

Developing the quality of Oph.fi web service with regard to management, production and benefits

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Master's Thesis
Degree Programme in
Communication Management
2014



Degree programme

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<p>Title of report Developing the quality of Oph.fi web service with regard to management, production and benefits</p>	<p>Number of report pages and attachment pages 76 + 26</p>
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<p>This thesis focuses on discussing how the quality of Finnish National Board of Education (FNBE) web service Oph.fi can be developed in three key areas: management, production and benefits. The study utilises quality criteria for public web services developed by the Ministry of Finance as a framework for first exploring how well the web service currently complies with the criteria and then discussing how the web service needs to be developed in order for its quality to be improved.</p> <p>The theoretical framework of the study builds on concepts of organisational communication, communications management, web communications, central government communications, e-government, online services and web service quality. The research strategy utilised is action research as the researcher is part of the organisation where the study was implemented. Data collection methods include a quantitative online survey and qualitative focus group discussions with an expert panel. The study also incorporates elements of the Delphi technique.</p> <p>Findings from the study indicate that development areas of Oph.fi web service arise from engaging and involving users, developing production and management processes, developing internal communications related to the web service as well as strengthening cooperation between different parties.</p> <p>Several development actions were initiated based on the findings. Key actions included increasing internal communications related to Oph.fi, developing a comprehensive web service strategy for the organisation and drawing up a long-term development plan for Oph.fi. Further efforts are needed to ensure that plans and strategies are realised into concrete actions. These include developing clear quality objectives and performance indicators for the web service as well as educating the organisation to view web service development as a continuous process. Also, engaging top management in steering and monitoring development work can be deemed vital.</p>	
<p>Keywords web service, web communications, quality</p>	

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1 Introduction

The use of ICT and the Internet is quickly becoming a course of action common to the entire population in Finland. This development is creating new opportunities and demands for public services and government conduct in the country as its population is becoming more and more accustomed to seeking service online at their own convenience.

According to a study conducted by Statistics Finland in 2013, altogether 85 percent of Finland's 16 to 89 year-old population had used the Internet within the last three months. Among 16 to 74 year-olds, the number was even higher, namely, 92 percent. The study shows that Internet is typically used for conducting business, communicating, searching for information and following media. 73 percent of respondents had searched the Internet for information on products and services with 57 percent stating they had searched for information on the websites of public sector service providers. The most common type of online transaction was found to be utilising online banking services with 79 percent of respondents stating they had used the Internet for this purpose. Altogether 47 percent of the respondents had conducted official business with the public sector by filling and sending an online form to public sector service providers. (Väestön tieto- ja viestintätekniikan käyttö 2013.)

These findings are supported by a recent study on e-government within the European Union where 42 percent of Finnish respondents fell within the category of loyal users of public sector e-services. However, the study also revealed several issues hindering Finns from utilising e-services. Reasons for not using e-government services included preferring to have personal contact (67%), services requiring personal visit/submission (39%), expecting to have things done more easily via other channels (22%), not being aware of relevant websites and e-services (15%), not being able find or access information or services (14%) and not expecting to save time by using the Internet (13%). (eGovernment Benchmark Framework 2012–2015; Country factsheet: Finland Government. State of play.)

Based on these findings, it is evident that there is an increasing demand for public sector web services – with regard to both information and e-services. Nevertheless, the quality of public sector web resources is by no means an insignificant factor in attracting and committing potential users to seeking information and services online as findings from the EU-level study indicate.

In this study, I will discuss how the quality of Finnish National Board of Education (FNBE) web service Oph.fi can be developed in three key areas: management, production and benefits. I will start by looking at the current quality of the web service and its compliance with Finnish government quality criteria for public web services. I will then move on to propose and implement development actions in order to improve the quality of FNBE web communications and finally discuss the outcome and impact of these development actions.

Finnish National Board of Education is a central government organisation responsible for developing education in Finland. Web services, social media profiles and other online communications channels currently serve as the organisation's main means of distributing information. However, management and production processes within web communications have not been thoroughly examined or defined. Therefore, the quality and benefits of FNBE web communications can be increased by studying these key areas and by creating a more long-term and structured development plan for the agency's web services. Data on the current quality of web services is also needed in order for the agency's web communications experts to coordinate production and development actions more efficiently in the future.

In this study, I aim to find out how well the agency's web service Oph.fi currently complies with Lehtimäki & al.'s (2012) quality criteria for public web services and how the web service needs to be developed in order for its quality to be improved. My research questions are as follows: What is the current quality of Oph.fi with regard to management, production and benefits? Which processes need to be developed in order for the web service to be more effective and beneficial to the organisation? Which concrete development actions are needed?

I will start by discussing the relevant theoretical framework and introduce the concept most central to my research topic. I will then move on to discuss and describe the methods utilised to approach the topic and evaluate the existing level of quality with regard to Oph.fi web service. In the following chapters of my thesis, I will discuss findings from the online survey and focus group discussions. Finally, I will use these findings as a basis for discussing the development actions initiated within the organisation in order to increase the efficiency, benefits and overall quality of the Oph.fi web service as well as providing further recommendations on the topic.

2 Theoretical framework

In this chapter, I will discuss and define the concepts most central to my research, such as communication, organisational communication, central government communications, communication management, web communication, web service and web service quality. I will also discuss the context of the study with regard to the target organisation – namely Finnish National Board of Education –, its overall communications structures and web services in particular.

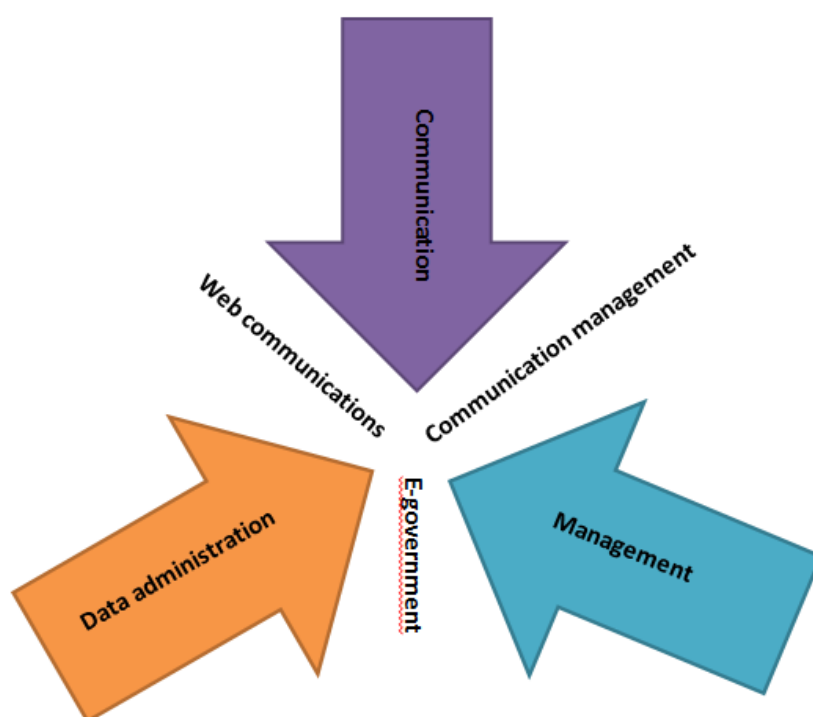


Figure 1. The disciplines most central to the theoretical framework of this paper

The topic of my thesis falls at intersection of communication, management and data administration as it discusses the development of web services and the processes related to their production. Therefore, the concepts most central to the study stem from these disciplines. I will start by discussing some definitions of the concept of communication. I will then narrow the scope of my discussion to organisational communication and also discuss the key terms and tasks related to communications management. Next, I will discuss what is meant with web communications and how central govern-

ment communications differ from other organisational communications. In the following subchapters of the paper, I will also touch upon the concept of e-government and web service quality before finally moving on to describe communications within Finnish National Board of Education.

2.1 Communication

Macmillan English Dictionary (2002, 277) provides the following of definition of the word *communication*: “the process of giving information or of making emotions or ideas known to someone”. This definition brings forth three important aspects of the concept: Firstly, communication is indeed a process, that is, a sequence of interlinked events, actions or procedures. Secondly, communication deals with transferring messages – be it information, emotions, ideas, attitudes, perceptions, intentions, expectations or something else. And finally, communication takes place between a sender and a recipient.

These three key elements – process, message and transfer between sender and receiver – are also central to the definitions put forth by scholars and experts in the field of communication studies. For example, Lohtaja and Kaihovirta-Rapo (2007, 12) portray communication as a process where two parties, a sender and a receiver, transfer messages through a channel, possibly utilising a tool or an aid and always affected to some level by disturbances or disruptions. Also, Åberg (2002, 54) characterises communication as a process where the state of issues is interpreted through meaning-giving and this interpretation is made known to others through an interactive, message-relaying network. Despite building on the same basic principles as the dictionary definition discussed above, Åberg’s view extends on the former by emphasising the active role of both the sender and the receiver in constructing meanings and interpreting messages. By suggesting that contents are transferred through a message-relaying network, the definition also touches upon the significance of the context to channel where communication takes place.

Other scholars have placed an even stronger emphasis on the importance of form and context of communication in their definitions. Högström (2002, 7) suggests that com-

munication is not a mere technical process between sender and receiver but a question of values, culture, human relations and message, the form of which is often as important a factor as its content. Also, Juholin (2013, 23) suggests that the environment where communication takes place can be as significant as the content of the message.

As this brief overview of some of the many definition of the concept suggests, perspectives into communication vary and an all-encompassing definition remains elusive. It is perhaps due to this, that it is oftentimes more useful to narrow down the scope of discussion to more a specified area of communication in order to make clear sense of the notion being addressed. For the purpose of this thesis, the concept of organisational communication – or corporate communication as it is sometimes called – is perhaps the most essential one.

2.2 Organisational communication

As the term itself already implies, organisational communication is mainly concerned with communication taking place within and for the benefit an organisation or a (work) community. Lohtaja and Kaihovirta-Rapo (2007, 13) define organisational communication as all communication taking place within an organisation as well as between an organisation and the outside world. They point out that while corporate communication is a term many are more familiar with, organisational communication can be used somewhat synonymously with the term while it does not limit itself to only profit-seeking enterprises (ibid). Cornelissen (2008, 5) describes corporate communication – and therefore also organisational communication by association – as “a management function that offers a framework for the effective coordination of all internal and external communication with the overall purpose of establishing and maintaining favourable reputations with stakeholder groups upon which the organization is dependent”. Building on his definition of communication discussed above, Åberg (2002, 95) suggests that organisational communication is a process where issues related to a work community’s operations and its members’ collective actions are interpreted through meaning-giving and this interpretation is made known to others through an interactive, message-relaying network. He goes on to suggest there are four main functions for organisational communication:

1. Supporting core operations: Communication is needed to produce services and products and to transfer them to customers.
2. Profiling: Communication is needed to build a desired image of the organisation, its employees and its commodities in the long term in order to influence the reputation of the organisation.
3. Informing: Communication is needed to keep both internal and external audiences informed of what is going on in the organisation.
4. Socializing: Communication is needed to introduce employees to their work and their work community.

In addition to these four functions governed at least to some extent by organisations' official structures and hierarchies, Åberg also points out a fifth, more unofficial function of organisational communication: Communication is needed to satisfy people's need for social interaction. (Åberg 2002, 99–100.)

As definitions by both Cornelissen and Åberg suggest, organisational communication has traditionally been divided into internal and external communication according to the target audiences of communication contents and channels. I, however, argue that in practice this division may already start to be somewhat outdated as the rich mixture of in-house staff, freelancers, long-term partners, outsourced workforce and remote workers is making it increasingly difficult for organisations to clearly draw the line between internal and external audiences. As Juholin (2010b, 16) points out “Separation of internal and external communication from one another *is* no more valid, because present-day work is communication and takes place everywhere in physical and virtual networks” [emphasis original]. Also, the rise of social media – that is, “Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (Kaplan & Haenlein 2010, 61) –, automated curation of content and other developments in web communications are bringing communication channels and contents reserved for different audiences closer together. As Lehtonen (2008, 168) points out, the increasing use of technology is blurring the lines between different forms of communication and

raising the questions whether the traditional division into internal and external communications continues to be relevant. The division can no longer be seen to find strong justification in the distribution of labour between communication professionals either as more and more broad-based competencies and skill sets are required to keep up with the tightening demands of organisations' communication needs.

Both definitions emphasise the role of organisational communication in building and maintaining the reputation or image of the organisation in order to enable its operation but whereas Åberg's definition is useful in pointing out the social significance to organisational communications and its role in building internal cohesion and employee engagement, Cornelissen's approach places its emphasis more on the importance of affecting stakeholders whom he characterises as "Any group or individual who can affect or is affected by the achievement of the organization's objectives" (Cornelissen 2008, 10). According to Cornelissen (2008, 37), stakeholders, together with identity and reputation, form the conceptual basis for corporate (or organisational) communications. His view stresses the importance of identifying and analysing different stakeholder groups as well as addressing them and establishing collaboration in order to maintain favourable reputations amongst them (ibid, 49–61). Åberg (2002, 58) also stresses the significance of stakeholder thinking in providing justification for organisations' existence and operations while pointing out that profit-seeking organisations too often tend to focus on shareholder value at the expense of customers and organisations' own employees.

Despite stressing the significance and value of organisational communication to a work community's overall success, Åberg's definition seems to present communication more as a support function as opposed to Cornelissen's statement about organisational communication being first and foremost a management function. This distinction between the two characterisations serves as a good example of the difference in perspectives organisations can adopt with regard to the role of the communications function. According to Lehtonen (2000, 193), organisational communication can be viewed from at least three different perspectives. It can be deemed either as activities connecting different actors of the organisation together, as an independent function with clearly

defined responsibilities and performance indicators or as an integral part of all management, responsible for nurturing and growing organisation's immaterial capital. The overall perspective underlying my discussion on organisational communications in the context of this thesis work combines all aspects put forth by Lehtonen. In the next subchapter, I aim to show how these three facets are relevant to exploring the definitions, roles and responsibilities typically associated with communications management.

2.3 Communications management

According to a dictionary definition, management can be viewed as “the process of controlling or managing something” (Macmillan English Dictionary 2002, 868). This definition of the noun leads us to take a further look into the meaning of the verb it stems from: The verb *to manage* can be defined as “to deal successfully with a problem or situation” or “to organize and control the work of a company, organization, or group of people” (ibid). These definitions are useful in pointing out some of the key aspects and responsibilities associated with management as it is oftentimes concerned with finding solutions to issues in order to reach objectives as well as coordinating the tasks assigned to a specific group and leading its members. These functions also seem to be in line with Lehtonen's (2000, 193) argument regarding the significance of organisational communication in connecting different actors as well as that characterising organisational communication as a function with specified performance measures. As for the third perspective related to viewing organisational communication as an integral part of management concerned with fostering immaterial capital brought forth by Lehtonen (ibid), Åberg (2002, 22) states that communication is a tool for each manager and expert and therefore an indispensable leadership method. Also Juholin (2013, 197) points out that management's way of communicating has an effect on employees' motivation, engagement and creativity as well as affecting the way they view their work organisation.

It can, therefore, be argued that all management is inextricably linked with communication. Yet, communications management has certain central characteristics distinguishing it from general management and other areas of specialisation within management. Åberg (2000, 56–60) distinguishes five different aspects of management – namely,

guidance, decision making, planning, implementation and monitoring. Communications management can, therefore, be seen to concern itself with planning, implementing, coordinating, evaluating and developing communications for the benefit of the entire organisation. In summary, communications management in the context of organisational communications can be seen to concern itself with planning and managing stakeholder relations and corporate social responsibility, organisational identity, image and reputation, media relations, internal and change communications as well as issue and crisis communications (Cornelissen 2008).

Typical tasks falling within the scope of communications management include developing communications strategies, guidelines and competencies in these areas as well as measuring and evaluating the success of communications in order to develop them further. As any other management function, communications management is also responsible for organising and coordinating processes related to its field of operation, choosing relevant tools and methods for its purposes, allocating resources as well as leading and motivating employees working with tasks related to its function within the organisation. In order to illustrate the dual role and responsibility of communication management in serving as a resource for the organisation and in allocating communications resources, Åberg (2002, 23) distinguishes three different levels on which communication management operates. Firstly, communications management is concerned with the strategic level, namely, presenting the organisational strategy, based on which the communications strategy is built. The strategic level is also concerned with mapping out the environmental, structural, organisational and other factors affecting the communications framework of the organisation. The strategic level serves as a basis for all other levels of communications planning. Secondly, communications management takes place on the tactical level and is responsible for mapping out, coordinating and allocating communication resources. The tactical level is also concerned with charting stakeholder groups, creating communications guidelines as well as sounding for change signals in values and expectations relevant to the organisation. Finally, communications management occupies an operative level ensuring that communications as a resource support the organisation as a whole in achieving its goals and objectives. This

level is concerned with short-term planning such as preparing annual budgets and communications plans. (Åberg 2002, 227–245.)

