoid the problems that the Norwegian and Swedish systems experience concerning the implementation of the two approaches. If the idea of the HCC or the 24hrA is transferred to another sport system, coaches should be equipped with a very clear guideline explaining how to fulfil the general idea of the HCC or 24hrA. Further research of the practices coaches like Christian Augustsson and Ulf Karlsson or Morten Aa Djupvik and Ulf Morten Aune apply in the interaction with their athletes might create a pool of successful practices for the application of the HCC and 24hrA.

At a more general level, it can be concluded based on this research and the observed Spartan lifestyle support programme the two Scandinavian sport systems provide, that too extensive support schemes can become counterproductive concerning the success of the athletes. Lennart Julin argued for example as follows:

I think for being successful, the fire must already be burning. If it is not, you will waste your time and resources. You cannot buy an athlete's enthusiasm. It does not work like: if you throw this javelin, then you will get that candy. It must be: I want to throw that javelin and we say that we can help with this.

Martin Eriksson suggested similarly that Sweden might not be so successful in athletics despite the lack of support, but due to this lack. As a former athlete himself and a participant at the 2000 Olympics, he argued that the Spartan system in Sweden might create the *drive* in the athletes which is necessary to succeed:

[The SOK does] not want people that they had not selected to make it to the Olympics, which is ... maybe it is good maybe it is bad. When I made it, I had been at the 2000 Games, [...] I had to go through hell to make the team. They did not really want me because I was not really in the talent group. And at that point I was very frustrated. But later I realised, maybe it is a good system, I do not know.

A similar rhetoric emerged also in Norway where interviewees like Ingrid Bahr or Kristin Felde suggested that the success creating culture which has been observed among the coaches and athletes in the Norwegian cross-country environment has not developed despite the general lack of resources compared to other sport systems, but also to a certain extent due to it:

And I think that due to the fact that we are such a small country, it is easier for us to come together. I mean take the USA. They might have big centres but you have gymnastic in this centre and athletics in the other. They are very good but then it is not easy to learn from the other sports. And we have tried to build our system so that we can learn from each other. (Ingrid Bahr)

6.7 Summary

Chapter five and six provided a detailed overview of the general sport system in Norway and Sweden, the organisation and the support of elite sport in these two systems, the organisational design of the two sports which have been selected as Benchmarking Subjects for this research, as well as the provision of the elite sport support services that have been selected as Benchmarking Objects. Based on these observations and descriptions, an analysis of the observed practices and structures which underpin the provision of the selected Benchmarking Objects has also been provided. It was not only possible to describe the origin of the observed structures and practices but also to identify key differences and similarities in the service provision.

The next two chapters will link these findings back to the reviewed literature. Based on the evidence which has been presented in chapter five and six, the discussion will also provide answers to the questions asked by the research aim and objectives which have been set for this thesis.

7 Discussion

This chapter discusses the findings of this research in the context of the reviewed literature and the developed research objectives. Specifically, section 7.1 outlines the contribution that existing research has made to this thesis while sections 7.2 and 7.3 consider how this research contributes to the understanding of the general design of elite sport systems and the specific nature of the applied management practices within such systems. To do so, section 7.3 addresses the three research objectives which were developed for this thesis. This supports the concluding chapter of this thesis, which attempts to answer the question of whether the management tool of benchmarking can inform managers of elite sport systems of how to improve the operational processes with which their systems deliver specific elite sport support services.

7.1 The Contribution of Existing Knowledge to the Research

The sport policy and elite sport system literature, which was reviewed for this research, made significant contributions to this thesis at many levels. The macro, meso, and micro level considerations, which were introduced in the second chapter of this document, informed the preparation of the data collection for this thesis as well as the analysis of the collected data.

The macro level considerations in the reviewed literature helped to develop a general understanding of the generic design of a stakeholder environment in a sport system. While Digel et al. (2003a) provided an overview of potential entities in this context, other authors indicated or described in more detail the cooperation between a sport system and such national institutions as the education system, the police force, or the army (Braun 2001a, Güllich September 2004, Hackford and Birken 2004, Müller 2002, Nehren 2002). However, the reviewed literature outlined more than just the organizations that could be potential stakeholders and resource gatekeepers of a sport system. It also indicated that, when drawing a comparison between different national sport systems, it is necessary to consider carefully the degree and the agenda according to which different stakeholders provide their support (Houlihan 1997; Stahl et al, 2002). Houlihan (1997) indicated, for example, that national governments in different countries can be involved in the organisation and financing of a respective national sport system to a greater or lesser extent.

Stahl et al. (2002) showed that the specific agenda according to which a national government provides its resources to a sport system - i.e. the support of the national elite vs. sport for all movement - can also differ from country to country.

As the work of Digel et al. (2003a), Houlihan (1997), Müller (2002), or Nehren (2002) indicated which stakeholder and resource gatekeepers can generally be expected to be important for a sport system, these considerations guided the development of a general understanding of the environments the Norwegian Skiing and the Swedish Athletics Federations (NSF and SAA) are embedded in. Stahl et al. (2002) also suggested that the support agendas of the different resource gatekeepers in Norway and Sweden had to be investigated carefully. As described in chapter five, the main resource gatekeepers for the two cases were the members of the two sport systems themselves due to the voluntary work they provide as coaches, administrators, and supporters in the local clubs, the national lottery systems, the local authorities, the national education systems and, especially in Norway, private sponsorship. It was also shown that a major share of the funding the lottery systems and governments make available is focused, in both countries, on the support of the sport for all movement.

Developing these general overviews of the two sport systems was essential in order to meet the research objectives of this thesis. Based on this knowledge it was first of all possible to describe the origin of the specific practices that underpin the provision of the investigated elite sport support services. In turn, this enabled the research to assess why they work so successfully in the two countries, as well as to evaluate the contextuality of the identified practices. This will be discussed in section 7.3.