This perspective provides a comprehensive look into the concrete responsibilities related to communications management and planning. Despite the tasks described being fairly universal, the role and form of the communications function varies between different organisations. As Åberg (2002, 106-107) points out, activities related to communications are typically not gathered under one organisational unit. Therefore, he suggests the role of communications management is not only to take responsibility for tasks related to informing and profiling but also to coordinate cooperation with other units and functions and to act as a communications consultant in issues related to leadership and networking. Also, Cornelissen (2008, 157–159) builds on Broom and Dozier's distinction between the roles of communication technician and communication manager –the former being mainly concerned with tactical implementation of specific actions, the latter with making strategy and policy decisions and being held responsible for their outcomes – in suggesting that communications professionals' roles are not necessarily dependent on their title but rather on the tasks they carry out and the respect they enjoy within the organisation. The role of the communications function in the organisation can, therefore, be influenced as a consequence of this role enactment: If communication practitioners take on the managerial role, they are more likely to be treated as trusted advisors and the communications function is more likely to be consulted in strategic decision making. In summary, communication professionals occupying the manager role are expected to “formulate the importance and use of communication in the context of general organizational issues and objectives... to have knowledge of the industry or sector in which the organization operates and of the nature of the strategy-making process, as well as a strategic views of how communication can contribute to corporate and market strategies and to different functional areas within the company” (Cornelissen 2008, 162–163).

As in the case of all strategy level decisions affecting the reputation and public profile of the organisation, it is important for communications management to occupy a central role in the discussions related to developing the Web as a strategic tool for the or-

ganisation. The coordinating role of communications management also becomes increasingly significant in the production and development of web services where close cooperation between communications, data administration, technical partners and other operational units is needed.

2.4 Web communications

According to Juholin (2013, 42), one of the biggest challenges of the 2010s lies in mastering the nature, characteristics, opportunities and risks of digital communication. As this argument already implies, the notion of web communications is by no means easy to grasp.

In Finnish, the term *verkkoviestintä* is widely accepted and used to describe tasks, processes and functions related to producing and publishing content online. However, the accurate English equivalent for the term is not quite as easy to come by. Terms such as web communications, digital communications, online communications and web based communications seem to overlap and be, at least to some extent, interchangeable. It is also worth noting that search results with the keyword *web communications* are sometimes redirected to articles on telecommunication technologies. The wide spectrum of terms and synonyms used can be seen as an indication of the problematic definition of the term. At the same time, it can also be seen to aptly reflect the current state of web communications also within the workplace: web communications professionals often operate somewhere in the grey area between communications and more technically oriented data administration and ICT departments.

In my discussion, I will employ the term *web communications* to refer to the various responsibilities related to web service production, development and management but refine it to exclude the responsibilities related to developing and maintaining organisations' digital infrastructure and technical premises for web communications, such as tasks requiring expert knowledge on e.g. server environment issues and software development – even if basic knowledge on these issues is required to successfully plan and implement web communications. My choice of terminology is based on the fact

that web communications is the term being used in my work organisation and, in my opinion, best corresponds to its Finnish counterpart.

Aula and Jokinen (2007, 26) describe web communications as the utilisation of technological communication solutions or devices in building, transmitting and spreading meanings created by one person or several people. Also Pohjanoksa & al. (2007,7) point out that the Internet is not merely an environment for communication but web services incorporate increasingly functional and service-related elements, thus challenging communication to find its a role and purpose within online environments. My interpretation of the term sees web communications as the process of creating both the environment where communication takes place and the form in which content is relayed, fulfilling key functions that are central to communication as definitions by Högström and Juholin suggest (Högström 2002, 7; Juholin 2013, 23).

In addition to the terminology related to web communications being elusive, there are also several ways to conceptualise the subcategories related to the field. According to Pohjanoksa & al. (2007, 23), web communications have traditionally been divided into three different subcategories based on their environment of use: open internet services, internal communication services (intranets) and audience-specific services (extranets). Other ways of categorising web communications have included classifying web communications based on their content – information, experiences, service – and the choice of technology – static, dynamic, streaming (ibid, 55). However, Pohjanoksa & al. (ibid, 23) suggest that a more useful system of classification may rather be based on purpose and demand, that is, dividing web communications into channels dedicated to organisational communications, e-services and internal communications.

Pohjanoksa & al.'s categorisation falls somewhat in line with the traditional division between internal and external communications. According to Lehtonen (2008, 153–158) external web communications have mainly been concerned with activities related to building the organisation's reputation, such as profiling, branding, marketing, informing and lobbying, all building the organisation's reputation, whereas internal web communications have mainly been concerned with operative informing and work re-

lated communications. However, Lehtonen (2008, 167–168) also brings up five paradigms related to web communications – one of them being the distinction between public and private as well as internal and external becoming blurred; another one placing focus on the Web as a fundamentally interactive tool but its use in internal and external communications often being surprisingly one-way as his description of the tasks related with web communications above would seem to suggest.

Even if no widespread consensus on many of the definitions, concepts and categorisations related to web communications has been reached due to the relatively short history of the field of study, all scholars seem unanimous in stressing the growing significance of the Web as both an operational and communicative environment for organisations. In the following subchapters of my thesis, I will discuss concepts related to central government communications, e-government and online services and web service quality before finally moving on to describe how communications have been organised in the subject organisation of my study, Finnish National Board of Education.

2.5 Central government communications

Even if central government communications follow many of the same principles as other organisational communications, there are some differences between communication in the public sector and communication in a business setting. The most obvious of these differences naturally stems from the fundamental difference in operating principles and organisational objectives between the two. As Nieminen (2000, 109) points out, the difference between general government organisations and corporations is so profound that also the premises for discussing their communications should be completely separate. He goes on to suggest that public government organisations are characterised by communicative operations aimed at creating consensus among members of the community (ibid, 110). Also Juholin (2013, 25-26) suggests that public sector communications are characterised by their democratic service promise to citizens and their goal of attempting to promote common good through appreciative dialogue.

As stated in the Central Government Communications Guidelines (2010, 11), central government communications’ “objectives and operating principles are rooted in fun-

damental rights, such as freedom of speech, the right to participation and influence, the right to due process, the right to one's own language and culture, and fundamental rights in the area of education and learning." Relevant legislation includes The Constitution of Finland (731/1999), Act on the Openness of Government Activities (621/1999), Decree on the Openness of Government Activities and on Good Practice in Information Management (1030/1999) and later amendments particularly (380/2002), Administrative Procedure Act (434/2003), Act on Electronic Services and Communications in the Public Sector (13/2003), Personal Data Act (523/1999), Language Act (423/2003), Sámi Language Act (1068/2003), Copyright Act (404/1961), Non-Discrimination Act (21/2004), Act on Cooperation in Government Agencies and Institutions (651/1988).

The legislative basis described above naturally applies to central government communications also online. However, in addition to legislation, web communications and web service development within the public sector are also characterised by information society and online service ideologies. These ideas are also strongly present in Prime Minister Katainen's Government Programme with regard to national electronic services (see Programme of Prime Minister Jyrki Katainen's Government 2011).

2.6 E-government and online services

United Nations defines e-government as the "use of ICT and its application by the government for the provision of information and public services to the people. The aim of e-government therefore is to provide efficient government management of information to the citizen; better service delivery to citizens; and empowerment of the people through access to information and participation in public policy decision-making." (United Nations E-Government Development Database, 2010). This definition emphasising the possibilities of the web as a democratising and participatory operational environment, offering citizens better service and greater access to information seems to highlight the role of web communications and web services as a strategic tool for the public sector. As Pohjanoksa, Kuokkanen and Raaska (2007, 11) suggest, web communications are not just a part of organisations' communications but part of organisations' operations.

In this paper, the term *e-service* is understood to refer to tools and functions created to allow individuals or representatives of organisations to conduct business or carry out transactions electronically. E-service can hence constitute a part of a *web service* or a web service can be built around one or more e-services to provide them with a context. Alternatively, a web service can merely serve as a channel for distributing information without including any e-service elements. The umbrella term *online service* will be used to refer to both e-services and web services in this paper.

National Knowledge Society Strategy for 2007–2015 drawn up in 2007 as part of Finnish Government’s Information Society Programme has clearly been one of the documents serving as a guideline for both web service and e-service development. The strategy builds on the legacy of two previous national information society documents from 1995 and 1998 to provide “a general strategic framework, which can be refined and expanded upon in strategies specific to certain administrative sectors and industries”. (Harjuhahto-Madetoja & Ahonen 2007, 10.)

Another document guiding the development and management of e-services and web services in the public sector is the report by the Ministry of Finance on the benefits and effectiveness of information service strategies from 2004. The report’s findings indicate that a modified balanced scorecard model can serve as a “useful tool for analysing the value effects of proposed or existing electronic services in public administration” (Verkkopalvelustrategian vaikuttavuus 2004, 8). The report also suggests that electronic service strategies should be developed in context with broader strategy processes, such as drawing up organisations’ overall strategy, service strategy or information management strategy (ibid, 8).

Based on these documents, it is clear that developing e-government and online services are a priority for Finnish central government. As web services currently serve as organisations’ main channels of communication and service provision, studying their quality can be seen as central to organisations successfully fulfilling their tasks and responsibilities with regard to legislation and other guidelines governing public sector operations. As suggested in the Central Government Communications Guidelines, the role of web communications “in particular is increasing in central government” (2010, 15) and organisations’ “websites must be kept up to date and official information must

be easy to find” (ibid, 18). Therefore, it can be said that in order for good governance and citizens’ right of access to information to be fully implemented online, the quality of Finnish central government web services and e-services must be studied and developed.

2.7 Web service quality

Studies in the field of website quality have mainly focused on analysing web content, usability and user satisfaction. Since the 2000s, various methods for conceptualizing and assessing e-service quality and e-satisfaction have been developed, with concepts such as ease of use, information content and interface design at the centre of focus (see Kumbhar 2012). Questions of usability, web content and user satisfaction are inarguably key factors that should be considered when assessing websites and online quality. However, little focus has been placed on the importance of process management in producing and managing public web services.

In Finland, common criteria for public web services have been drawn up in a quality criteria development project set up by the Ministry of Finance. The purpose of the quality criteria is to act as a tool for assessing and developing public web services, thereby improving the quality of public sector web services and increasing their benefits to both end users and organisations responsible for these services. (Lehtimäki & al. 2012, 15). The criteria were first published in 2004 with an updated and amended version by Lehtimäki & al. published in 2012. The criteria cover five different areas of public web services: use, content, production, management and benefits. In this thesis, I base my discussion on Lehtimäki & al.’s categorisation and criteria but define it to the last three – namely, production, management and benefits.

Lehtimäki & al. (2012, 77) describe production as dealing with quality issues with regard to web service production, development and maintenance. The criteria assess key factors with regard to technical production, user orientation, content production as well as online safety and functionality. Successful and efficient web service production is aimed at ensuring that both technical functions and content are produced and developed systematically. Production processes should be evaluated and tied into maintenance. Also, user groups, user need and use situations should be studied and taken into

consideration with regard to web service production and development. Finally, questions of stability, accessibility, usability and integrity of information can be seen to play a significant role in contributing to the quality of the web service.

According to Lehtimäki & al. (2012, 65–75), the role of web service management is to ensure that web services support organisations' overall strategy and objectives. Within the public sector, management for web services must also make sure that the legislative basis for web communications is taken into consideration with regard to for example national languages, openness of government activities, data protection and administrative procedure. The roles and responsibilities of web communications management should be clear in order to guarantee that these tasks are carried out efficiently. Decisions regarding web service development should be based on solid grounds and the cost-benefit efficiency studied. Both internal and inter-agency cooperation with relevant instances must also be explored when assessing the quality of web service management. In addition to these, web services should guarantee citizens access to information also under special circumstances.

As for benefits, the criteria approach the topic through assessing what value web services offer to the user and the producing organisation (Lehtimäki & al. 2012, 21). Also JUHTA government guidelines state that web services should benefit both the users and the organisation producing the service. The best case scenario would be that web services help organisations carry out their processes more efficiently, thus helping them offer better service to citizens. On the other hand, web services can benefit users by saving them time, effort and costs. Cost effectiveness of web communications can therefore be evaluated by monitoring the benefits of web services. (JHS 129 2005, 7.)

2.8 Communications within the Finnish National Board of Education

Finnish National Board of Education (FNBE) is a government agency responsible for developing education in Finland. FNBE is an expert organisation employing some 280 civil servants. The objective of communications with the Finnish National Board of Education is to support the agency's efforts in reaching its strategic goals and tasks. Communications aim to ensure that all internal and external stakeholders have access to reliable, accurate and up-to-date information about the agency's operations. FNBE

communications are also committed to safeguarding individuals' rights defined in the Finnish legislation. In addition to the legislative framework, communications within the FNBE are based on the agency's values: equity, fairness, openness and trust. Communications at FNBE are aimed at guaranteeing all citizens, stakeholders and employees equal access to information, producing and distributing unbiased and objective fact-based information.

Key stakeholders for the Finnish National Board of Education are

- FNBE employees
- representatives of central government organisations
- education professionals: representatives of municipal educational administration, representatives of education providers, principals, headmasters and teachers, other staff in educational institutions
- decision makers: representatives of ministries, members of the parliament, members of local municipal councils, politicians
- media: representatives of national and local news media, current issues and human interest journalists, writers for professional specialist publications
- citizens: pupils and students, parents and guardians, potential recruits, applicants for educations
- international target groups: representatives of foreign governments, research fellows, foreign journalists.

Within FNBE, organisational communications are managed and coordinated by a communications team which, during the time of the study, was working in the Secretariat of the Director General, directly supervised by the Deputy Director General . According to Finnish National Board of Education's rules of procedure, communications team is responsible for executing and developing the agency's internal and external communications, media relations, web communications and social media as well as issue and crisis communications. The communications team is responsible for drawing up communications policies and supporting members of FNBE staff in communications-related issues.

Statistics and international affairs unit is responsible for developing communications for international target audiences. Student admissions unit is responsible for developing communications related to Opintopolku.fi student admission web service together with the Ministry of Education and Culture. Production of publications is decentralised with Training and publications unit responsible for overseeing publishing activities within the FNBE. The unit is also responsible for planning and organising the agency's seminars and events. Communications team cooperates with these units and ensures communications activities are in line with FNBE communications strategy, guidelines and policies.

Communications team works in close cooperation with all departments and units within the FNBE. Forums for cooperation with directors, managers and other staff include regular attendance in department management group meetings and meetings with different theme-based working groups. Communications team is also represented in the executive board for FNBE.

Key tools and channels for external organisational communications with FNBE are

- media contacts, press releases and briefings
- Oph.fi, the official website for the FNBE
- Edu.fi web service for teachers
- online newsletter Spektri
- social media profiles
- brochures and publications
- fairs, events and seminars
- face to face contacts.

The communications team consists of four permanent members, two of whom are responsible for the agency's web communications. FNBE web communications experts are responsible for developing and coordinating the agency web services both technically and with regard to content. The main channels of organisational communi-

cation for the agency include Oph.fi, the official website for the FNBE; Edu.fi web service for teachers, intranet for the organisation's staff; different social media profiles on e.g. Facebook, Twitter and YouTube, and social media tools integrated into the agency's web services, mainly blogs and online workspaces for internal use. In this study, I focused mainly on examining the quality of Oph.fi as the official website for the organisation and can therefore be seen to represent the overall state of web communications with Finnish National Board of Education.

Oph.fi has an average of some 190 000 visits and some 130 000 unique visitors monthly. Users include education professionals, citizens and public sector officials. Three language versions of the web service are produced, namely, Finnish, Swedish and English. Finnish and Swedish versions have the same structure and, to a large extent, the same content. The English language version of the web service is targeted more towards international audiences and its structure and content are therefore different from the other language versions.

In addition to basic information on the organisation and its functions, the web service features a detailed description of the Finnish education system targeted towards parents, pupils and students, information on curricula and qualification requirements as well as rules, regulations and guidelines for education providers, headmasters and teachers, info on financing, research information and statistics, publications and other steering material. The web service also serves as a distribution channel for materials from seminars that are subject to a fee. The current issues section of the web service includes news items, press releases, blog posts and online newsletter articles. The web service offers users the opportunity to send feedback through a structured feedback form, leave comments on the organisation's blog and subscribe or cancel their subscription to FNBE's online newsletter Spektri. The web service also contains links to different online services and form, such as the application and reporting system for state grants. Annex sites to the main web service are built mainly for projects', themes' or topics' communications needs. These sites include for example websites for curricula reform and qualification requirement reform where users can comment curricula

and requirement drafts online during the renewal process and discuss curricula issues on the reform's blog.

Most popular contents vary according to season and current issues in the education sector. According to website statistics, most popular pages include the Oph.fi front page with current issues and news items, information on vocational education, qualification requirements, information on the curricula reform in pre-primary and basic education as well as information on national certificates of language proficiency. In addition to these, the sections on financing, information services, publications and on-going renewal project of learners' online services. Key sources of web service traffic include organic traffic from Google and Bing search engines as well as referrals from Facebook and education-related websites with direct traffic to Oph.fi constituting some 22 percent of overall traffic.

The web service is produced using a content management system developed by an external technical partner and the service is hosted by an education sector in-house ICT partner organisation. The current content management system was taken into use in 2008 and the web service was published in 2009. No major changes have been made to the basic structure and scope of the web service since then but technical features and contents have been developed and version upgrades carried out. New visual image for the web service was launched in November 2013. In the project, also the structure and concept of current issues content were developed to better meet the current needs of the organisation and its stakeholders.

System ownership of the web service and the content management system lies with the FNBE communication team with web communications experts responsible for coordinating the overall processes related to the production of the web service. Key partners in these processes include outsourced technical partners, FNBE data administration and FNBE units. Roles and responsibilities related to producing the web service are presented in Table 1 below.

	Outsourced partners	Data administration	Communications	Units
Server environment	technical production	management		
Content management system and web service	technical production		management	
Content and updates			production, support, management	production
Quality			management	

Table 1. Roles and responsibilities related to the production of Oph.fi

Web service quality has been studied at FNBE through user and usability studies. The latest usability study was commissioned in context with the complete renewal of the web service in 2009. The study consisted of findings from two usability experts and user experiences from seven test users. Suggestions from the study were related to the technical functions, visual image, structure and content of the web service. Online user surveys have been conducted both in context with the renewal and in the year 2012. Findings from the 2012 survey represented the views of altogether 166 respondents, the majority of whom found the web service useful but experienced difficulties in locating the information they required. Respondents also found it somewhat difficult to grasp the structure of the web service and to navigate between different sections. Some users also found the content to not be up-to-date. Based on findings from these studies, measures have been taken to develop some areas of FNBE web services. However, little focus has been placed on studying and systematically developing the processes related to producing and managing the web service in order to increase its quality and benefits.

3 Methodology

In this chapter, I will discuss the development methods utilised in the study. I approached the topic of web service development with action research as my research strategy. Action research was chosen as the research strategy as the subject organisation of the study, Finnish National Board of Education, is my current place of employment.

The empirical part of the study was conducted from November 2013 to February 2014 and consisted of two parts: an online survey and development group discussions. The research utilised mixed methods in order to gain answers to the following research questions:

- What is the current quality of Oph.fi with regard to management, production and benefits?
- Which processes need to be developed in order for the web service to be more effective and beneficial to the organisation?
- Which concrete development actions are needed?

Data was collected through literature reviews, quantitative online survey and qualitative focus group discussions. Online survey was selected as a method for mapping out the current state of web service quality as it allows for information on the current state of web service quality to be evaluated without respondents being affected by circumstances or opinions of others. Quantitative findings from the survey were complemented with qualitative focus group discussions in order to gain further insight into how representatives of different key roles and function related to web service production and management viewed the data from the survey and which development actions they felt were needed in order for the processes and overall quality of the web service to be improved. The focus group discussions fell within the category of semi-structured focus group interviews. The research also incorporated certain elements of the Delphi technique as results from the initial online survey were used as a basis for

narrowing down the scope of the study in the focus group discussions with an expert panel.

3.1 Action research

According to Coughlan and Coughlan (2007, 238), action research is “an approach to research that does not distinguish between research and action; it addresses the theme of research in action”. They suggest that one of the key merits of action research lies in its applicability to situations where matters and concerns are studied together with the people directly involved with the issue. They go on to describe how action research works “through a cyclical four-step process of consciously and deliberately: planning, taking action and evaluating the action, leading to further planning and so on”. (Coughlan and Coughlan 2002, 222–223.)

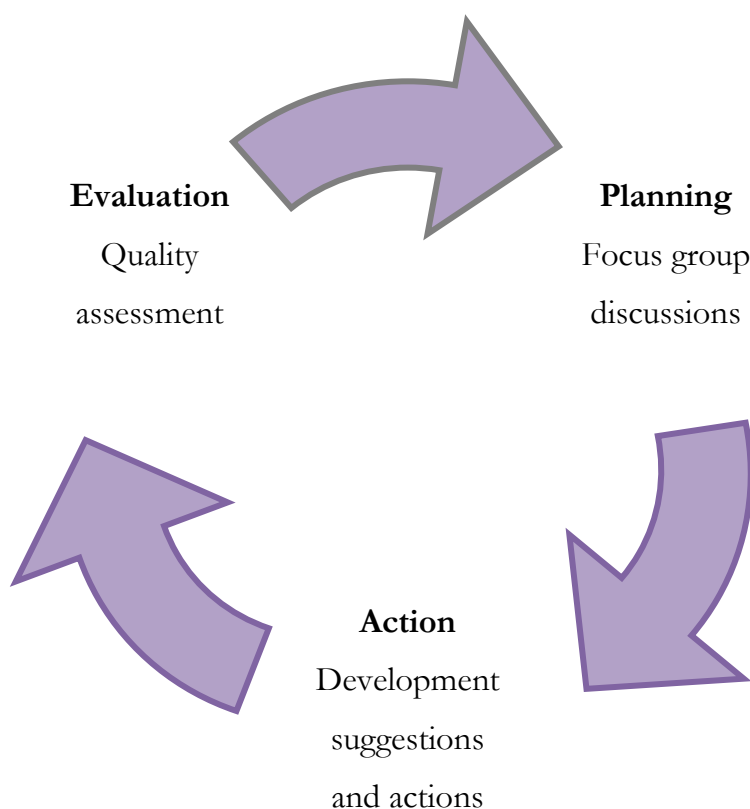


Figure 2. Action research cycle of the study

Action research is relevant to my study as the research was carried out by me as a process owner and person responsible for the development of the Oph.fi web service. Also, the participatory and cyclically iterative nature of action research makes the

methodology suitable for the FNBE quality development project. The development cycle is manifest in the study as findings from the initial quality assessment survey carried out in the first stage of the research were used during the second stage as basis for focus group discussions and determining development actions, the implementation of which can later be reevaluated using the same criteria in order to map out further steps and practices.

Other reasons for choosing action research as the research strategy stem from its inclusive nature allowing for organisational learning. In a development project aimed at increasing web service quality, it is critical that those occupying key roles in the processes of production and management are committed to the change. As Reason and Bradbury (2007, 1–2) point out, action research can be defined as a participatory process aimed at producing practical solutions and knowledge related to issues that are of concern to the people involved and that they can use of their everyday lives. Also Saunders et al. (2009, 148) point out that the strengths of action research include its focus on bringing about change and the involvement of those affected by the change. In addition to requiring participation and engagement, quality development also calls for organisational learning and increased cooperation between different parties. As Kananen (2009, 9) suggests, action research also allows for this as it can be seen as process of professional development as it focuses on the actual working life problems that those involved become aware of and attempt to solve.

3.2 Delphi technique

As mentioned above, the study also incorporated certain elements of the Delphi technique. Saunders & al. (2009, 590) characterise the Delphi technique as “using a group of people who are either involved or interested in the research topic to generate and select a more specific research idea”. According to Linstone & Turoff (2002,3), “Delphi may be characterized as a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem.” They go on to suggest that in order for “structured communication” to be achieved certain things are need, namely “some feedback of individual contributions of information and knowledge; some assessment of the group judgment

or view; some opportunity for individuals to revise views; and some degree of anonymity for the individual responses” (ibid). Also, Goldfisher (1993, 10) describes Delphi as a method that “uses an independent surveying of a group of experts. The results including key comments are fed back anonymously to the experts for subsequent rounds of their projections which they may modify because of their view of the consensus”.

It is indeed typical for Delphi studies to employ surveys so that experts can remain anonymous and express opinions without knowing who else is involved in the study in order for them to present genuine views and change them without being restrained by hierarchies or fear of losing face. However, the method can also be utilised in a working group setting where anonymity is not possible. (Finnish National Board of Education 2014.)

The elements of the Delphi technique relevant to the study included inviting certain key experts to share their views on the quality of Oph.fi both through the survey and the group discussions. The results from the initial online survey were used as a basis for narrowing down the scope of the study in the focus group discussions with an expert panel. Also, the survey followed with the two focus group discussions can be seen to comply with the iterative cycle of the method in gathering information and feeding it back to the panel in order for a common understanding or consensus of the current state of the web service as well as its future development to be reached.

3.3 Online survey

In order for web service quality to be developed, an evaluation of the organisation's current web service quality was needed. Therefore, data was collected to determine to what extent Oph.fi and FNBE web communications meet government quality criteria for public web services, and which areas need to be developed in order for FNBE web services to better meet the criteria with regard to management, production and benefits in the future. Data collection was carried out through an online survey to the FNBE staff where they are asked to assess the web service's current compliance with the criteria. The strength of the survey as research methods in this case lay in the fact that it “does not involve any manipulation of participants or their circumstances in advance”

and that it can be used to “to document current conditions or states of affairs” (Jensen 2002, 214).

The online survey sought to answer the following research questions:

- What is the current quality of Oph.fi with regard to management, production and benefits?
- Which processes need to be developed in order for the web service to be more effective and beneficial to the organisation?

It was important that the survey be structured, easily repeated and not depend on external variables so that an assessment of the effects of later development actions could be monitored through a repeat survey of the same structure. The survey was prepared using Survette survey tool and carried out as an online self-completion questionnaire in order for the respondents to be able to answer anonymously and at their own convenience. This was done to ensure that external factors, such as their relationship with the researcher or a particularly hectic work situation, would influence their responses as little as possible.

The survey was designed using a framework of quality criteria for public web services drawn up in a quality criteria development project set up by the Ministry of Finance. The purpose of the quality criteria is to act as a tool for assessing and developing public web services, thereby improving the quality of public sector web services and increasing their benefits to both end-users and organisations responsible for these services (Lehtimäki & al. 2012, 15). The criteria cover five different areas of public web services: use, content, production, management and benefits. The survey was based on Lehtimäki & al.’s categorisation and criteria but defined to the last three – namely, production, management and benefits.

In the survey, respondents were asked to state how well they think Oph.fi web service complies with statements derived from public web service quality criteria in the areas of management, benefits and production. The survey comprised altogether 76 statements

directly derived from Lehtimäki & al.'s quality criteria. The criteria and statements utilised in the survey are presented in Table 2 below.

1. Management
1.1 Web service supports organisation's strategy and objectives.
1.1.1 Web service supports organisation's tasks and goals.
1.1.2 Operational objectives have been defined for the web service.
1.1.3 Quality goals have been defined for the web service.
1.2.1 Applicable legislation has been studied.
1.2 Relevant legislation has been studied and taken into consideration.
1.2.2 Content production and content management follow legislation.
1.2.3 Technical execution follows legislation.
1.3 Development decisions are justified.
1.3.1 Grounds for renewal or development of the web service have been studied.
1.3.2 Benefits and costs of development have been studied.
1.3.3 Possibilities and risks of new technology and new service channels have been taken into consideration when making development decisions.
1.3.4 Continual development of web service is provided for.
1.4 Web service is managed.
1.4.1 Roles and responsibilities related to web service have been defined.
1.4.2 Resources available to the web service are in line with strategy and objectives.
1.4.3 Management follows web service and defines policy for further development.
1.4.4 Personnel's know-how is developed and maintained.
1.4.5 Service agreements regarding both cooperation and outsourcing have been prepared in a professional manner.
1.5 Cooperation is taken advantage of in developing web service.
1.5.1 Possibilities for cooperation with other service providers have

been looked into.
1.5.2 Possibility for cooperation has been taken advantage of when necessary.
1.6 Marketing and communication actions are carried out to inform users about the web service.
1.6.1 Web service is included in organisation's strategic communications and marketing plans.
1.6.2 Sufficient resources are available for marketing and communications.
1.6.3 Information on the web service is distributed to target groups and stakeholders.
1.6.4 Information on the web service is distributed to organisation's own personnel.
1.7 Special circumstances are taken into consideration.
1.7.1 Web service is sized according to its importance.
1.7.2 Special circumstances related to the web service are provided for.
1.7.3 Crisis situations related to the organisation's field of operation are provided for.
1.7.4 Crisis communication is provided for.
2. Benefits
2.1 Web service is of use to the organisation.
2.1.1 Web service supports the realisation of the organisation's strategic goals.
2.1.2 Web service produces cost savings and increases productivity.
2.1.3 Web service creates aspired image of the service provider.
2.2 Web service is well-known.
2.2.1 Potential users know about the existence of the web service and about the services it offers.
2.2.2 Target groups of the web service use the web service.
2.3 Web service supports users' opportunities to influence issues.
2.3.1 Users have the opportunity to influence the web service.

2.3.2 Users have the opportunity to influence the producing organisation's operations.
2.3.3 Users have the opportunity to influence societal issues, using the web service.
3. Production
3.1 Content is developed and produced systematically.
3.1.1 Responsibilities, tools and work processes related to content management have been defined.
3.1.2 Key content of the web service is planned.
3.1.3 Content is continuously revised and amended.
3.1.4 Content is finalised before publication.
3.1.5 Versioning of content is carried out in a controlled manner.
3.2 Development and maintenance are carried out in a controlled manner.
3.2.1 Responsibilities and work processes related to maintenance have been defined and carried out as agreed.
3.2.2 Ability to function under fault situations is guaranteed.
3.2.3 Extensive renewals are carried out in a systematic and controlled manner.
3.3 Processes related to producing web service have been evaluated and tied into maintenance.
3.3.1 Content production and e-services are tied into the organisation's operational processes.
3.3.2 Users' operational processes are taken into consideration in web service design.
3.3.3 Integration with other services and databases is taken into consideration.
3.3.4 Web service is edited in an organised and systematic manner.
3.3.5 Web service is developed in an organised manner.
3.4 User groups, user need and use situations have been taken into consideration.
3.4.1 User groups' need have been studied and taken into consideration.

3.4.2 Use situations have been studied and needs stemming from them taken into consideration.
3.4.3 Different ways of using the web service have been taken into consideration.
3.4.4 Users participate in the development of the service.
3.5 Usability and accessibility are evaluated and guaranteed.
3.5.1 Usability and accessibility guidelines as well as methods for measuring and evaluating them have been defined for the web service.
3.5.2 Usability has been evaluated and ensured.
3.5.3 Accessibility has been evaluated and ensured.
3.5.4 Unified usability policy has been defined and documented.
3.6 Use is followed systematically and results are taken into consideration in development actions.
3.6.1 Feedback from users is gathered consistently.
3.6.2 User surveys and studies are carried out regularly throughout the life cycle of the web service.
3.6.3 Statistics of web service use are gathered.
3.6.4 Content, processing and archiving of all follow-up data has been defined.
3.6.5 Web service is continuously developed taking feedback, follow-up data and new development ideas into consideration.
3.7 Web service is produced using a relevant system.
3.7.1 Content production and publishing is functional.
3.7.2 System offers sufficient possibilities for development and expansion.
3.7.3 System capacity is sufficient.
3.7.4 System is documented.
3.8 Continuity of telecommunications and server environment are ensured.
3.8.1 Network and server protection requirements are defined and documented.
3.8.2 Network and server environment are protected and monitored

accordingly.
3.8.4 Telecommunications are ensured.
3.8.5 Malware are protected against.
3.8.6 Data transfer is encrypted whenever necessary due to the nature of the data.
3.9 Confidentiality and integrity of information are ensured.
3.9.1 Users are made aware of what data is being collected of them and for which purpose.
3.9.2 Validity and confidentiality of stored information is ensured.
3.9.3 Users can make sure that confidential content has been produced by a trustworthy instance.
3.9.4 Personnel has been trained to act accordingly with regard to information security.
3.10 User permissions are managed.
3.10.1 User permission policy has been defined.
3.10.2 User permissions are applied for and granted in a controlled manner.
3.10.3 User permissions are reassessed regularly.
3.10.4 Password policy for the web service has been created and it is followed.

Table 2. Structure and statements of the survey derived from Lehtimäki & al.'s quality criteria.

In the survey, a short introduction to each area of evaluation (management, benefits and production) was provided. Each criterion (statements on light grey background in Table 2) was used as a subheading to group subcriteria and evaluate them as a comprehensive entity in the survey. Therefore, respondents were not asked to evaluate these statements. Rather, each subcriterion (statements on white background in Table 2) constituted a statement in the survey. Respondents were asked to score each of these 76 statements on a Likert scale ranging from 1 to 5 (1=criterion is not met, 5=criterion is met fully). Respondent were asked to evaluate the web service from their own perspective and leave any sections irrelevant or unfamiliar to them unanswered. An open

text field titled “Comments” was provided after each group of subcriteria and before the next subheading for respondents to elaborate on their answers if they so wished.

The target group of the survey was internal stakeholders within the Finnish National Board of Education. A personal email invitation to take part in the online survey was sent to a sample group representing key resources with regard to web service quality in the areas of study: webmasters (2 persons), key users (20 persons), ICT and data administration specialists (2 persons), communications experts (1 person) and management (25 persons). In addition to this, link to the survey was made available to the entire FNBE staff (altogether some 280 persons) through the agency’s intranet. The survey was open for 13 days, from 14 November 2013 to 26 November 2013.

Altogether 25 respondents participated in the survey. Responses represented the views of the following roles and functions:

- representatives of management: 3 responses
- content experts: 11 responses
- data administration professionals: 2 responses
- communication professionals: 2 responses
- webmasters: 2 responses
- main users for content management system: 1 response
- key users for content management system users: 4 responses.