The meso level considerations that the reviewed literature provided informed this thesis in similar ways. The findings of Green (2003), and Green and Houlihan (2005) about potential political conflicts or *common tensions* (Green and Houlihan 2005, pp.169) which they identified between and across different entities in three national sport systems assisted the data collection and analysis of this research as they led to a general sensitisation to potential political conflicts between the different entities within and around an elite sport system. As indicated in the previous chapter, it was especially difficult to evaluate the actual impact that the general elite sport support institutions in Norway and Sweden (OT and the SOK) have had on the success of Swedish athletics athletes and Norwegian skiers over the past years.

Based on Augestad et al. (2006) findings and the statements Vidar Jakobsson gave in his interview, the contradictions observed in the interviewees' answers seem primarily to be in response to the sensitive question of who can claim responsibility for the achieved sporting successes – the individual athlete, the national team coach, the home coach, the federation, or the general elite sport support institution. This indicates similar tensions in the two Scandinavian sport systems as identified by Green and Houlihan (2005) in Australia, Canada, and the UK. In terms of the specific focus of this thesis, these reflections concerning the nature of political tensions in elite sport systems were essential for the evaluation of the contradicting information concerning the actual relevance of the support OT and the SOK offer to the NSF and the SAA. They allowed a critical assessment of the interviewees' responses and a realistic estimate of the impact of the centrally-provided support practices and structures; thus, they helped in meeting the first objective of this research.

In addition, the meso level considerations provided by authors like de Bosscher et al. (2003a and 2003b), Digel et al. (2003a), Green and Oakley (2001), or SIRC (2002) were most helpful in the technical preparation of this research. As discussed in the first four chapters of this thesis, the work of these authors helped first of all to develop the general aim, question, and objectives which underpin this research. The considerations of Digel et al. (2003a) and Green and Oakley (2001) were, secondly, very helpful in identifying the specific Benchmarking Objects which were investigated in this research, while the arguments de Bosscher et al. (2003a and 2003b) and SIRC (2002) provided suggested, thirdly, a starting point for the development of the selection criteria that were applied in identifying potential Benchmarking Subjects for this investigation.

Finally, of greatest support in the actual preparation of the data collection was the research that focused on the micro level which was provided by Balyi (2001), Bussmann (1997), Fröhlich and Emrich (2004), Gummerson (1992), Launder (1995), Müllers et al. (1999), or Schumacher (1999). The considerations these authors provided allowed detailed insights into the nature of specific elite sport support services and the problems which exist concerning the technical delivery of these services from the viewpoint of subject specialists such sociologists (Fröhlich and Emrich 2004), training experts (Balyi 2001), and biomechanists or physiologists (Müller et al. 1999).

These publications helped to identify the crucial problems in the operational provision of the specific elite sport support services which have been chosen as Benchmarking Objects for this investigation. Thus, they constituted the foundation for the question guidelines which were applied during the interviews conducted in Norway and Sweden.

It can be concluded that the review and discussion of the existing elite sport policy and management literature did not only lead to the identification of the gap that exists in the current knowledge of this area which this thesis aspires to address (see chapter two); as the reflections in this section have shown, the reviewed literature was also able to inform and support the technical preparation, conduction, and analysis of the data collected in this research.

However, there is a lack of literature that discusses comparison studies of operational management processes in elite sport systems, which could have further supported and informed the specific evaluation of the applicability of the benchmarking approach in this specific management context.

7.2 The Contribution of the Research to Existing Knowledge

The research carried out by Deloitte & Touche (2003a, 2003b), Digel (2004, 2005) and Digel et al. (2003a), Green and Oakley (2001), and SIRC (2002) led to the assumption that the service portfolio an elite sport system has to provide to *increase the likelihood* of achieving sporting success (DCMS 2000, p. 19) is generally understood and agreed upon.

While the gathered data appears to confirm this assumption, the research also suggests that the general connection between offering different elite sport support services and achieving sporting success should not be considered as a progressive correlation between the number of Olympic gold medals won and the extensiveness or technical sophistication of the support which is offered to athletes and coaches. The data suggests that the two investigated sport systems provide a rather sparse portfolio of centrally provided support services. The first impression was even that some of the selected Benchmarking Objects were either not provided to, or not used by Norwegian skiers and Swedish athletes and their coaches.

As the following examples will show, these support services are provided through indirect processes and structures, which were only identified during the course of the data collection and analysis. This stands in a certain contrast to the expectation the contemporary literature raises which suggests that superiorly performing elite sport systems should have developed clear and tangible support schemes and mechanisms.

Firstly, neither of the two federations operates a centrally organised talent identification scheme or offers an extensive squad system consisting of a series of consecutive development steps for a developing athlete. Besides the sport gymnasia, whose general role has been discussed critically in chapter six of this thesis, the data shows that the federations do not provide much systematic and proactive support in the sense of regular training camps and educational seminars to talented youngsters who are under the age of 18. Even after this age, the number of athletes who are affected by the offered support schemes is quite small; only 12 skiers in the Junior National Team of the NSF and about 15 athletes in the *elitidrottsskolan* (EISP) of the SAA receive this type of support and training. The participants of these programmes are furthermore not selected based on any talent identification criteria. Their access is more or less exclusively managed based on the athletes' past results in competitions.

The lack of a centrally organised and supported talent identification and athlete development pathway appears to be in contrast to the arguments presented by Balyi (2001), Bloomfield (2003), and Digel (2001b) who all suggest that such programmes constitute crucial factors for the success of an elite sport system. However, as the discussion in the previous chapter showed, the extensive club infrastructure in Norway and Sweden, in combination with the mature national competition circuits, appears to constitute a sufficient substitute for the lack of a centrally organised athlete development pathway.

Secondly, authors like Balyi (2001), Deloitte & Touche (2003a), and Launder (1995) suggest that the competence and hence the education of the coaches who work with talented youngsters and senior elite athletes constitutes another crucial factor for gaining sporting success on the international elite sport stage. While their considerations might suggest developing an extensive and compulsory education and further education scheme for such coaches would be beneficial, both Benchmarking Subjects seem to rely on their coaches' intrinsic motivation to further develop their knowledge as no formal education requirements are set on any performance level by the two federations. However, this does not mean that the coaches in either system are uneducated or that they avoid further educating themselves. As Kerstin Rosen from the SAA described, the Swedish coaches gain their education especially through continuous but informal exchanges with their colleagues in the coaching community. And Jan Muren stated that the seminars of the Competence Programme (CoPo) would be well perceived and attended by the Norwegian club coaches and that these sessions represent today a key element in their education.