It is worth noting that only one respondent representing main users took part in the survey and their participation was limited to evaluating the first three criteria. Due to this, main users’ point of view can be found to be lacking in the responses for the majority of the criteria.

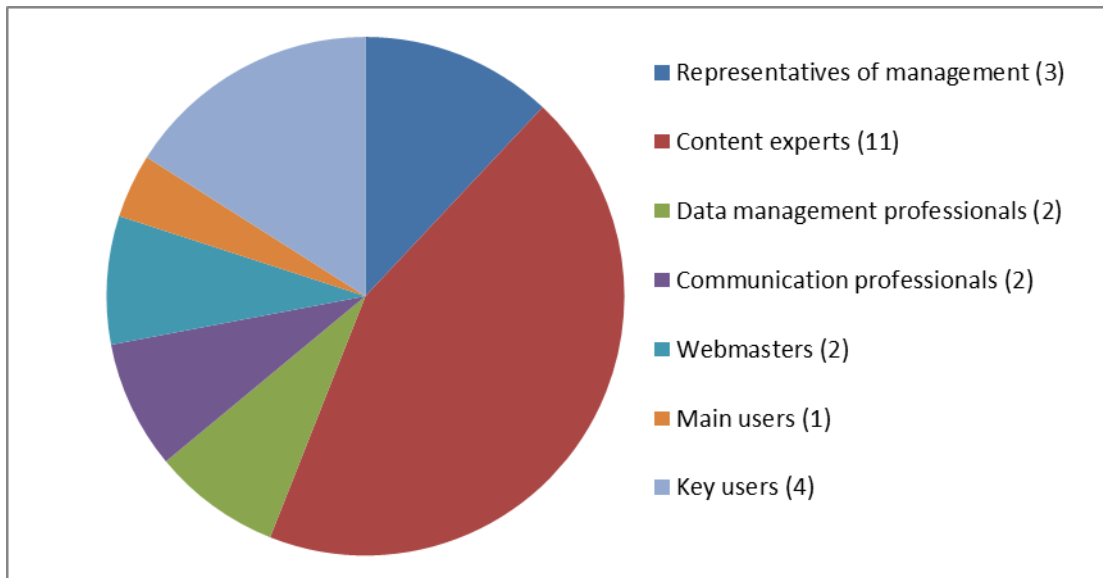


Figure 3. Respondents

The number of respondents was limited due to the substantial length of the statement battery. Also, verbal feedback indicated that some members of the staff felt that they did not have sufficient knowledge on the subject to take part in the survey, even if they were asked to assess the statements based on their own understanding of the current situation.

In some areas, the reliability of the data collection was affected by responses that showcased that individual respondents had not read the instructions. In these cases, respondents had scored an average 3 when they were unable to answer the question instead of leaving the section unanswered as instructed. In hindsight, it had perhaps served purpose to include an option for “undecided”. This would also have helped reliably determine how many respondents had read and considered the statement as some of the quality criteria now received considerably fewer responses than others. It is also worth noting that one criterion from the government quality criteria in the assessment area of benefits was not included in the survey due to a technical error. Due to this, quality of Oph.fi was not assessed with regard to the following statement: “Web service offers added value to users” (Käyttäjä saa verkkopalvelusta lisäarvoa).

It is also noteworthy that the respondents are not all experts in web communications and related issues. In some areas, results of the survey are best considered indications

of perceived quality. For example, usability and accessibility are concepts that practically every web user has a notion or opinion about. However, this experience may not necessarily correspond with usability and accessibility guidelines, standards and conventions used by professional with regard to web service production. Therefore, it is best to consider the findings of the survey as measures of perceived web service quality which in no way lessens their significance.

Despite these weaknesses in the data collection, the responses were representative of all internal target groups and can therefore be deemed sufficient to form a basis for further discussion even if more input from management would have been welcome. In contrast, it was positive to note that the number of responses from content experts was considerably high in view of the fact that they were not part of the initial internal target group and did not therefore receive personal invitations to take part in the survey. This can be seen to indicate that content experts who are often responsible for producing information content for the web services show interest in the development of Oph.fi web service and web communications as a whole.

3.4 Focus group discussions

Focus group discussions sought to answer the research question of which concrete development actions are needed for the quality of Oph.fi to be improved. Expert occupying key roles with regard to web service production and management were invited to take part in the focus group discussions. Representatives of the working group included

- two webmasters (the researcher included)
- a communications expert
- an ICT specialist responsible for servers
- the head of data administration
- two main users of the content management system
- two key user of the content management system
- the deputy director general representing top management and acting as head of communications within the FNBE at the time of the study.

The working group was invited to discuss results from the initial quality assessment and express their opinions on their relevance to the organisation. Based on the findings, relevant development areas as well questions requiring policy level decisions were analysed and discussed. During the discussions, the group also proposed development actions to be implemented.

Discussions fell within the category of constituted group interviews where “Groups are constituted specifically for the purpose of research” but “members remain bearers of particular demographics, while entering into an approximated natural group dynamic” (Jensen 2002, 241). As for the key issues of duration and structure (see Jensen 2002, 241–242), group interviews were semi-structured with repeat sessions lasting for two hours maximum and held during working hours. The meetings were called approximately two weeks in advance. Not all members of the working group were able to attend both meetings. A preliminary agenda was sent to participants along with the calendar invitation. Preliminary agendas and participants of meetings are presented in appendices 1 and 2. For the second meeting, also presentation material and advance questions were sent to participants in order to allow them to better prepare for the discussion.

The purpose of the discussions and the objectives of the research were presented at the beginning of each meeting. The structure of the meetings was based on the researcher presenting the results of the survey one set of criteria at a time and asking the group to discuss the findings and their implications. The researcher facilitated meetings and participated in the discussion. Meetings were recorded in order for outcomes and the learning process to be documented. Recordings of the discussions were thoroughly analysed with the researcher focusing on key findings and conclusions utilising the method of content analysis.

4 Findings from the survey

In this chapter, I will look at the key finding from the online survey based on Lehtimäki & al.'s (2012) criteria for public web services. In the survey, respondents were asked to score 76 statements related to production, management of benefits of the Oph.fi web service on a Likert scale ranging from 1 to 5 (1=criterion is not met, 5=criterion is met fully). Respondents were asked to evaluate the web service from their own perspective and leave any sections irrelevant or unfamiliar to them unanswered. Respondents were also offered the opportunity to elaborate on their answers in an open text field after each group of subcriteria. The structure and implementation of the online survey are described in more detail in chapter 3.3.

Overall, the scores received were relatively low with the averages for different criteria ranging from 1,89 to 3,325 (see Figure 4). However, this should not be seen to indicate that performance in all areas was considered poor and, therefore, all areas need to be developed. Rather, average scores should be examined in the context with the overall level of the scores received. The average score for nine out of the twenty criteria fell within the range from 2,5 to 3. This range can therefore be seen to represent the typical overall quality level of the web service.

In some areas, the perceived level of quality was significantly lower. Criterion 2.3 “Web service supports users’ opportunity to influence issues” (Verkkopalvelu tukee käyttäjien mahdollisuutta vaikuttaa) ranked significantly lower than other criteria, receiving an average score of only 1,89. Also, criteria 3.3 “Processes related to producing web service have been evaluated and tied into maintenance” (Verkkopalvelun tuottamiseen liittyvät prosessit on arvioitu ja kytketty ylläpitoon), 3.4 “User groups, user need and use situations are taken into consideration” (Käyttäjryhmät, käyttäjien tarpeet ja käyttötilanteet on otettu huomioon) and 3.5 “Usability and accessibility have been evaluated and ensured” (Käytettävyys ja saavutettavuus on arvioitu ja varmistettu) ranked below 2,5 which can be seen to indicate that the quality in these areas does not meet the general quality level of the web service.

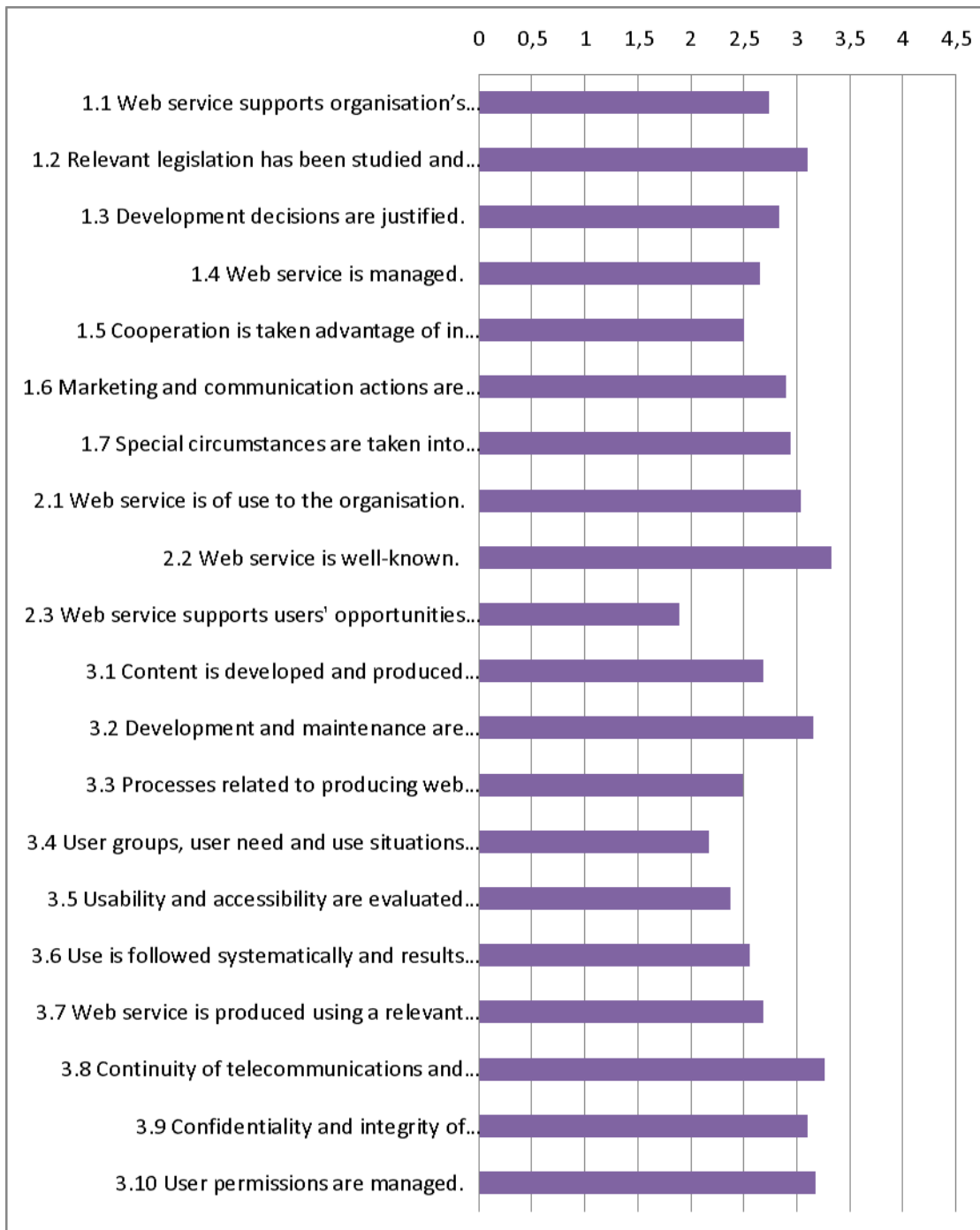


Figure 4. Average scores of criteria

On the other hand, criterion 2.2 “Web service is well-known” (Verkkopalvelu tunnetaan hyvin) ranked significantly higher than other criteria, receiving an average of 3,325. Also, the following criteria received an average score of over 3, indicating that the perceived quality in these areas is on the right track:

- 1.2 “Relevant legislation has been studied and taken into consideration” (Lainsäädännön vaatimukset verkkopalvelulle on selvitetty ja otettu huomioon)
- 2.1 “Web service is of use to the organisation”
(Verkkopalvelusta on hyötyä organisaatiolle)
- 3.2 “Development and maintenance are carried out in a controlled manner”
(Kehittäminen ja ylläpito on hallittua)
- 3.8 “Continuity of telecommunications and server environment are ensured”
(Tietoliikenne ja palvelinympäristö on turvattu)
- 3.9 “Confidentiality and integrity of information are ensured”
(Tietojen luottamuksellisuudesta ja eheydestä on huolehdittu)
- 3.10 “User permissions are managed”
(Käyttöoikeuksia hallitaan).

Significant variation was found between average scores given to criteria by different respondent groups. Respondents representing data administration and main users were found to be generally more critical towards the web service in their responses whereas communication professionals were more satisfied in the overall web service quality based on their evaluations of different criteria.

4.1 Findings with regard to management

In the area of management, criteria received average scores ranging from 2,5 to 3,1. Criterion 1.2 “Relevant legislation has been studied and taken into consideration” (Lainsäädännön vaatimukset verkkopalvelulle on selvitetty ja otettu huomioon) received the highest average score in this category. Alternatively, criterion 1.5 “Cooperation is taken advantage of when developing web service” (Kehitystyössä on hyödynnetty yhteistyöstä saatavia etuja) received the lowest score in the category suggesting that this area needs to be developed.

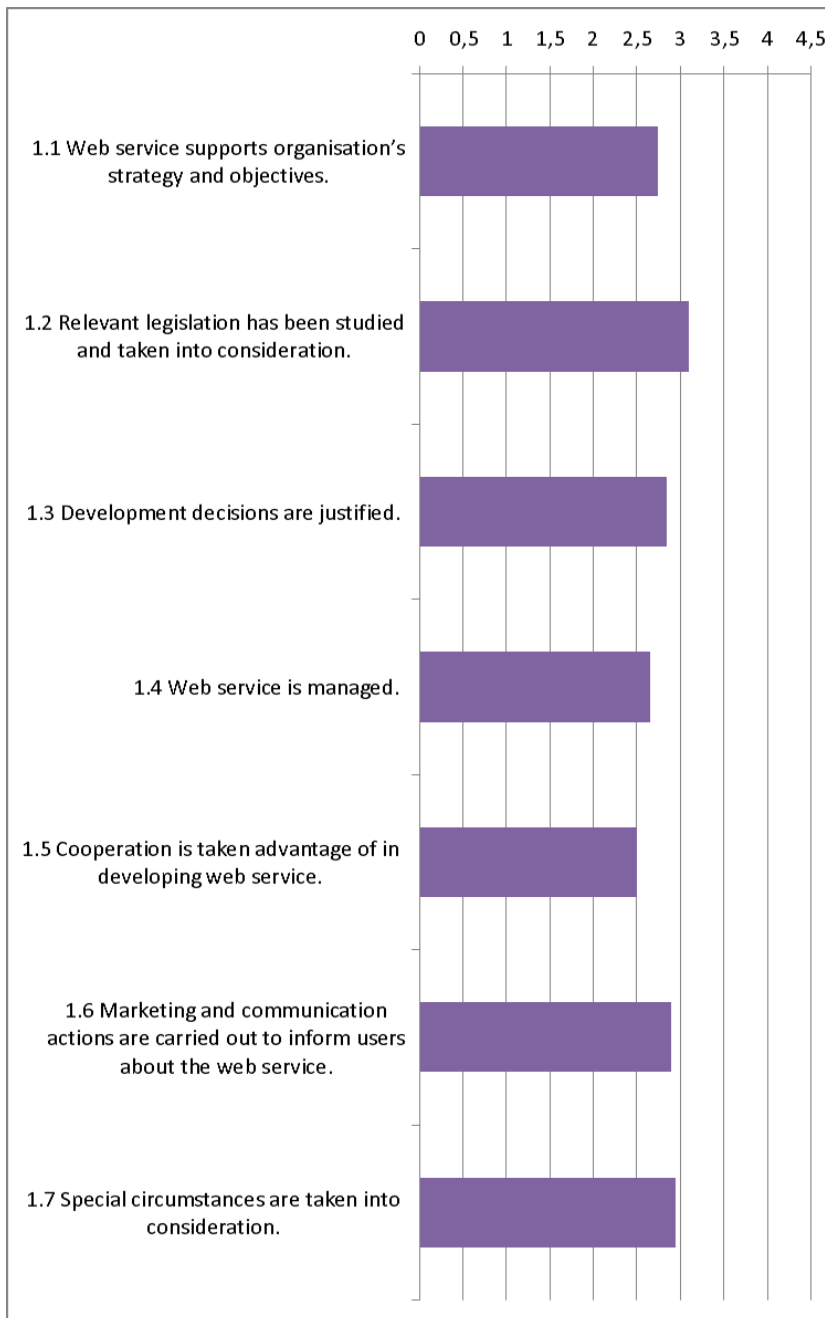
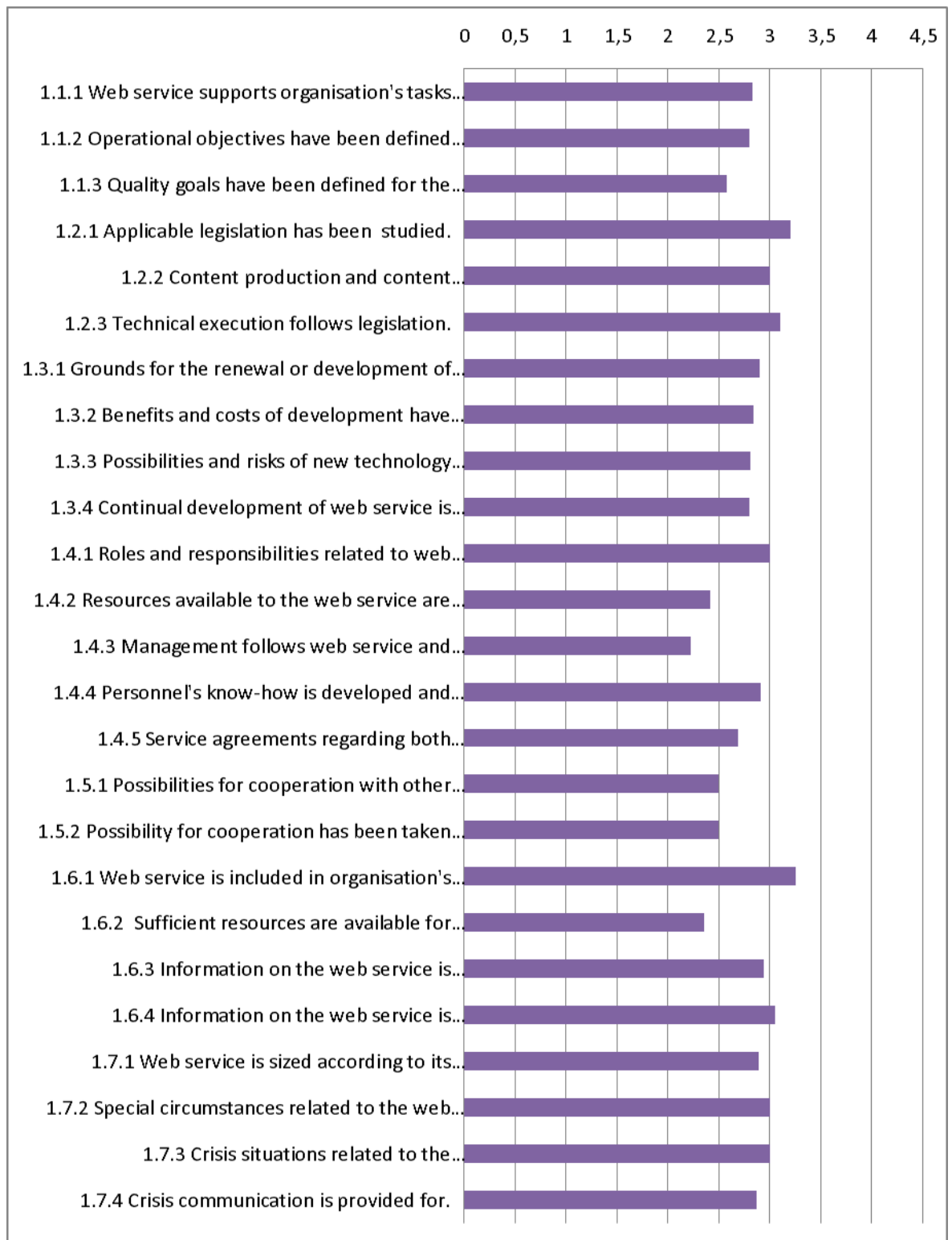