These observations suggest that the coaches within these two sport systems are either motivated and capable enough to manage their own further development or that the education offered is provided in such a way that it enables and encourages continuous further education among its participants or, which is more likely, a combination of the above.

Thirdly, concerning the integration of sport science support into training practice, the interviewed athletes, coaches, and sport scientists from both countries expressed that the two sports approach the issue conservatively. In this regard their approach to planning and conduction training would be considered very unscientific when compared to the situation in other countries; the scientific theoretical education of the coaches would be considered limited; and that the centrally provided sport science support infrastructure itself is rather confined and difficult to access for athletes who are not yet on the top performance level. In short, the initial impression concerning the role and provision of sport science support was that this service should not have a decisive impact on the success of Swedish athletes and Norwegian skiers.

This first impression contradicted the expectations derived from an appraisal of the considerations authors like Green and Oakley (2001), SIRC (2002), Escoda (1999), Krug and Martin (1999), Müller et al. (1999), and Schwirtz et al. (1999) provided concerning the importance of sport science support.

While a centrally prescribed diagnostic schedule which all performance athletes would have to follow, does not seem to exist in Sweden or Norway, many cases of close cooperation between individual athletes, coaches, (self-made) performance diagnosticians, or sport scientists, however, were identified in the course of this investigation. These cooperations developed as bottom up initiatives and can easily be overlooked. Thus, it can be stated that the Swedish and Norwegian coaches and athletes do not seem to dismiss the idea of sport science support completely despite the first impression. Even though the practices which are applied in these cooperations might, arguably, not always be of the highest scientific standard, the sporting success they appear to lead to certifies them as operating at a high level of effectiveness: it can be assumed that the close relationships between athletes, coaches, and the respective diagnosticians in these cooperations leads to a high degree of individualisation concerning the provision of sport science support. For example, Erlend Hem, who worked as the performance analyst of the Norwegian cross-country skiing national team for many years, stated that due to this close cooperation, his training recommendations would not only be specific to the respective sport and the physical ability of the individual athlete, but would take into consideration the athlete's social situation. Wherever these bottom-up cooperations develop they appear to provide strong substitutes for a centrally provided and technically more sophisticated sport science support scheme. It can therefore be stated that these considerations might already provide a certain alternative approach to benchmark the provision of sport science support programmes in other elite sport systems against.

Finally, neither of the two Benchmarking Subjects appear to offer as comprehensive, specialised, and pro-active lifestyle support and career planning programme as, for example, the Athlete Career and Education Programme of UK Sport (ACE UK) (North 2001) provides for British athletes or the *Laufbahnberater* (career managers) in the network of *Olympiastützpunkte* (elite sport support centres) offers in Germany (Emrich et al. 1996, Fröhlich and Emrich 2004, Stumpe 1998).

As only one individual in OT and the SOK is partly responsible for the lifestyle support matters of approximately 250 athletes, the first impression concerning the provision of lifestyle support was, yet again, that this service was not highly developed in the two countries.

It was, however, revealed during the course of this investigation that the sportsmen and women in Norway and Sweden are not as alone with lifestyle support related questions as this first impression suggests. First of all, both systems - the Norwegian currently more successfully than the Swedish - try to develop a network of universities which grant elite athletes specific study conditions (studying with 25%, 50%, or 75% of the actual course load per year) to enable the athletes to combine gaining a university education, thus accessing the national study loan programme, and training for their sport. As these initiatives lack proactive athlete mentoring, career advising, and planning elements, and focus instead exclusively on the provision of an elite sport support infrastructure, the more important elements in the lifestyle support programme of the two systems appear to be the Holistic Coaching Concept (HCC) and the idea of the 24hr Athlete (24hrA). Based on these concepts, the athletes' coach is expected to help solve the problems that a lifestyle support manager would focus on in a more conventional elite sport support environment.

Thus, it can be summarised that the two Benchmarking Subjects do indeed cater to the lifestyle support related considerations authors like Digel (1998, 2005) or Zinner et al. (2004) discuss as important elements of an elite sport system. Similar to the situation concerning the provision of sport science support, the two systems appear, however, to have developed and applied an approach for the delivery of these services that differs from what literature suggests best practice should look like.

In conclusion, it can, at the end of this section, be stated that this research supports the assumptions it is based on. Firstly, as the data shows the two Benchmarking Subjects provide their athletes and coaches with a service portfolio that is very similar to those which are described, predicted, respectively suggested by Deloitte & Touche (2003a, 2003b), Digel et al. (2003a), Green and Oakley (2001), or SIRC (2002). Thus it is evident that the assumption of a homogenisation of international elite sport systems is valid.

With respect to the specific Benchmarking Objects which were selected for this investigation, it can be shown that both Benchmarking Subjects provide a series of appropriate stages which can support an athlete's development; they cater for the education of the coaches; the integration of scientific ideas and knowledge into the training practices takes place in Norway and Sweden; and the balanced sporting and non-sporting development of athletes is also on the sport political agenda in both systems.

Secondly, the success that the two investigated sport systems have enjoyed over the past years appears to strengthen the assumption that providing the discussed portfolio of elite sport support services can increase the likelihood of the successful, systematic production of winning athletes.

Unexpected however was the operational design of the processes and structures which make up the Benchmarking Objects of this research. Firstly, the provided support appeared in some areas, such as the provision of sport science support, to be less extensive and technically sophisticated compared to that of other sport systems. This has been suggested by interviewees such as Ulf Morten Aune who worked for several years as a cross-country skiing coach in Switzerland. Even more importantly, for the specific focus of this research, is that many of the delivery mechanisms of the investigated support services were not recognisable at first assessment. This situation is considered in the subsequent section and the concluding part of this thesis as it indicates that the application of benchmarking in the context of elite sport systems can be problematic. Thus even if all considerations concerning the transferability of best practices are put aside, the discussion so far has shown that the identification and comprehension of the processes which underpin the investigated support services requires extensive data collection and intensive data analysis – thus a resource intensive methodology.

It will be further investigated in the next section if and how far the processes the two Benchmarking Subjects apply in the provision of the selected Benchmarking Objects are transferable to different organisational contexts and whether they constitute potential best practices for the management of elite sport systems or not. However, with regard to the general elite sport policy and management practice, at this point, a more general conclusion can be drawn.

As already indicated, both Benchmarking Subjects have shown that it is not the sophistication and extensiveness of the offered support services that are most decisive for the overall performance of an elite sport system. The data suggests that it is much more important to achieve a high level of integration of the different support services into the training practice of the individual athlete and coach. Whilst this consideration might be considered somewhat trivial, it leads, however, to the question of what a general elite sport support policy or strategy - i.e. the framework in which the operational delivery of the different elite sport support services takes place - should look like to maximise the *net support impact*.

The work of Digel et al. (2003a) and Green and Houlihan (2005) suggests that the elite sport systems which have emerged over the past 10 years in many western countries appear to apply a very resource intensive and simultaneously rigorous and tight strategy in that a rather extensive and sophisticated support portfolio is offered and its delivery to the individual athletes and coaches is based on a series of specific, compulsory, and standardised support procedures and access routines. The different sports develop formal talent identification schemes and criteria; athletes are provided with different levels of personal awards, such as salaries according to their performance abilities; the lifestyle support programme is provided by a team of professional and specialised athlete advisors (athlete support managers); and national team coaches and managers are fulltime professionals.

However, when considering what Peter Reinebo, Kerstin Rosen, Alex Wisnes, and Jostein Hallen indicated, the two investigated Scandinavian systems appear to have developed a different overall strategy. Neither the Swedes nor the Norwegians offer an extensive elite sport support portfolio and neither appears to rely on the operational delivery of support via formal, standardised, and rigorous support processes similar to those which can be found in the British system.

The result of this *laissez-faire* and *support from the side* approach appears that not every coach or athlete uses all services the SAA or the NSF, respectively the SOK or OT, would like to see integrated into the training practice. For example, not every coach might take part in the coach education seminars; not everybody uses the available sport science support infrastructure; and not every coach applies the HCC or the 24hrA.

However, wherever and whenever the different services and concepts are applied, this is done because the individual athlete or coach truly believes in them. Thus, in these cases, the *net support* which actually affects the training practice is very high despite the fact that the offered service portfolio might not reach the standard that UK Sport or the EIS provides.

Arguably, more rigorous systems might over time be confronted with more and more resistance among coaches and athletes who feel forced into cooperating with scientists or athlete advisors. The Swedish and Norwegian approach, however, appears to develop individual role models, which makes more and more coaches and athletes interested in using the offered support and in applying the suggested concepts in the long run. It can therefore only be speculated whether the provision of a more extensive, sophisticated, and formalised support portfolio and policy would increase the success of the two sport systems even further. Such changes might, in the long run, actually turn out to be counterproductive for the two Benchmarking Subjects. As Erlend Hem suggested, a more extensive sport science support scheme might, for example, require more support staff members, more subject experts, and more formal communication between more individuals. The resulting support environment is then likely to be characterised by less personal interaction which could undermine the current high degree to which the different support services are integrated into the training practice.

7.3 The General Nature of the Observed Practices and Their Contextuality

The aim of this research was to evaluate the applicability of the concept of benchmarking as a tool for furthering the current understanding of elite sport system management. To meet this aim, three research objectives were developed:

To evaluate the extent to which superiorly performing sport organisations (Benchmarking Subjects) demonstrate tangible best practices concerning the management of specific processes (Benchmarking Objects)

To identify the extent to which the identified practices are similar across different Benchmarking Subjects

To establish whether identified best practices are transferable to other organisational contexts

The following discussion considers these objectives in turn in order to address the research aim of this investigation, which will be discussed in the concluding chapter of this thesis.

7.3.1 Tangible Best Practices in the Management of the Specific Benchmarking Objects

In management practice, success is often considered to indicate good management. Thus, it is assumed that *best practice must be what best performing companies do* (Laugen et al. 2005, p. 131). However, this simplistic view holds, in the benchmarking context, a fundamental danger in that, whilst an organisation is selected as a Benchmarking Subject based on its superior overall performance, the organisation may not apply a tangible practice concerning the specific Benchmarking Object, or the processes which have been developed for the specific Benchmarking Object are not explicitly well managed – i.e. not 'best practice'. (Laugen et al. 2005, Pfeffer and Sutton 2006).

If the project team in a benchmarking organisation realises that its Benchmarking Subject does not apply a tangible management practice concerning a given Benchmarking Object, this could mean that the respective project must be repeated with a new Benchmarking Subject. Even worse would be the consequences arising if a Benchmarking Subject shows a tangible but inferior management practice concerning a Benchmarking Object. In this situation, the benchmarking organisation would run the risk of changing its own processes in favour of a practice which is actually less sophisticated than the existing one.

As this problem undermines the application of the benchmarking idea in general, this study investigated whether the chosen Benchmarking Subjects from the field of elite sport systems had in place specific and distinguishable management practices for the delivery of the chosen Benchmarking Objects. It was furthermore tried to evaluate how far the identified practices and structures can be considered as significant factors (best practice) that contributed to the overall performance of the two Benchmarking Subjects.

As argued before, the gathered data shows that both Benchmarking Subjects provide the support services which have been selected as Benchmarking Objects. It was also possible to identify and describe the processes which underpin the delivery of the different support services in great detail. This could be achieved even though the design of the different processes often turned out to be rather unconventional when compared to the practices which are applied in other sport systems and to the expectations which can be derived from the contemporary elite sport management and policy literature. It was even possible to describe how the different individual practices and structures in Norway and Sweden interact with each other.

Considering, for example, the provision of lifestyle support, the first impression both systems created was that this service was not of great concern as the positions of special career consultants or athlete mentors did not seem to exist. All lifestyle support responsible individuals in OT and the SOK, as well as the initiators and coordinators of the different athlete university programmes appear to limit their support mainly to administrative matters like organising extra leave or rescheduling exams. However, athletes gain in Norway and Sweden their career consultancy and planning support through the relationship with their coaches, based on the 24hrA and the HCC.