Figure 5. Average scores for criteria within management

Average scores for criteria in this section of the survey showed relevantly little fluctuation. However, a look at the average scores for subcriteria presented in Figure 6 reveal more variation between different quality statements regarding management.



6. Average scores for subcriteria within management

For example, criterion 1.4 “Web service is managed” (Verkkopalvelua johdetaan) received an overall average of 2,648 in the survey, ranking second lowest within management but reaching mid-range in the overall comparison. Nevertheless, some of the subcriteria for this criterion received the lowest averages within management. Subcrite-

ria 1.4.2 “Resources available to the web service are in line with strategy and objectives” (Verkkopalvelulla on käytössään strategian ja tavoitteiden mukaiset resurssit) and 1.4.3 “Management follows web service and defines policy for further development” (Johto seuraa verkkopalvelua ja linjaa palvelun jatkokehittämistä) scored noticeably lower than other subcriteria, receiving average scores of 2,42 and 2,22. Open text field answers for criterion 1.4 expressed concern over stretched resources and time limitations as well as top management’s unfamiliarity with web service issues and psychology of communications.

Also, subcriterion 1.6.2 “Sufficient resources are available for marketing and communications” (Markkinointiin ja viestintään on varattu riittävät resurssit) scored an average of only 2,35 whereas the overall average for criterion 1.6 “Marketing and communications are carried out to inform users about the web service” (Verkkopalvelusta viestitään ja sitä markkinoidaan) was just under 2,9. Open comments for the section also shed light on possible development areas:

Users are familiar with the web service but don’t necessary want to use it because it is not user-friendly. (translation from Finnish)

Staff should be engaged more: information/involvement. (translation from Finnish)

4.2 Findings with regard to benefits

In the area of benefits, Oph.fi received relatively high scores with regard to criteria 2.1 “Web service is of use to the organisation” (Verkkopalvelusta on hyötyä organisaatiolle) and 2.2 “Web service is well-known” (Verkkopalvelu tunnetaan hyvin).

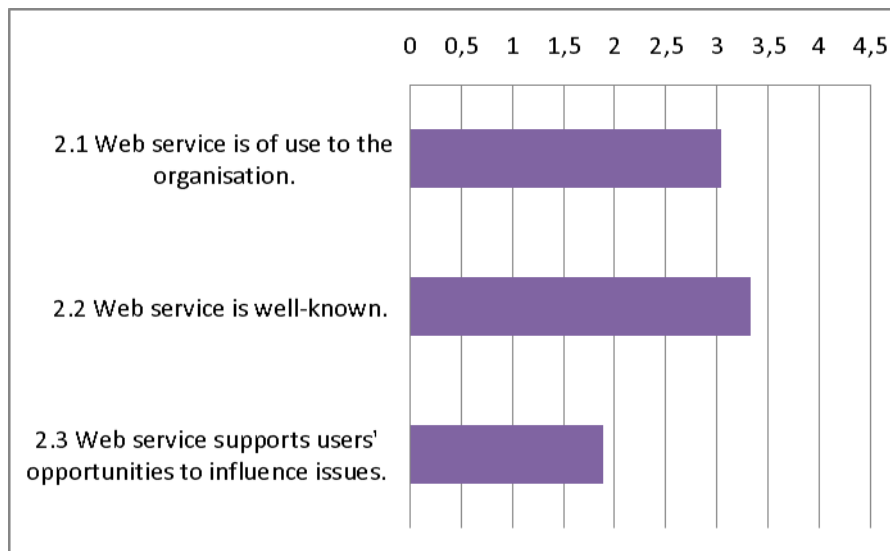


Figure 7. Average scores for criteria within benefits

In these areas, also the subcriteria received consistent averages with the exception of subcriterion 2.1.3 “Web service creates aspired image of the service provider” (Verkkopalvelu luo organisaation tavoitteleman mielikuvan palvelun tarjoajasta) that scored lower than other subcriteria, receiving an average of 2,87. Open comments for the section expressed concern over out-dated and heterogeneous content, unclear site structure and use of expert jargon.

However, criterion 2.3 “Web service supports users’ possibilities to influence issues” (Verkkopalvelu tukee käyttäjien mahdollisuutta vaikuttaa) received by far the lowest average in the entire survey, scoring a mere 1,89. Also, all subcriteria in this area received scores that were significantly low compared to the overall level of the evaluations. According to the survey, respondents found that users had the possibility to have some level of impact on the web service (average 2,0) but less possibility to use the web service to influence issues on the societal level (average 1,88). It is noteworthy that the very lowest average of the entire survey was received by the users’ chance to influence the operations of the producing organisation, that is, FNBE (average 1,79).

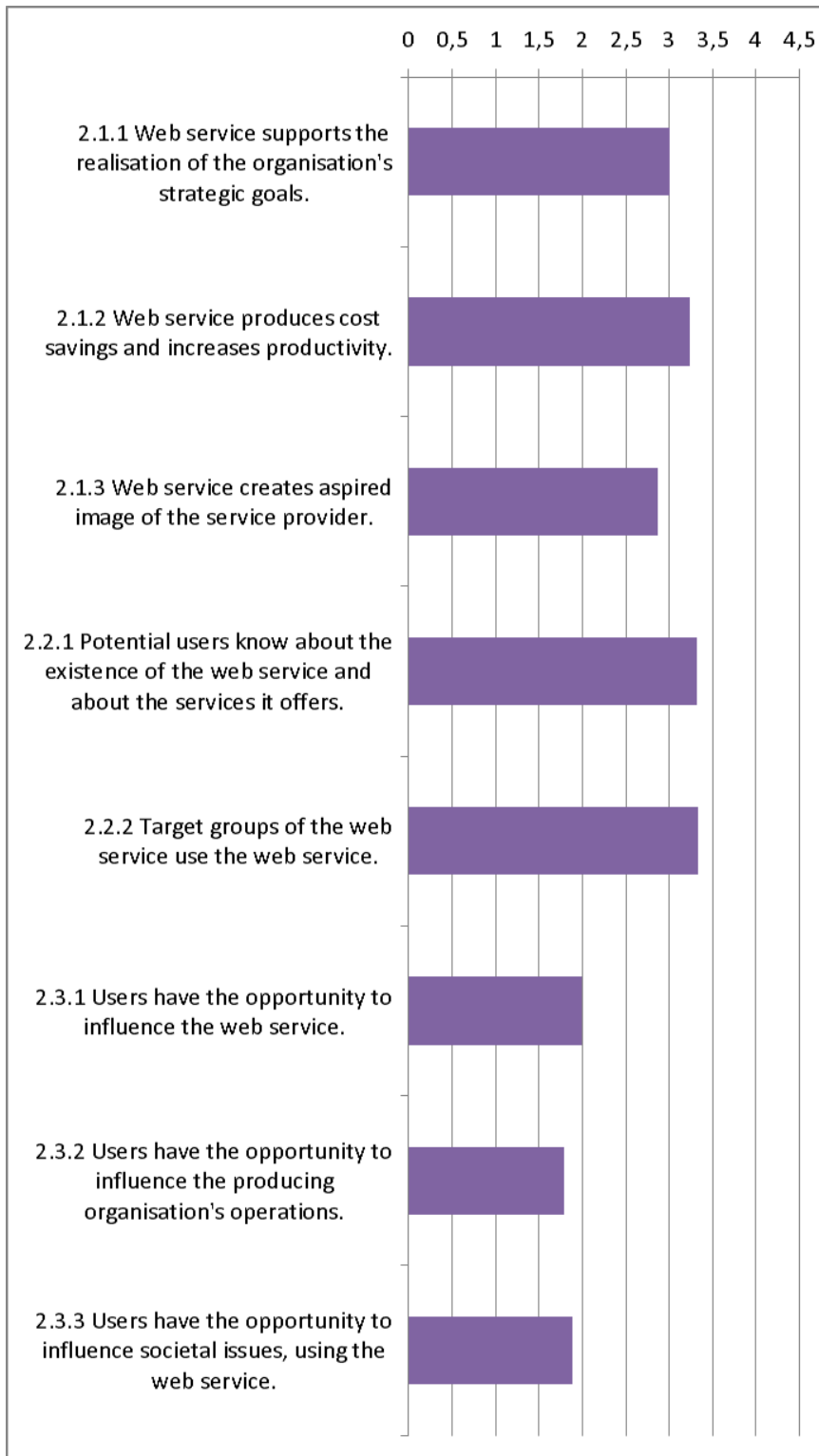


Figure 8. Average scores for subcriteria within benefits

Despite the low scores, one of the comments for the section suggests that some actions have already been taken to develop this aspect of the web service:

Blogs and e.g. possibility to comment core curricula drafts online are channels for citizens to influence things at least a little. Feedback from website is taken into consideration in web service development, especially with regard to content. (translation from Finnish)

4.3 Findings with regard to production

Average scores for criteria within the area of production varied from 2,17 to 3,26. This can be in part explained by the wide range of things covered by the criteria in this section. Particularly in this section of the survey, respondents' level of expertise may have significantly affected the results as accurate professional assessment of some of the quality statements would have required in-depth knowledge of technical aspects of web service production. As discussed above, it is, therefore, useful to keep in mind that responses reflect perceived service quality.

Clear development needs arose from the findings with regard to criteria 3.4 "User groups, user need and use situations are taken into consideration" (Käyttäjärühmät, käyttäjien tarpeet ja käyttötilanteet on otettu huomioon) and 3.5 "Usability and accessibility have been evaluated and ensured" (Käytettävyys ja saavutettavuus on arvioitu ja varmistettu). Comments for these criteria help clarify the underlying reasons for the low scores:

Users' needs are not taken into consideration and users don't find the information they need. (translation from Finnish)

Usability and accessibility are not realised due to the language used and hierarchical structure of the web service. Therefore, the initially positive aspect of ample information turns into something negative when users don't find the information they are looking for. (translation from Finnish)

Also, perceived quality with regard to criterion 3.3 "Processes related to producing web service have been evaluated and tied into maintenance" (Verkkopalvelun tuottamiseen liittyvät prosessit on arvioitu ja kytketty ylläpitoon) was lower than in other areas within production. In one comment, processes were divided into two categories where situations seemed to differ:

Technical development is organised, content production isn't.
(translation from Finnish).