Thus, the combined administrative support Erling Rimeslaatten provides at OT and the sport and the non-sport related consultancy an athlete would receive from a coach like Ulf Morten Aune appears to constitute a strong alternative to the services specialised *Laufbahnberater* or *athlete support managers* provide in other sport systems. Additional examples to illustrate the nature, as well as the uniqueness of the processes, which underpin the delivery of the different elite sport support services in the two investigated sport systems have been given in section 7.2.

Several interviewees indicated furthermore that the investigated support services, and the way these are delivered in the Swedish and Norwegian sport systems, constitute important factors for the sporting success the two systems enjoy today. Agne Bergvall and Ulf Karlsson indicated, for example, that one of the reasons for the current, superior performance of the Swedish athletes in major competitions is that the coaches understand how to manage their athletes from a social and psychological point of view, while the development of this competence was especially linked back to the introduction of the HCC and the Coaching Project (CP).

Moreover, Erlend Hem and Ulf Morten Aune argued that in the Norwegian case the sport science support programme is a decisive factor in their sporting successes, even though their measures would not be as extensive as the ones in other systems. This is primarily because the results of the different diagnostics are deeply integrated into the training practice of each individual skier.

In conclusion, it can be stated that clear structures and processes with regard to the chosen Benchmarking Objects could be identified in both Benchmarking Subjects. The observed practices, processes, and structures can also be considered to influence the sporting success Swedish athletes and Norwegian skiers enjoy today. Thus, it can be argued that the concerns of Laugen et al. (2005) and Pfeffer and Sutton (2006) are not supported by this study as this research suggests that the *good* performances of the two investigated cases appear to be a consequence of good management. As the existence of clearly distinguishable management practices, which show a clear relevance for the success of a Benchmarking Subject, constitutes a necessary condition to successfully apply the benchmarking approach, this research suggests that the tool has potential if applied in the specific context of elite sport systems.

Regarding the discussion in chapter four, it can furthermore be concluded that the chosen methodology and the mixture of research methods (i.e. semi-structured interviews conducted during on-site visits, the triangulation of key position holders, and the analysis of available documents and publications) which were used to underpin the application of the benchmarking concept in this specific context appears to have been appropriate.

7.3.2 Similarities in Best Practices Across the Sport Systems

Although the term best practice might be a key element in the benchmarking literature, it was argued in chapter three that it should not be taken too literally and especially not considered as referring to one *generic, that is, best for all companies, always best practice* (Laugan et al. 2005, p. 135). If, however, different Benchmarking Subjects demonstrate similarities in the way they manage a specific Benchmarking Object, this might indicate the possibility of a general “best practice guideline” against which the practices in other organisations could be measured. Thus, this research set out to assess the extent to which the identified practices are similar across the different Benchmarking Subjects which have been investigated for this study.

The data suggested that many of the practices and concepts concerning the provision of the selected Benchmarking Objects in Sweden and Norway are very similar indeed. The HCC is founded on similar principles and ideas as the 24hrA; the sport science support schemes and the coach education programmes are based on similar laissez-faire policies; the squad system in both countries is equally sparse; and the substitute for a more formalised athlete development pathway is in both countries the highly developed club infrastructure and the national competition circuit. Considering the detailed analysis in this context, which is provided in chapters five and six, it can furthermore be stated that these similarities emerged and developed despite certain economic differences between the two investigated sport systems.

It can therefore be concluded that this research has identified that the two investigated elite sport systems have developed, independently from each other, common practices concerning the provision of the selected Benchmarking Objects.

This suggests that these similarities might constitute general best practice guidelines that can be used in the provision of the investigated elite sport support services. This reinforces the argument that benchmarking has potential as a tool for furthering the understanding of elite sport systems and improving their management.

However, even though the research identified distinguishable management practices for the delivery of the investigated elite sport system; even though these practices were, in both systems, considered as important factors for the achieved sporting success; and even though these practices show several striking similarities, the evaluation of the actual transferability respectively contextuality (Laugen et al. 2006, McGonagle and Fleming 1993) of the individual identified practices remains to be discussed in the next section before the aim of this research can be met in the concluding chapter.

7.3.3 The Transferability of Identified Practices

While a specific management solution works well in one superiorly performing organisation, it might fail to succeed in other organisations as the respective practice is only applicable under a very specific context (Bauer 1994, Leibfried and McNair 1992). Thus, one of the most fundamental criticisms the idea of benchmarking faces is that a successfully working management practice is not always transferable to every other organisational context. This constitutes a fundamental challenge for that application of benchmarking to the context of elite sport systems. As it was argued earlier, the stakeholder environment of a sport system is complex as well as differs from case to case (Digel et al. 2003a, Houlihan 1997, Stahl et al. 2002). It can even be argued that this *contextuality*-problem (Laugen et al. 2006) might be even more severe in this environment compared to other situations because of substantial differences in funding amounts, funding sources, and government policy that affects the elite sport systems in different countries. This suggests that a high context-dependency of best practices in the management field of elite sport systems might be very likely, and, thus, that the contextuality of practices that are applied in a specific elite sport system might prohibit their transferability to another system. This clearly constitutes a significant hurdle for a successful application of the benchmarking approach in this specific field.

Therefore arguably the most decisive step in the evaluation of the potential of the benchmarking approach in the context of elite sport systems is to assess if the identified practices and processes can be transferred to other organisational contexts, or if they appear to be bound to the specific organisational context and design of the respective Benchmarking Subject. In order to evaluate the contextuality and thus the transferability of the observed practices and structures, how these practices emerged and developed was investigated. Secondly, how far the identified practices and structures appear to depend on the specific context conditions of the respective Benchmarking Subject in order to work effectively was also evaluated.

The discussion in chapters five and six revealed five interdependent factors that help explain and evaluate how the observed practices developed in Sweden and Norway, how they are linked to the general and sport system specific context conditions and why they work so well in these two contexts. Thus it is possible to evaluate if these practices can be expected to be transferable to another context.

As the discussion in the remainder of this section will show, many arguments appear to suggest that a successful, direct transfer of the observed practices and investigated structures cannot, in many cases, be expected. It will, however, also be shown that several, specific initiatives show no direct problem in being applied to other contexts. These might be able to support and further develop the existing practices in underperforming and developing elite sport systems if these have not already applied such or similar initiatives.

Socio-Cultural Context

Some of the practices and structures which were observed in Norway and Sweden reflect elements and characteristics of the general socio-cultural context, i.e. the general national environment that the two sport systems are embedded in.

For example, the design of the coach education programme the SAA currently provides appears to reflect and be founded on the Swedish study circle tradition. This tradition refers to a specific way of self-education and group learning that, according to Kerstin Rosen, still influences the educational design in many areas of Swedish society.

As this indicates a high degree of contextuality for the educational system the SAA provides, it is more than likely that a different sport system will struggle to develop the required self-dependent and self-responsible education ethos to apply a similar coach education policy like the SAA developed over the past years. The limited transferability of this cultural practice indicates that applying benchmarking in the context of elite sport system can be problematic.

Strong Voluntary Foundation and Club and Competition Infrastructure

Both, cross-country skiing in Norway and athletics in Sweden are founded on an extensive, voluntary-work based club infrastructure. Linked to this is the fact, that both systems are also characterised by an extensive competition environment as hosting competitions is a key source for financial income for the different local clubs. This research showed that this organisational context influenced the general design of and the applied practices in the two sport systems in many ways. For example, the extensive club and mature competition system provides a training and development environment for young athletes which is in other countries provided by a centrally-organised athlete development pathway and squad system.

This indicates once more a strong context-dependency of a observed best practice. This research suggests that relying on local clubs constitutes a very effective strategy for the provision of an athlete development pathway. However, if a federation does not have a similarly extensive club environment as the NSF or the SAA, it will probably fail to achieve its elite sport ambitions unless a conventional, centrally-organised talent identification scheme and athlete development pathway is provided.

Atmosphere in the Sport Environment

The previous two considerations link some of the observed practices to the socio-cultural context of the Norwegian and Swedish society as well as the general organisation of the investigated sport systems in the two countries. As discussed in chapter six, a result of these factors appears to be the nature of the atmosphere in the two investigated sport systems. This refers to the general attitude of the coaches and athletes towards their sport, the atmosphere among the different coaches, the general nature of the coach-athlete-relationship, and the way the athletes themselves interact with each other.

As discussed in section 6.1, this atmosphere appears not only to be specific for and special in the two systems, it also appear to be a factor which has a strong impact on the general success of the two systems and which provides specific explanations for the development of some of the observed practices.

The coach education mechanisms appear, for example, in both systems to depend to a very high degree on the formal as well as informal exchange of knowledge and experiences between the coaches from the different hierarchical levels. In other words, both systems have a very cooperative atmosphere in the coaching community. As argued by Ulf Karlsson, Jan Muren, and Peter Alerting, a key factor for the emergence of this open communication constitutes the traditionally short hierarchical distance between the elite and the "average people" which can be found in many areas in the two Scandinavian societies. Other interviewees like Torbjørn Broks Pettersen and Jon Arne Schjetne suggested furthermore that this cooperative atmosphere between the coaches is based on the shared enthusiasm among coaches for further developing their own knowledge about the national sport; to secure the development of the individual athlete they are working with; and to foster the development of the performance of the national team athletes in the competition with their international competitors.

However, should a coach education officer of a federation decide, based on this benchmarking exercise, that their own system should provide a similar Spartan coach education programme and rely on the informal exchange of experiences among the coaches, this would constitute a dangerous conclusion. In order for this to work, the respective coach community must show a similar open and cooperative atmosphere to allow such a decision. Thus, with regards to the coach education measures, it seems as if the contextuality of the practices observed in Norway and Sweden seems to be further strengthened.

It has been shown that the general cultural context is arguably an important factor for the development of the observed atmosphere in the two sport systems. It must also be noted at this point that the observed atmosphere appears to have been deliberately created and designed by conscious interventions by specific key individuals in the two sport systems.

Peter Reinebo and Jenny Kallur explained that the atmosphere in the Swedish athletics movement was quite different at the end of the 1990s: coaches were secretive, there was a general lack of team spirit and team work, and athletes appeared to have been self-absorbed while failing to perform to their standards on the international stage. However, after Anders Ryden and Ulf Karlsson introduced the EISP and the CP, this atmosphere started to change. Interviews in Norway revealed similar interventions. Here, as discussed by Hermod Bjørkestøl and Jan Muren, the CoPo was deliberately, and successfully, introduced to bring the national team and club sport environment closer together. In addition, the system of formally agreed Goals, Values, and Rules, which was introduced by Bjørnar Håkensmoen, is today considered to have given the atmosphere and culture in the national team more depth and consistency.

It shall therefore be concluded at this point that a given atmosphere in a specific sport system might indeed prohibit the introduction or transfer of certain practices. It can, however, also be argued based on the gathered data that the atmosphere in a sport system can also be a consequence of deliberately induced change. This research identified several initiatives like the CoPo or the EISP (see next paragraph) which might help to change and improve the atmosphere in a sport system. A changed atmosphere might reduce the transferability problem of some of the practices which have been identified in the course of this study.

Conscious Interventions

As indicated, it was possible to identify certain interventions that have been consciously designed and introduced by key staff members with the specific aim of either influencing the development of the general atmosphere in the respective sport system or of guiding the actual provision of specific support services. These conscious interventions included in Sweden the HCC; the CP; the unique coach hierarchy and development pathway of athletes and coaches; the curriculum of the junior national team(s); and the EISP. In Norway, they included the 24hrA; the Junior National Team and its curriculum; the CoPo; the Human Resource Management strategy based on which coaches are selected for the NSF national team; and the system of set Goals, Values, and Rules.

These interventions and the way they are integrated into the training practice in the two sport systems, the way they interact with and build on each other, as well as their actual impact on the two sport systems in general and their relevance for the individual athlete or coach were described in great detail in chapter six.