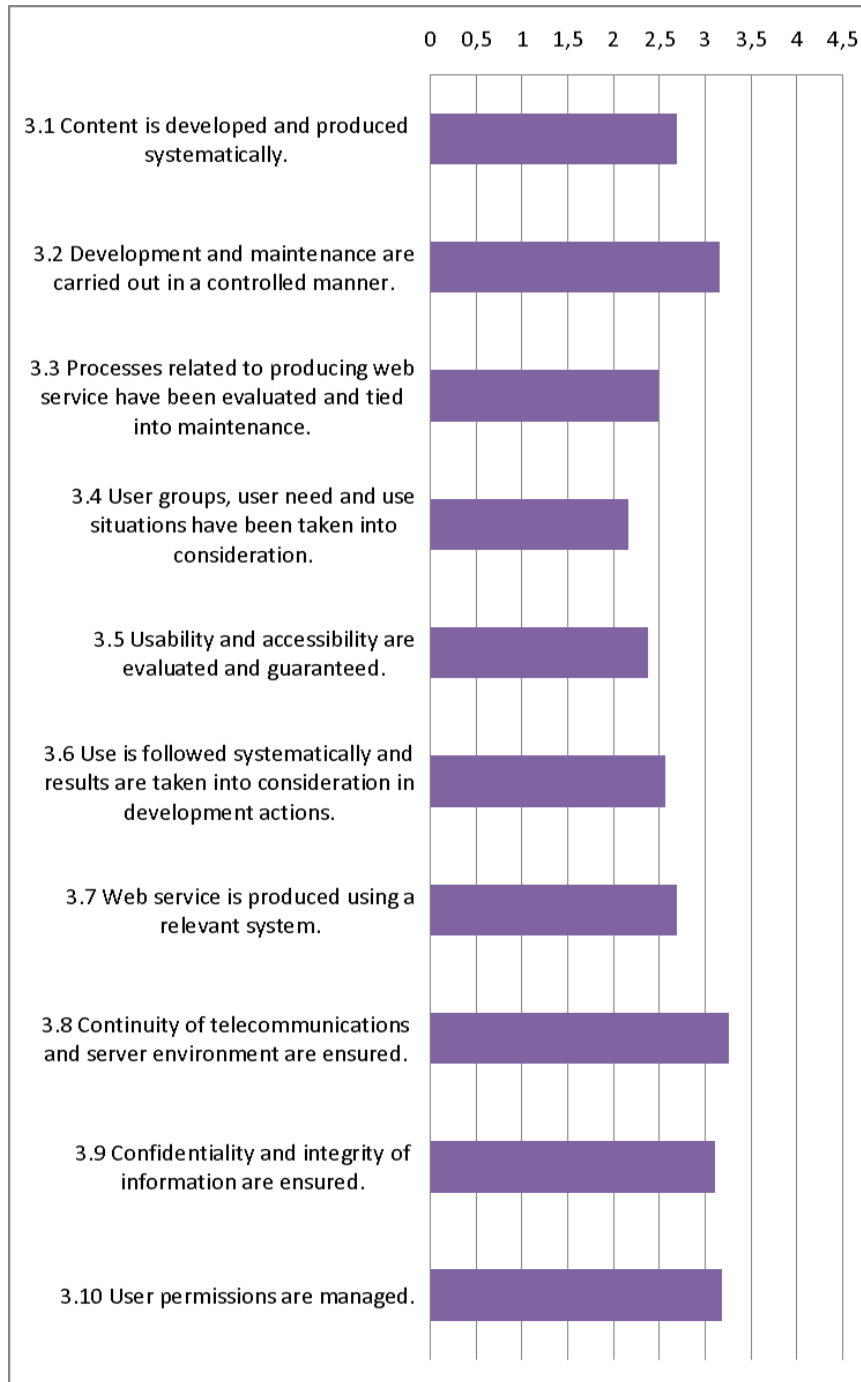


Figure 9. Average scores for criteria within production

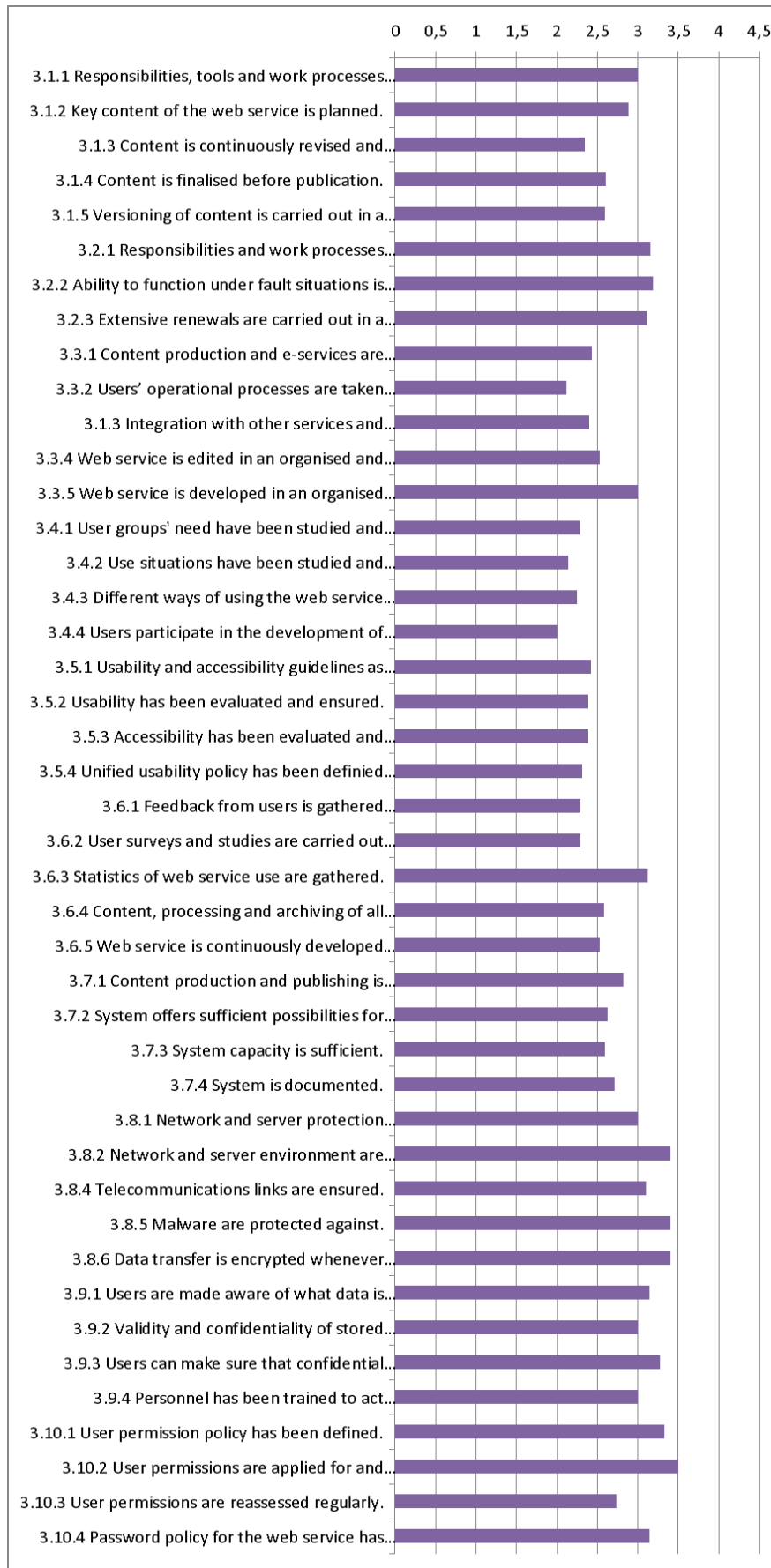


Figure 10. Average scores for subcriteria within production

As for subcriteria, the same areas received the lower scores. Statement 3.4.4 “Users participate in the development of the service” (Käyttäjät osallistuvat palvelun kehittämiseen) received the lowest score (average 2,0) of the subcriteria in this section. This would seem to tie in with the finding with regard to benefits to users discussed above in chapter 4.2. Also, subcriteria 3.6.1 “Feedback from users is gathered consistently” (Käyttäjien palautetta kootaan jatkuvasti) and 3.6.2 “User surveys and studies are carried out regularly throughout the life cycle of the service” (Käyttäjäkyselyitä ja - tutkimuksia tehdään säännöllisesti verkkopalvelun elinkaaren aikana) received lower average scores as did subcriteria 3.3.2 “Users’ operational processes are taken into consideration in web service design” (Käyttäjien toimintaprosessit on huomioitu verkkopalvelun suunnittelussa) and 3.4.2 “Use situations have been studied and needs stemming from them taken into consideration” (Käyttötilanteita on tutkittu, ja niiden luomat vaatimukset on otettu huomioon).

4.4 Other findings

One of the key findings from the survey did not stem from the actual assessments or survey questions. Rather, the large number of questions that were left unanswered as well as reactions and feedback received both verbally and through open comment fields in the survey clearly show that members of staff lack relevant knowledge about different tasks, processes, roles and responsibilities related to the management and production of web services. In the open comment fields of the survey, the comment “En tiedä” (I don’t know) was repeated throughout the survey. Some of the comments also showcased uncertainty:

If the questions referred to how well the structure and content of the web service correspond with FNBE’s task, this is achieved well. If functional objectives and quality objectives are used to refer to specifically defined principles, I am not quite certain. (translation from Finnish)

Comments also included:

It is impossible to know these things if you are not working in the unit in question!
(translation from Finnish)

Not enough knowledge to actually express an opinion on statements.
(translation from Finnish)

There were too many questions regarding issues that users have no knowledge about.
(translation from Finnish)

In the light of these answers, it is clear that organisational learning is required in order for web communication processes to be improved and the knowledge base with regard to web services, their management and production within the organisation broadened.

5 Findings from the focus group discussions

Findings from the online survey indicated certain development areas with regard to the quality Oph.fi web service. In order for the quality development to be planned further and initiated, cooperation between different departments and functions was needed. In this chapter, I will discuss findings from focus group discussions that were held in the form of an internal working group consisting of experts and that was set up to discuss the results from the survey.

As Lehtimäki & al. suggest, when using the criteria as a tool for a quality assessment project, versatile expertise and cooperation between internal stakeholders are necessary. Moreover, the assessment project can serve as a learning process for the organisation. (Lehtimäki & al. 2012, 31.) In order for all key roles and functions to be represented in the discussions, members of the working group included

- two webmasters (the researcher included)
- a communications expert
- an ICT specialist responsible for servers
- the head of data administration
- two main users of the content management system used to produce the web service
- two key user of the content management system used to produce the web service
- the deputy director general representing the management and acting as head of communications within the FNBE at the time of the study.

The working group held two meetings to share their views on the results from the initial quality assessment and make suggestions on how the quality of the web service can be further improved. The structure and implementation of the focus group discussions is discussed in more detail in chapter 3.4 above. As web service development requires actions and resources from different departments and units within the agency, the

group also served as a forum for organisational learning and knowledge-sharing which, based on the findings from the survey, was found to be lacking.

5.1 Initial results and impressions

The development group held its first meeting two days after the survey had closed to discuss the preliminary findings and decide on the next steps of the process. Results from the survey were presented on a general level to provide participants a starting point for planning future actions.

Participants were asked to share their initial impressions of the survey and its findings. The group expressed a view that the criteria should be treated as ideals to strive for rather than viewing them as criteria that must be met in all areas. Participants also felt that some criteria were more relevant for Oph.fi than others since the quality criteria are created for assessing any public web service. It was pointed out by the participants that the average of 3 can be considered a fair result as it can be understood to mean that expectations have not been let down, and respondents within the organisation tend to be quite critical towards the agency's own services. The general feedback was that the initial results provided a telling trend and that areas that need development were already visible.

During the discussion, it became evident that there was some ambiguity among participants regarding the concept of the Oph.fi web service. For example, a representative of data administration expressed that he had viewed the criteria from the perspective of the content management system rather than assessing the quality of the web service visible to the end user. Also, open comments to the questionnaire indicated that some FNBE employees were not clear on the distinction between external web services and the agency's intranet. Based on these findings, it became clear that there is a genuine need for more discussion and internal communication to clarify what Oph.fi web service is and what it entails, also among those participating in its production and management.

It was also brought up in the discussion that there are several strategy-level questions that need to be resolved with regard to Oph.fi, its role and benefits to the organisation and users. For example, discussion on the result of statements 2.3.2 “Users have the opportunity to influence the producing organisation's operations” and 2.3.3 “Users have the opportunity to influence societal issues using the web service” divided opinions and raised several questions. Despite the fact that these statements received the lowest scores of the survey, it was generally agreed to be positive that even some of the respondents felt that the web service provides users the opportunity to impact issues and that the score for the statements was not a flat zero. It was pointed out that for example the opportunity to comment on drafts for new curricula and the chance to send feedback and comment on blog posts are ways for providing users with means for having their say. However, it was unanimously agreed upon that there was a need for further discussion on whether Oph.fi should provide users with more opportunities for interaction and impact or whether the web service should focus on simply providing information. This, in turn, led to the suggestion that FNBE should define more clearly which target groups and user needs Oph.fi focuses on serving.

It was pointed out that it is noteworthy and important that FNBE staff feel that Oph.fi is beneficial in that it increases efficiency and creates cost savings (2.1.2 “Web service produces cost savings and increases productivity”) as this helps motivate employees and management to invest resources into developing the web service. Potential for cost savings and increased productivity were seen to stem from Oph.fi providing stakeholders with relevant information and reducing time spent on providing individual stakeholders guidance and advice. However, it was agreed that in order for the web service to fully serve its purpose in creating savings and increasing productivity, input and feedback from external users is also needed. It was agreed that developing the content, structure and functionality to serve users better is essential. In order to take the user perspective into consideration, findings from previous user surveys should be studied and, at a later stage, use and content also evaluated based on Lehtimäki & al.'s quality criteria.

At the end of the meeting, everyone expressed willingness to participate in the work of the development group. It was agreed that content experts should also be consulted when planning the development of the web service as they constituted the most enthusiastic respondent group. It was pointed out that oftentimes content experts are more critical towards web services as they are highly concerned with their own subject matter being easily found online and, therefore, content experts from several different units should be consulted. It was decided, however, that content experts are not invited for the initial meetings but consulted during later stages of quality development based on decisions regarding which areas need to be developed most.

The group requested that the researcher provide a more detailed analysis of the most relevant results for Oph.fi to serve as a basis for more in-depth discussion on which areas are to be developed and how. It was decided that the researcher prepare a focused presentation of results with initial prioritisations for the next meeting. Based on these, the group would decide on the direction and guidelines for development and smaller working groups could focus on more specific issues. It was agreed that after the second meeting, development areas needing input from top management would also be processed further.

5.2 Key development areas and proposed actions

The development group held its second meeting two and a half months after the first session. Participants were sent a summary of the most essential results by email three days prior to the meeting along with a request to orientate towards discussing the following questions stemming from findings from the survey:

- What is the purpose of Oph.fi, what does FNBE want to achieve with the web service? What are the goals and objectives of the web service?
- What are the primary target groups and demands the web service should serve?
- What is the role of Oph.fi: one-way informing or (at least some level of) two-way communication/interaction with users?
- How should production, maintenance and content be developed in order for it to match/be part of operational processes?

- What kind of cooperation is needed? How should cooperation be developed?
- How should usability and accessibility be developed? Which level should Oph.fi strive for?

The material sent to the group prior to the meeting included figures showcasing the areas where overall average scores were lowest as well as areas where there was significant variation between different respondent groups. In the meeting, the researcher presented the key results from the survey and tied them into the questions presented above for the group to discuss.

First, results for statements related to web service management were discussed. The group started the discussion by sharing their thoughts on reasons why statement 1.1.3 “Quality goals have been defined for the web service” had received a score that was below average. It was noteworthy, however, that management had scored the sub-criterion higher than other respondent groups. This result was tied into discussion on the topic of the purpose and objectives of the Oph.fi web service with regard to the agency’s other web services.

Discussion on purpose and objectives of Oph.fi ranged from fulfilling legal obligations to emphasising the strategic value of the web service. The starting point for discussion was that one of the main objectives for the web service is to reduce the number of phone and email contacts from individuals and ensure that target groups can find information and conduct their business with FNBE online. In addition to increasing efficiency within the organisation, providing current and up-to-date information is a legal obligation of the agency. As for a more strategic perspective into the objectives of the web service, it was suggested that Oph.fi should aim to reflect the values of the organisation, such as openness and trust, by ensuring that the web service provides opportunities for work and information based interaction with the organisation’s stakeholders and ensuring that use and content create a reliable image of the organisation. Ensuring that content is clear and up-to-date, structure is logical and easy to navigate and the site is user-friendly and accessible can help create the desired image of the organisation. This objective could also be evaluated and measured. The content could focus more on

describing the role and responsibilities of FNBE rather than providing general information on the Finnish education system. Also, more focus could be placed on promoting the contents relevant to providing information steering to education providers and education professionals in order to support them in executing national education development strategies and programmes. It was agreed that as the new strategy for FNBE is being drawn up, more focus should be placed on examining how strategic objectives are reflected in and promoted through the web service.

Discussion on providing information was closely linked to the discussion on the target groups for the web service. The group was divided on the question whether Oph.fi should serve as an information channel for anyone interested in education or whether it should focus on more specific target groups central to the agency's field of operations, such as education professionals and education providers. During previous content development phases of the web service, the objective has been to provide information to different target groups in different sections of the web service. Some participants felt that Oph.fi should tend solely to the need of education officials and administration, and the web service should be developed more towards a digital desktop providing all necessary information and tools for this target groups. Others felt that the web service should not strictly rule out any potential users as anyone can end up on the site but rather serve as an information hub redirecting users to different sources of education information. It was also pointed out that it would be in the agency's strategic interest to reach out more to media and decision makers also via the agency's web services to participate in societal debate on education policy issues. In the discussion, it became clear that there is no clear consensus on the target group of Oph.fi and that there is currently some overlap between the agency's different web services, mainly Oph.fi, Edu.fi, Opintopolku.fi and the national education cloud service being planned. It was generally agreed that there is a clear need for a structured and comprehensive enquiry into the concepts and future relevance of different web services.

Next, issues related to criterion 1.4. "Web service is managed" and its subcriteria were discussed. Subcriterion 1.4.3 "Management follows web service and defines policy for further development" received the lowest average of all statements in the survey. All

respondent groups scored the statement systematically low. Webmasters pointed out that if Oph.fi is to be developed as a strategic tool and resource for the organisation, top management should be actively involved when planning its development. It was agreed that web communications have good access to decision making as communications are directly supervised by Deputy Director General and communications team is also represented in executive board meetings. However, discussion concerning the web service is often centred on content published in the web service with technical and concept development taking back seat in the discussion. It was also pointed out that executive board discussions on web service issues are often covered under “other issues” and not documented in the minutes. Due to this, FNBE staff does not receive information that web communications are covered in the meetings or receive information on the desired direction of web service development.

The group agreed that in order for the potential for continuous development and strategic value of the web service to be realised, a long-term development plan for Oph.fi should be drawn up. It was also agreed that there is a clear need for a comprehensive web service strategy for all FNBE web services. In order for this to be realised, a thorough inquiry and assessment into the roles and concept of all web services is needed. Web services should be examined and evaluated in the larger context and in relation to one another to map out possible overlaps and potential synergies. These plans would not only benefit those responsible for the development of the web service but also provide main users, key users and content experts with a context and timetable for carrying out their responsibilities related to the web service. The development plan for Oph.fi and FNBE web service strategy would also provide a useful framework for evaluating the results and success of web communications.

With regard to the criteria related to management of the web service, subcriterion 1.4.2 “Roles and responsibilities related to web service have been defined” also ranked fairly low. It was pointed out that discussion on resources should not be limited to financial resources available but also cover time, skills and human resources. As for the members of the web update team, time constraints were seen to pose an issue affecting the resources available for updating information online. The web update team consists of

key users of the content management system responsible ensuring content falling within the area of responsibility of their unit is up to date online. As the majority of the members of the web update team are assistants in different FNBE units, they are also responsible for many other tasks in addition to updating information online. It was pointed out that many managers have not yet fully understood that updating information in the web service requires time and training, causing members of the web update team to struggle with balancing and prioritising between different tasks.

As for the skills pool available, it was agreed that closer cooperation with web communications professionals in Student admissions unit could benefit both communication teams and the organisation at large. It was also suggested that centralising all web communication tasks and positions into one organisational unit might serve as a means for creating synergy benefits in producing and managing different web services.

Discussion on possible forms of cooperation was continued with regard to the low average that statement 1.5 “Cooperation is taken advantage of in developing web service” and its subcriteria received. In addition to strengthening cooperation with communications professionals working in Student admissions, the group found that cooperation between communications and data administration could be further developed. Cooperation is already working well in issues related to maintaining and developing the server environment but there could be more systematic collaboration and dialogue regarding enterprise architecture and technology choice issues. Also, webmasters working in communications expressed a wish that data administration could assume a more active role in small-scale software development and tendering projects related to the production of the web service. Webmasters also wished to receive more information on ongoing data administration and data security projects. It was also pointed out that data security audits and preparation for denial of service attacks could be part of cooperation between the two functions. It was suggested that the biannual update of FNBE system portfolio could serve as a concrete tool for carrying out cooperation between web communications and data administration. In context with the update, actions naturally falling within the stage of web service’s life cycle could be discussed and planned.

As for strengthening cooperation with other FNBE units, the group agreed that web update team serves as a useful forum for sharing information with units' representatives. It was also agreed that the group should be kept more informed on development actions related to the web service. Webmaster pointed out that plans have already been made for systematically going through the contents of the web service together with members of the web update team and content experts from the units. It was, however, agreed that experts need regular reminders that they are responsible for ensuring that information related to their area of expertise is kept up to date. The group found that info sessions at manager meetings have been useful and regular presentations in these meetings should be continued. Also, news on the intranet are needed to inform the entire staff of current development projects related to the web service.

Another useful form of cooperation was found to be benchmarking with organisations working in the same branch of administration. It was pointed out that cooperation is typically carried out in context with projects and campaigns but there is no regular forum for experience-sharing and benchmarking with regard to overall web communications. It was suggested that forms and forums for this cooperation be considered and proposed to organisation such as Centre for International Mobility and Academy of Finland operating in the same premises as FNBE. Also, FNBE could request that web communication be covered regularly in administrative branch communications meetings organised by the Ministry of Education and Culture.

Next, the group moved on to debate how the benefits users receive from the web service could be increased. In the survey, criterion 2.3 "Web service supports users' opportunities to influence issues" and its subcriteria received the lowest overall score of the survey. The group was asked to discuss whether the role of Oph.fi should be one-way informing or if at least some level of interaction and two-way communications should be included in the web service. It was pointed out that user participation and interaction are relatively new phenomena but already some actions have been taken to explore the potential of two-way communications, such as utilisation of blogs and open online commenting of core curricula drafts.

The group agreed that opening the core curricula and qualification requirement drafts for open online commenting has been a successful initiative and generated positive feedback from both users and FNBE staff. Providing users opportunities to influence societal issues through similar online processes was found to be a good direction for user engagement. It was emphasised that changes in operational culture take time and it is important that interaction be included in the overall planning of processes in order to ensure that it has a clear purpose and that gathered feedback is utilised in a structure manner. The group suggested that long-term development plans for the web service could further explore how interactive features and components can be utilised and developed.

It was worth noting that subcriterion that received the lowest score with regard to users opportunities to influence was in fact 2.3.2 “Users have the opportunity to influence the producing organisation’s operations”. Possible reasons and implications of this result were discussed in detail. It was suggested that the result may be related to the fact that users cannot find the right place for sending feedback or they do not receive a proper response to their feedback. It was established that producing a web service that does not provide users a chance to give feedback to the organisation on its operations and receive a relevant response does not reflect well on the reputation of FNBE. It was agreed that developing the feedback process would benefit not only the users but also the organisation. Currently, the only automated response to their feedback users receive is a pop-up window stating that their message has been sent. Messages from the website are directed to a shared inbox managed by the communications team. Members of the communications team forwards the messages to subject experts but have no structured way of controlling whether experts respond to the feedback they receive.

The group suggested two solutions to the situation to increase transparency in the feedback process. The first option would be to develop the web service so that relevant content experts’ names and email addresses would be automatically published on each page enabling users to contact them directly. It was pointed out that this might,

however, increase the number of contacts from individuals seeking guidance and burden certain experts excessively. The second option was found to be perhaps more favourable and consisted of taking a service request ticketing system in use in Oph.fi to manage feedback. The system would allow feedback to be divided into different categories and representatives of units to manage the categories falling within their unit's field of responsibility. The ticketing system would also enable system administrators to monitor the feedback process and ensure users receive a response to their feedback.

As for subcriterion 2.3.1 "Users have the opportunity to influence the web service", the group agreed that end user surveys should be carried out regularly. This tied into the discussion on the findings related to criteria 3.4 "User groups, user need and use situations have been taken into consideration" and 3.5 "Usability and accessibility are evaluated and guaranteed" that also received relatively low scores in the survey. It was pointed out that user surveys and studies help FNBE gain insight into users' wishes and needs. The importance of usability studies, use statistics and user flow were also emphasised in planning future development of the web service. The group suggested that the FNBE executive board should discuss and decide on the profile of the desired users for the web service in order for web communications to assess whether all necessary target groups are reached. It was also pointed out that statistics on the use of Oph.fi might also interest management and encourage them to take a more active role in the development of the web service.

As for accessibility, both technical and linguistic aspects were discussed. With regard to the technical availability of the web service, the group emphasised the importance of ensuring that both server and software availability monitoring be taken into use in order for statistical information on the issue to be available. In addition to this, more emphasis should be placed on compatibility with different devices and operating systems. The group also pointed out that the information content of the web service should be developed to incorporate more elements of clear language in order for linguistic accessibility to be realised.

With regard to criterion 3.3 “Processes related to producing web service have been evaluated and tied into maintenance” and its subcriteria, the group discussed how the production, maintenance and content of the web service could be tied more closely into operational processes of the FNBE and users of the web service. The group saw the recently commenced work of the web update team as one way of creating synergy between the operational processes carried out in FNBE units and the processes related to the production of the web service. As for taking users’ operational processes into consideration in web design, the group pointed out that the web service does not offer users the possibility to complete their transactions online as Oph.fi currently incorporates few e-service elements. It was pointed out that the structure and content of the web service have been designed from the organisation’s perspective. Due to this, more focus should be placed on facilitating and guiding users’ actions. This should be taken into consideration when planning future user studies. The group agreed that top management should decide on whether the web service should be developed to serve the needs of the organisation rather than the users, or vice versa.

6 Conclusions

This final chapter of the thesis summarises the key findings from both the survey and the focus group discussions. The chapter also discusses some of the actions already taken based on findings from the study and offers recommendations on how the quality of Oph.fi web service can be further increased in the future.

Findings from the online survey showed that development areas of Oph.fi web service arise from engaging and involving users with regard to both production and benefits. As for benefits, decision needs to be made whether Oph.fi will be developed towards a more interactive web service providing citizens with opportunities to participate and influence issues. With regard to production, discussion on how users' needs, operational processes, use situations and opinions are taken into consideration in the production of the web service is needed. Also, questions of usability, accessibility and integration with other systems and databases could be further developed. In addition to these, processes should be developed in order for content to be more current and up-to-date. As for management, matters requiring further study would seem to be related to resources and the role of management in the development of the web service. Also, cooperation with other services could be further looked into. Responses to the survey also indicated that there is a clear need for developing internal communications and knowledge sharing with regard to the web service, its production and management to ensure members of the FNBE staff understand what the web service is and what it entails.

As for the focus group discussions, several clear themes arose from the views expressed by members of the expert panel. Firstly, the need for more information sharing and communications with regard to the role and development of the web service was called for with regard to web service management. Development suggestions in this area included bringing the web service up for executive board discussions more often in order to raise awareness within the top management and staff of its strategic significance and planned development actions. It was also pointed out that units need more information on the time and other resources required of them to keep content updated

online. Presentations at manager meetings along with intranet news items and cooperation through the already established web update team were suggested as means for achieving this.

The second theme arising from the focus group discussions can be seen to concern web service strategy and development policy which is related to not only management but also to benefits and production. Several development needs in this area were recognised, such as the need to define whether Oph.fi will be developed to allow for more interaction with users or whether it should focus on being a channel for informing. Also, the need to clearly define the target groups, user needs and the role of Oph.fi in carrying out organisational strategy were brought up in discussions. The group suggested that a comprehensive enquiry on the agency's different web service and their roles be carried out in order to eliminate possible overlaps between web services, and a web service strategy for Finnish National Board of Education developed. It was also suggested that a more long-term development plan for Oph.fi be drawn up where issues such as aspired level of interaction could be defined.

Thirdly, benefits related to service offered to users and increased productivity within the organisation arose as a theme in the discussions. The group felt that in order to create further cost savings, the web service should be developed to serve users better. In order to do this, input from users and insight into their needs is required. The group suggested that findings from previous user surveys be studied and the web service evaluated also in the areas of content and use based on Lehtimäki & al.'s criteria. In addition to this, the group proposed that regular user surveys and studies be carried out and feedback system developed. It was also suggested that, with regard to web service production, the use of statistics be developed in order to gain insight into user behaviour in the web service in order to guide and facilitate their operational processes better. With regard to production – and accessibility and availability in particular –, the group found it important that server and software monitoring be ensured and content developed with regard to clear language in order to ensure also linguistic accessibility of the web service.

The fourth and final theme arising from the discussions was related to cooperation. The group found that cooperation between web communications experts working in Communications and in Student admissions should be strengthened. In addition to this, cooperation with data administration in issues such as procurement, data security audits, architecture and software development could be beneficial to both parties. As for cooperation with units, the group suggested that work with the web update team be continued and also content experts included and consulted in web service development. The idea of benchmarking with similar government agencies was also brought up in the discussions.

6.1 Development actions initiated based on findings from the study

As mentioned above, certain development actions have already been taken based on the findings from the study. Firstly, the focus group discussions carried out during the research process already served as a new kind of forum for organisational learning and knowledge-sharing related to web services which, based on findings from the survey, was found to be lacking. Gathering professionals with different expertise around the same table to discuss the objectives and process related to Oph.fi can be seen as the first step in creating a more comprehensive and inclusive model for exploring the production, management and potential benefits of the web service. It can be argued that that the act of carrying out action research in the context of the web service has fulfilled its purpose in producing knowledge, cooperation and professional development together with the people concerned with the issue (see Coughlan and Coughlan 2002, 222–223; Kananen 2009, 9; Reason and Bradbury 2007, 1–2; Saunders et al. 2009, 148). The quality assessment in itself can, therefore, be said to have served as a learning process for the organisation as suggested by Lehtimäki & al. (2012, 31).

Also other steps have been taken in order to improve internal communications related to the web service. For example, the web update team has continued its work to map out and clarify the responsibilities related to the contents and updates of the web service. More focus has been placed on informing the team on technical development of Oph.fi and the content management system in order to engage them in the production process. In addition to this, findings from the survey have been discussed in the meet-

ings to provide members of the team insight into the more long-term and comprehensive development of the web service. In addition to this, FNBE web communication experts have held regular presentations in manager meetings on different topics related to the web service. News items on web communications issues, such as developments in the use of the web service based on statistics, have been published on the agency's intranet. As for developing cooperation between different parties, the idea of unifying processes within different communications functions have been initiated after the survey. The possibility of all tasks related to communications being centralised into the same unit was discussed during the summer 2014. However, decisions on the issue were postponed until a later date pending other organisational changes and finalisation of ongoing projects. These efforts to widen the knowledge base and to increase cooperation related to production and management of web services can be seen as fulfilling two of the key responsibilities of organisational communication, namely, connecting different actors and fostering immaterial capital as suggested by Lehtonen (2000, 193).

As for Lehtonen's (ibid) third perspective viewing organisational communication as a function with specified performance measures, preliminary work on developing quality objectives and performance indicators for the web service has been initiated. The use of statistics has been developed and units have been offered a chance to receive regular email reports on the use of contents they are responsible for. This option has proved popular and been welcomed warmly. Negotiations regarding usability and optimisation workshops with external consultants are ongoing. Findings from previous studies as well as latest statistics would be utilised as a basis for the workshops. The order of a more versatile server and software monitoring tool is also under negotiations to ensure accessibility and availability of the web service. Training on clear language and writing for the Web has been organised for the web update team in order to improve the linguistic accessibility of information in Oph.fi. During the summer 2014, a large part of the web service's content was also language checked by an expert on clear language.

In order to make the production of the web service more efficient and thus increase the benefits of the web service to the organisation, preliminary work on tying maintenance more closely into the agency's operational processes has also been initiated in

certain areas. For example, plans for developing processes related to sending out press releases and announcing government grants has been commenced together with units and individuals responsible for these processes. Development work on benefits to the users with regard to interaction and transparency have been continued by extending the open online commenting already utilised in curricula development for preschool and basic education to cover also vocational qualification requirement renewal. Plans to utilise online commenting for curricula renewal for general upper secondary education are also underway. These efforts to increase interaction and transparency can be seen as important step towards implementing citizens' fundamental right to participation and influence particularly emphasised in the Central Government Communications Guidelines (2010, 11). The development can also be seen as a shift towards realising the potential of the Web as a fundamentally interactive tool as proposed by Lehtonen (2008, 167–168) in his discussion of five web communications paradigms.

With regard to management of Oph.fi, it was unanimously agreed that there is a clear need for a structured and comprehensive inquiry into the concepts and future relevance of different web services. It was also suggested an inclusive web service strategy be prepared for approximately next five years. In June 2014, an internal working group was appointed to define web service policy and clarify web service concepts with regard to the several different online services maintained and developed by FNBE. The group began its work in August of the same year with the goal of finalising its proposal during the autumn term. As for the focus group's suggestion regarding more long-term planning, work on a comprehensive development plan and definition of policy and process for Oph.fi was begun in autumn 2014. The plan also aims to focus on emphasising the strategic significance of the web service to the overall organisation as the ongoing strategy work takes clearer shape during the coming months. When finalised, the draft is to be presented to FNBE top management for discussion and decisions regarding strategy level issues related to the web service.

In order to clarify the roles and processes related to web service management within the organisation, a proposal regarding the model for managing the agency's web services has been put forth by the FNBE web communications experts based on findings

from the study. The model presented in Figure 11 follows Åberg's (2002, 227–245) three-level framework of communication management. The more comprehensive organisational web service strategy providing guidelines for overall website and e-service development can be seen to represent the strategic level of web service management and serve as a basis for all other levels of planning. As for the tactical level, the long-term development plan for Oph.fi can be seen to fulfil the tasks of mapping out, coordinating and allocating resources and creating web communications guidelines. Finally, the annual plan for Oph.fi is more concerned with what Åberg calls the operative level, namely, short-term planning and issues such as budgeting. Together, these three levels of planning can be seen to constitute a comprehensive model for web service management.

Also, tasks and responsibilities related to the production of the web service are presented in the model. Web service production has been broken down into three subsections – that is, content, software and servers – each with specified responsibilities. According to the proposed model, the overall coordination of activities related to maintenance and development of the web service remains with the agency's web communications experts who are responsible for ensuring and overseeing that tasks are carried out in compliance with web service strategy as well as the development plan and annual plan for Oph.fi.

The model emphasises the role of top management in following web service development in order to ensure all levels of web service management are in compliance with the agency's overall strategic planning. According to the proposed model, long-term plans are presented to top management for approval. Also, follow-up and evaluation is tied into annual web service performance appraisals presented to top management in context with each annual plan for Oph.fi. However, in order for the follow-up and evaluation to be carried out successfully, clear quality objectives and performance indicators for the web service need to be developed.