In the course of this research, it was also possible to establish the origin of most of these practices. Some of these interventions emerged as bottom up initiatives, such as the HCC, others were top-down introduced (CoPo), while all of them are today well-established measures in the respective coach and support environments. It was even possible to identify the initiators of the different interventions, in that it was possible to identify who designed and conducted the different initiatives and with what intentions they were developed. Key individuals in this context include Ulf Karlsson who developed the CP, Anders Ryden who introduced the idea of the EISP, Bjørnar Håkensmoen who introduced the concept of formally agreed upon Goals, Values, and Rules into the NSF national team, and Per Nymoen who currently organises and conducts the CoPo. All of these individuals had and have precise ideas concerning the way they considered it necessary for their respective sport system to develop in order to become and remain competitive.

Thus, it would not do the management of both systems justice if context factors or pure coincidence are considered to be the exclusive reasons for the current design of the practices this research revealed and thus for the success the two systems enjoy.

Although these conscious interventions can, and have been, described in great detail it remains difficult to evaluate to what extent the general cultural context in Norway and Sweden, the specific atmosphere in the two sport environments, as well as the personality and inherent or tacit knowledge of key agents such as the current coaches in the two systems have provided the essential foundation for the identified initiatives to work.

Personality and Knowledge of Key Agents

The inherent or *tacit knowledge* (Desouza 2003, Smith 2001) as well as the general personality of specific coaches like Agne Bergvall or Ulf Morten Aune, athletes like Bjorn Daehlie or Stefan Holm, and managers like Per Nymoen or Ulf Karlsson are arguably key factors for the successful implementation of the different concepts and initiatives discussed above. Considering the cooperation between the Norwegian cross-country national team and OT, interviewees stated for example frequently that the positive development of this relationship is primarily due to key figures like Bjorn Daehlie (in the early days of OT), Erlend Hem (since the early days until today), and Atle Kvålsvol (today). Their enthusiasm, openness, personality, and background seem to have been much more important for the successful cooperation between the two institutions than contracts and formal agreements. Even though an attempt has been made in this research to describe how such key individuals like Atle Kvålsvol interact with their colleagues, Desouza (2003) and Smith's (2001) considerations indicate that it remains difficult to fully understand all "tacit" elements which make their behaviour so successful. These considerations certainly contribute to the challenge of transferring best practices to other organisational contexts.

However, it was not only possible to create based on this research a list of the practices such "successful agents" like Atle Kvålsvol or Erlend Hem apply. It was also possible to develop an overview of the personal characteristics they themselves and other interviewees considered to be important for individuals in their positions. This might reduce the issue of tacit knowledge to a certain extent as it can be argued that benchmarking, if conducted with a similarly detailed focus as applied in this research, is able to provide managers of elite sport systems with a list of recruitment criteria for its key staff members. As Ulf Morten Aune and Bjørnar Håkensmoen indicated, the management of the Norwegian national team itself also follows such a conscious and cautious human resource management policy: in order to ensure the right atmosphere in the national team to support the development of the skiers, it is possible that a coach or support staff member might have to leave the team despite his or her subject specific competence if he or she lacks such basic soft skills as a general team work approach or the ability to socialise with athletes and coaches on vocational as well as private matters.

It can be concluded that the different factors presented above suggest that the direct transferability of some of the practices and structures the two Benchmarking Subjects apply is at least problematic due to their context dependency. Thus, the general concerns authors like Laugen et al. (2006) or McGonagle and Fleming (1993) expressed concerning the application of the benchmarking approach appear to be confirmed if the tool is applied in the specific context of elite sport systems.

However, it has also been shown that both systems apply certain practices, which appear to have no obvious barrier to prevent them from being applied in different organisational contexts. Only the practical application of these practices can lead to a final conclusion of whether offering a similar scheme as the EISP and the CoPo will lead to similar results in other countries.

The following chapter presents a concluding evaluation of the applicability of the concept of benchmarking as a research tool for furthering the understanding of elite sport system management.

8 Conclusion

Based on the discussion in chapter seven, it is now possible to consider the overall aim of this thesis and to provide an answer to the research question underpinning the investigation. From this, it is also possible to identify areas for future research, which will be outlined in the second part of this concluding chapter.

8.1 The General Potential of Benchmarking of Elite Sport Systems

The aim of this thesis was to evaluate the applicability and the potential of benchmarking as a research tool for furthering understanding of the management of elite sport systems. The findings of this research suggest that in evaluating benchmarking, one must consider carefully for what purpose the tool is used, what general understanding of benchmarking is applied, as well as how a benchmarking project is actually conducted.

It can, on the one hand, be concluded that the management approach of benchmarking has high potential to guide a management or policy researcher's investigation in the field of elite sport system management as the tool can lead to a better understanding of the actual nature of the management which is applied in and by successful organisations in this field. The discussion in this thesis provided more than just further evidence of the convergence of the service portfolio of elite sport systems. As a result of the process-orientated focus that the benchmarking approach introduced to this research, it was possible to describe, in great detail, the actual practices with which two successful elite sport systems provide these support services to athletes and coaches. Introducing this new research focus made it possible to show that these processes in the investigated systems are very much based on informal, loose, and indirect routines, structures and practices. This was a rather unexpected finding as it stands in contrast to the expectations concerning the design of managerial best practices in this area, which can be developed from the contemporary elite sport policy and management literature and practice.

However, this research constitutes the first attempt to analyse and compare across different systems the nature of the operational provision of the support services which are suggested to be important elements of an elite sport system (Green and Oakley, 2001, Digel et al. 2003a, and SIRC, 2002).

Thus, further investigation is required to establish if different, especially non-Scandinavian, Benchmarking Subjects show similar practices.

It must be stressed that these considerations evaluate only the contribution that the benchmarking idea can make to inform descriptive-analytic orientated policy or management research in the field of elite sport systems. More difficult is the evaluation of the tool's potential to support prescriptive-orientated research and consultancy projects, or to provide realistic and useful recommendations to managers in the field.

The findings of the research lead to the conclusion that benchmarking does not constitute a useful tool for managers of elite sport systems if it is understood as a simple copy-and-paste exercise that is used to identify a ready-made best practice solution for a specific Benchmarking Object. Based on the discussion in this thesis, it can be concluded that such an understanding of the concept is, in many cases, likely to lead to failure, i.e. to the identification of practices that have only a limited, direct transferability due to their high dependency on the cultural background, structural design, or staff situation of the respective Benchmarking Subject. Considering the specific findings of this investigation, it can, for example, be stated that the coach education policy the SAA applies is based to such a high degree on the Swedish study circle tradition that it is rather unlikely to work with a similar success under a different cultural context. In addition, relying on the national club infrastructure as a vehicle for talent identification and development like the Benchmarking Subjects in this research would also not work for a sport system which has a less developed club-infrastructure. Finally, even though it was possible to describe the processes based on which OT provides its sport science support programme in great detail, the extent to which the personality and tacit knowledge of key staff members like Erlend Hem or Atle Kvålsvol influenced the successful realisation of the service delivery remains also difficult to evaluate.

In short, considering benchmarking as the simple process of copying practices a successful elite sport system applies has to lead to a rather low evaluation of the applicability of the approach as a tool for furthering understanding of practically working managers in elite sport systems.

However, the discussion in chapter three has introduced an alternative understanding of the approach. Rather than considering the tool as a one to one copying exercise, it has been argued that benchmarking should be understood as a source for innovation and general inspirations based on which the design of existing practices in an organisation can be critically analysed and, if appropriate, adapted (Böttcher 2002, Krell 2003, Lankford 2002, Smith 1997). Based on this understanding of the benchmarking approach, it can be stated that the existence of the clearly identifiable and similar practices in the two investigated elite sport systems constitutes a general foundation for the successful application of benchmarking in this specific field. While the context-dependency of some of the observed structures prohibits the direct transferability of all identified processes, it has also been argued that some of the observed practices, in particular the CP, the EISP, and the CoPo, do not show direct obstacles which would prevent them from being applied in another context. Other identified concepts might not be immediately applicable to another system as they constitute a substantial break with existing procedures such as the introduction of the 24hrA or the HCC as a way of delivering lifestyle support. However, such practices might still be able to provide managers with new ideas on which existing procedures could be reconsidered. The 24hrA and the HCC could, for example, lead to a review of the general role and integration of the coach in a lifestyle support programme.

Of course, it cannot be guaranteed that the transfer of these practices to another sport system will lead to success similar to that enjoyed by Norway and Sweden. This is because it remains difficult to evaluate the full extent to which the different practices are dependent on the cultural context of the Benchmarking Subjects to realise their potential. It has also not been possible to assess the extent to which they require the tacit knowledge of specific key staff members to work.

However, it seems appropriate to conclude, based on this research, that benchmarking constitutes a useful tool to improve managers' understanding of good and innovative practices in the management of elite sport systems if the approach is understood as an instrument that can lead to inspirational new ideas of how to extend or adapt existing processes, rather than as a tool that will lead to ready-made best practice solutions.

It is also important to stress that this research showed that a successful application of the approach requires it to be based on an extensive data collection and intensive as well as critical data analysis. To be successful, it needs to follow the resource intensive methodology conducted in this investigation.

8.2 Summary

It has been argued that benchmarking should be considered as an investment in change. As such, although it can create a positive outcome by helping to save learning costs, it requires significant expense and carries the general risk of failure. Thus, it was argued that the concept should only be applied if it can be expected to justify its expenses. This study showed that benchmarking is by no means a universal remedy for the problems managers of elite sport systems face today. It is, however, possible to argue, based on the research presented in this thesis, that the approach has the potential to inform managers and researchers about new and alternative ideas to design elite sport systems and operational processes within them.

However, as this thesis shows, it appears crucial to employ an extensive and flexible data collection strategy, to carry out a careful and intensive data analysis, as well as a sensitive and critical evaluation of the observed best practices and their transferability, in order to bring a benchmarking project to a successful conclusion. On a more general level, it can also be considered that benchmarking requires a high degree of honesty and openness as only due to the willingness of the interviewees to share their knowledge and experiences it was possible to meet the objectives of this thesis.

In terms of the nature of the best practices, which have been observed in Norway and Sweden, it can be concluded that one of the key findings from this study is that the two investigated cases suggest that it is not the extensiveness of an offered support programme which determines success and failure on the international elite sport stage. Rather, it appears to be much more important to have the soft factors in place, such as the way different individuals interact with each other in an elite sport system. In Norway and Sweden, where this appears to be achieved, this seems to ensure a sufficient *net support* effect. Vidar Jakobsen described this as follows:

When you come up to OT – there is nothing. A place to eat, some weights. But it is the meeting there, the discussing. You feel that it is something. I had a meeting with an East German coach. He said: “I can understand that you do not want to show all the things.” And the things he meant we do not show them were the specialised things for each sport – because out there is nothing, nothing special. And I told him there would not be anything more.

8.3 Areas for Future Research

The considerations in this chapter have already indicated one clear area for further investigation. As this piece of research constitutes the first comparative investigation of operational management practices in elite sport systems, an obvious area of further research is to repeat this study with other Benchmarking Subjects. Potential changes to the selection process for Benchmarking Subjects, which are discussed in chapter four, could include focusing only on one specific sport or using more mature statistical selection criteria, such as gold medals won per participants in a respective sport in different countries.

Perhaps more interesting, whilst also more challenging, would be to focus on the further evaluation of the actual practical applicability of the elite sport management practices identified in this research. Further investigations could study if managers of underperforming elite sport systems can actually make use of the processes that have been discussed in this thesis as being applicable in other systems (EISP, CoPo, or also the HCC). Especially interesting would be the investigation of such cases in which the introduction of these practices would require certain changes to existing processes. If managers choose not to apply a specific practice, arguing that it requires too substantial change, it could be further explored if such a decision is derived from the objectively assessed, technically non-transferability of the practice or if the decision is based on the more general resistance to change of key position holders, i.e. the unwillingness to introduce politically or economically painful changes.

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