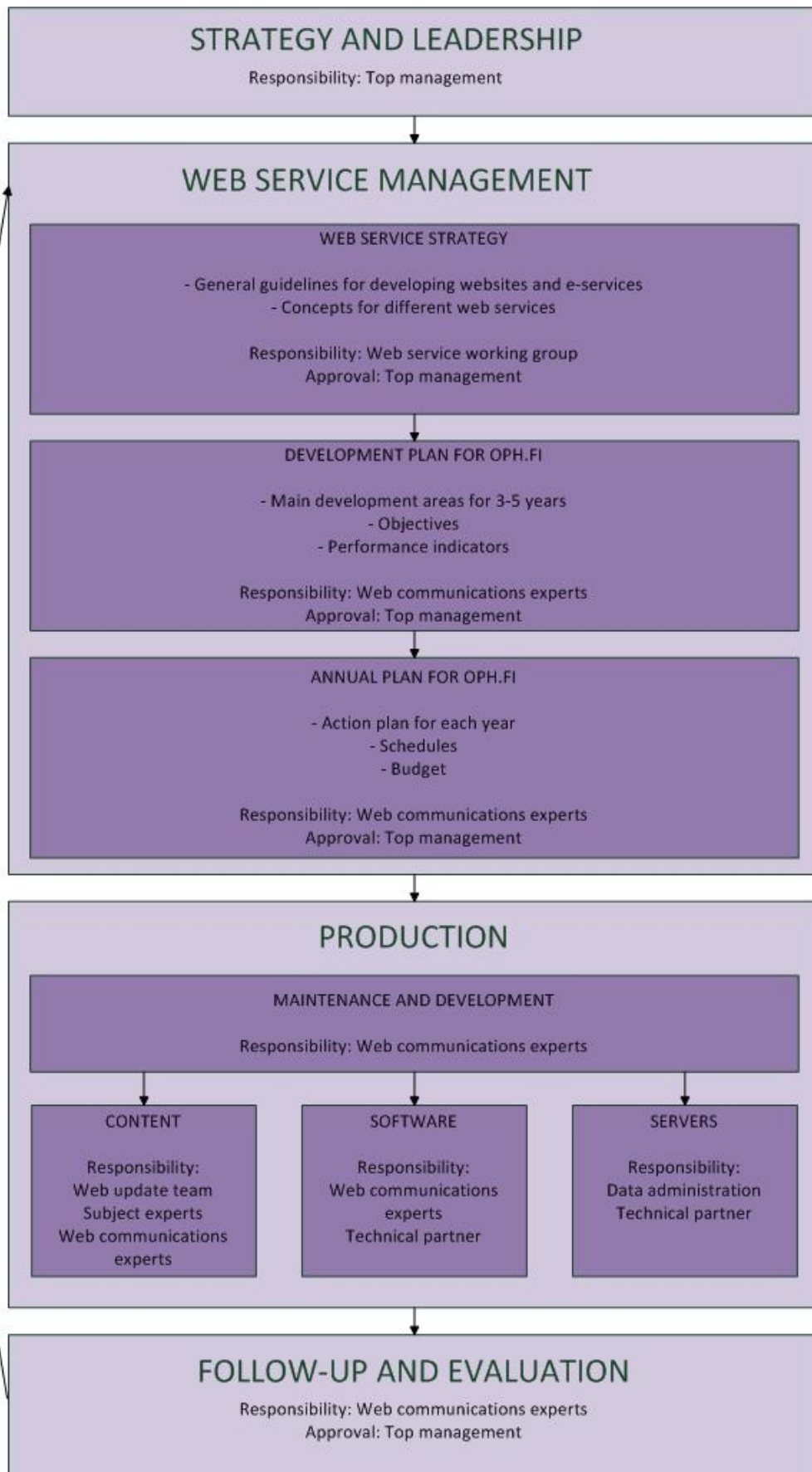


Figure 11. Proposed management model for Oph.fi web service

6.2 Further recommendations

It can be deemed positive that many developed actions have already been initiated within Finnish National Board of Education based on findings from the study. There are, however, further steps to be taken with regard to developing the quality of the Oph.fi web service in the future.

It is vitally important that enough resources are reserved and allocated to carrying out the plans that have been put into place. Sufficient human resources and time need to be made available for the development work to ensure that plans do not remain desktop exercises but are translated into concrete actions. It is also important that web service development is seen as a continuous process rather than viewing it as a series of fragmented development projects as has been done in the past. A fundamental shift is needed in order for the agency to fully realise that web communications are not just a part of organisation's communications but part of its operations as suggested by Pohjanoksa, Kuokkanen and Raaska (2007, 11).

The long-term plans related to web service strategy and development plan for Oph.fi together with the proposed management model can and should serve as a framework for achieving this change in the organisation's thinking and working culture. In order for this to happen, however, further efforts are needed in the area of engaging top management in steering and following the development of the web service. More input from top management is needed in order for the strategic potential of the Oph.fi to be fully realised and for web service development to be tied more closely into the overall organisation's strategic objectives.

Also, clear quality objectives and performance indicators for the web service need to be developed in order for the success of the development actions to be measured and evaluated. Benchmarking with other organisations, statistics on web service use, regular user surveys and studies as well as repeat evaluation based on Lehtimäki & al.'s quality criteria can serve as useful tools for defining these objectives and monitoring how they are met. It would also be beneficial for the quality evaluation to be extended to cover the areas of content and use not included in this study.

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Appendices

Appendix 1. Online survey



Opetushallituksen verkkoviestinnän ja Oph.fi laatuarviointi

Olemme toteuttamassa laatuarviointia Opetushallituksen verkkoviestinnästä ja Oph.fi-verkkopalvelusta. Laatu arvioidaan viestinnän ylläpitämien verkkopalveluiden johtamisen, hyötyjen ja tuotannon näkökulmasta.

Kyselyssä esitetään väittämiä verkkopalveluiden laadusta ja verkkoviestinnän toiminnasta. Arvioi asteikolla 1-5, miten asiat mielestäsi toteutuvat tällä hetkellä (1=ei lainkaan, 5=kiitettävästi). Voit halutessasi kirjata lisätietoja, kokemuksia ja muita kommentteja kyselyn avoimiin kommenttikenttiin.

Vastaa kysymyksiin oman tietämyksesi tai mielikuvasi perusteella, nykytilanteeseen perustuen. Jos et osaa vastata johonkin kysymykseen, jätä kohta tyhjäksi.

Arviointi perustuu valtionvarainministeriön hankkeessa kehitettyyn julkisten verkkopalvelujen laatukriteeristöön. Kyselyn vastaukset auttavat määrittämään verkkoviestinnän tulevien vuosien kehittämiskohteita.

Lisätietoja: Verkkoviestinnän asiantuntija Kaisa Enakimio, kaisa.enakimio@oph.fi





Taustamuuttajat

Rooli: < Valitse >





1. Johtaminen

Johtaminen-arviointialueen kriteerit koskevat verkkopalvelun ja sen kehitystyön johtamista organisaatiossa. Johtamisen laatuun liittyvät palvelun strateginen suunnittelu sekä palvelutuotannon organisointi ja seuranta.

1.1 Verkkopalvelu tukee organisaation strategiaa ja tavoitteita.

1.1.1 Verkkopalvelu tukee organisaation tehtäviä ja tavoitteita.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.1.2 Verkkopalvelulle on määritelty toiminnalliset tavoitteet.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.1.3 Verkkopalvelulle on määritelty laatutavoitteet.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

1.2 Lainsäädännön vaatimukset verkkopalvelulle on selvitetty ja otettu huomioon.

1.2.1 Sovellettava lainsäädäntö on selvitetty.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.2.2 Sisällön tuottamisessa ja sisällönhallinnassa noudatetaan lainsäädäntöä.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.2.3 Teknisessä toteutuksessa otetaan huomioon lainsäädäntö.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

1.3 Verkkopalvelun kehittämispäätökset ovat perusteltuja.

1.3.1 Perustelut verkkopalvelun uudistamiselle tai kehittämiselle on selvitetty.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.3.2 Kehittämisen hyödyt ja kustannukset on selvitetty.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.3.3 Kehittämispäätöksessä on otettu huomioon uuden tekniikan ja uusien palvelukanavien mahdollisuudet ja uhat.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.3.4 Verkkopalvelun jatkuvaan kehittämiseen on varauduttu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit





1. Johtaminen

Johtaminen-arviointialueen kriteerit koskevat verkkopalvelun ja sen kehitystyön johtamista organisaatiossa. Johtamisen laatuun liittyvät palvelun strateginen suunnittelu sekä palvelutuotannon organisointi ja seuranta.

1.4 Verkkopalvelua johdetaan.

1.4.1 Verkkopalveluun liittyvät vastuut ja tehtäväkuvat on määritetty.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.4.2 Verkkopalvelulla on käytössään strategian ja tavoitteiden mukaiset resurssit.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.4.3 Johto seuraa verkkopalvelua ja linjaa palvelun jatkokehittämistä.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.4.4 Henkilöstön osaamista kehitetään ja ylläpidetään.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.4.5 Palvelusopimukset sekä yhteistyöhön ja ulkoistamiseen liittyvät sopimukset on tehty asiantuntevasti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

1.5 Kehitystyössä on hyödynnetty yhteistyöstä saatavia etuja.

1.5.1 Yhteistyömahdollisuudet muiden palveluiden tarjoajien kanssa on selvitetty.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.5.2 Yhteistyömahdollisuutta on hyödynnetty tarkoituksenmukaisesti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit





1. Johtaminen

Johtaminen-arviointialueen kriteerit koskevat verkkopalvelun ja sen kehitystyön johtamista organisaatiossa. Johtamisen laatuun liittyvät palvelun strateginen suunnittelu sekä palvelutuotannon organisointi ja seuranta.

1.6 Verkkopalvelusta viestitään ja sitä markkinoidaan.

1.6.1 Verkkopalvelu sisältyy organisaation strategisiin viestintä- ja markkinointisuunnitelmiin.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.6.2 Markkinointiin ja viestintään on varattu riittävät resurssit.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.6.3 Verkkopalvelusta tiedotetaan kohderyhmille ja sidosryhmille.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.6.4 Verkkopalvelusta tiedotetaan omalle henkilöstölle.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

1.7 Poikkeustilanteet on otettu huomioon.

1.7.1 Verkkopalvelu on mitoitettu sen tärkeyden mukaisesti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.7.2 Verkkopalveluun liittyviin poikkeustilanteisiin on varauduttu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.7.3 Organisaation toimialaan liittyviin kriisitilanteisiin on varauduttu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

1.7.4 Kriisiviestintään on varauduttu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit





2. Hyödyt

Hyödyt-arviointialueen kriteerit käsittelevät verkkopalvelun käyttäjän ja sen tuottajaorganisaation saamia hyötyä.

2.1 Verkkopalvelusta on hyötyä organisaatiolle.

2.1.1 Verkkopalvelu tukee organisaation strategisten tavoitteiden toteuttamista.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

2.1.2 Verkkopalvelu tuottaa kustannussäästöjä ja lisää tuottavuutta.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

2.1.3 Verkkopalvelu luo organisaation tavoitteleman mielikuvan palvelun tarjoajasta.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

2.2 Verkkopalvelu tunnetaan hyvin.

2.2.1 Potentiaaliset käyttäjät tietävät verkkopalvelun olemassaolosta ja sen tarjoamista palveluista.

1 2 3 4 5

Ei toteudu

Toteutuu kiitettävästi

2.2.2 Verkkopalvelun kohderyhmät käyttävät verkkopalvelua.

1 2 3 4 5

Ei toteudu

Toteutuu kiitettävästi

Kommentit

2.3 Verkkopalvelu tukee käyttäjien mahdollisuutta vaikuttaa.

2.3.1 Käyttäjillä on mahdollisuus vaikuttaa verkkopalveluun.

1 2 3 4 5

Ei toteudu

Toteutuu kiitettävästi

2.3.2 Käyttäjillä on mahdollisuus vaikuttaa organisaation toimintaan.

1 2 3 4 5

Ei toteudu

Toteutuu kiitettävästi

2.3.3 Käyttäjillä on mahdollisuus vaikuttaa verkkopalvelun avulla yhteiskunnallisesti.

1 2 3 4 5

Ei toteudu

Toteutuu kiitettävästi

Kommentit





3. Tuotanto

Tuottaminen käsittelee verkkopalvelun toteuttamisessa, kehitystyössä ja ylläpidossa huomioitavia laatukysymyksiä. Tuottamisen laatua tarkastellaan palvelun rakentamisen, käyttäjäkeskeisyyden, sisällöntuotannon hallinnan sekä turvallisuuden ja toimivuuden näkökulmista.

3.1 Sisällön kehittäminen ja tuotanto on järjestelmällistä.

3.1.1 Sisällön ylläpidon vastuut, välineet ja työprosessi on määritelty.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.1.2 Verkkopalvelun keskeinen sisältö on suunniteltu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.1.3 Sisältöä tarkistetaan jatkuvasti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.1.4 Sisältö on viimeistelty ennen julkaisua.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.1.5 Sisällön versiointi tehdään hallitusti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

3.2 Kehittäminen ja ylläpito on hallittua.

3.2.1 Ylläpidon vastuut ja työprosessit on määritelty ja toteutettu sovitusti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.2.2 Toimintavalmiudet vikatilanteissa on varmistettu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.2.3 Laajat uudistukset toteutetaan suunnitelmallisesti ja hallitusti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit





3. Tuotanto

Tuottaminen käsittelee verkkopalvelun toteuttamisessa, kehitystyössä ja ylläpidossa huomioitavia laatukysymyksiä. Tuottamisen laatua tarkastellaan palvelun rakentamisen, käyttäjäkeskeisyyden, sisällöntuotannon hallinnan sekä turvallisuuden ja toimivuuden näkökulmista.

3.3 Verkkopalvelun tuottamiseen liittyvät prosessit on arvioitu ja kytketty ylläpitoon.

3.3.1 Sisällöntuotanto ja asiointijärjestelmät on kytketty organisaation toimintaprosesseihin.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.3.2 Käyttäjien toimintaprosessit on huomioitu verkkopalvelun suunnittelussa.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.3.3 Integrointi muihin järjestelmiin ja tietokantoihin on otettu huomioon.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.3.4 Verkkopalvelun toimittaminen on organisoitua ja suunnitelmallista.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.3.5 Verkkopalvelun kehittäminen on organisoitua.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

3.4 Käyttäjryhmät, käyttäjien tarpeet ja käyttötilanteet on otettu huomioon.

3.4.1 Käyttäjryhmien tarpeet on selvitetty ja otettu huomioon.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.4.2 Käyttötilanteita on tutkittu, ja niiden luomat vaatimukset on otettu huomioon.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.4.3 Erilaiset käyttötavat on otettu huomioon.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.4.4 Käyttäjät osallistuvat palvelun kehittämiseen.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit





3. Tuotanto

Tuottaminen käsittelee verkkopalvelun toteuttamisessa, kehitystyössä ja ylläpidossa huomioitavia laatukysymyksiä. Tuottamisen laatua tarkastellaan palvelun rakentamisen, käyttäjäkeskeisyyden, sisällöntuotannon hallinnan sekä turvallisuuden ja toimivuuden näkökulmista.

3.5 Käytettävyys ja saavutettavuus on arvioitu ja varmistettu.

3.5.1 Verkkopalvelulle on määritelty käytettävyys- ja saavutettavuustavoitteet sekä menetelmät niiden mittaamiseen.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.5.2 Käytettävyys on arvioitu ja varmistettu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.5.3 Saavutettavuus on arvioitu ja varmistettu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.5.4 Yhtenäiset käytettävyysperiaatteet on määritelty ja kirjattu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

3.6 Käytön seuranta on järjestelmällistä ja tulokset on otettu huomioon kehittämisessä.

3.6.1 Käyttäjien palautetta kootaan jatkuvasti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.6.2 Käyttäjäkyselyitä ja -tutkimuksia tehdään säännöllisesti verkkopalvelun elinkaaren aikana.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.6.3 Verkkopalvelun käytöstä kerätään tilastoja.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.6.4 Kaikkien seurantatietojen sisältö, käsittely ja arkistointi on määritelty.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.6.5 Verkkopalvelua kehitetään jatkuvasti ottamalla huomioon palautteet, seurannan tulokset ja uudet kehitysajat.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit



3. Tuotanto

Tuottaminen käsittelee verkkopalvelun toteuttamisessa, kehitystyössä ja ylläpidossa huomioitavia laatukysymyksiä. Tuottamisen laatua tarkastellaan palvelun rakentamisen, käyttäjäkeskeisyyden, sisällöntuotannon hallinnan sekä turvallisuuden ja toimivuuden näkökulmista.

3.7 Verkkopalvelu on tuotettu tarkoituksenmukaisella järjestelmällä.

3.7.1 Sisällöntuotanto ja julkaiseminen on tarkoituksenmukaista.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.7.2 Järjestelmän muokkaus- ja laajentamismahdollisuudet ovat riittävät.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.7.3 Järjestelmän suorituskyky on riittävä.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.7.4 Järjestelmä on dokumentoitu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

3.8 Tietoliikenne ja palvelinympäristö on turvattu.

3.8.1 Verkon ja palvelinten suojaustarpeet on määritelty ja dokumentoitu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.8.2 Verkko ja palvelinympäristö on asianmukaisesti suojattu ja valvottu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.8.4 Tietoliikenneyhteydet on varmistettu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.8.5 Haittaohjelmilta on suojauduttu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.8.6 Tiedonsiirto on salattu aina, kun se tiedon luonteen vuoksi on tarpeellista.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit





3. Tuotanto

Tuottaminen käsittelee verkkopalvelun toteuttamisessa, kehitystyössä ja ylläpidossa huomioitavia laatuksymyksiä. Tuottamisen laatua tarkastellaan palvelun rakentamisen, käyttäjäkeskeisyyden, sisältötuotannon hallinnan sekä turvallisuuden ja toimivuuden näkökulmista.

3.9 Tietojen luottamuksellisuudesta ja eheydestä on huolehdittu.

3.9.1 Käyttäjälle kerrotaan mitä tietoja hänestä kerätään ja mihin niitä käytetään.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.9.2 Tallennettujen tietojen oikeellisuus ja luottamuksellisuus on varmistettu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.9.3 Käyttäjä voi varmistua siitä, että luottamuksellisen sisällön on tuottanut luotettava taho.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.9.4 Henkilöstö on koulutettu toimimaan tietoturvaisella tavalla.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

3.10 Käyttöoikeuksia hallitaan.

3.10.1 Käyttöoikeusperiaatteet on määritelty.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.10.2 Käyttöoikeudet haetaan ja myönnetään hallitusti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.10.3 Käyttöoikeuksia arvioidaan uudelleen säännöllisesti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.10.4 Verkkopalvelulle on luotu salasanaikäytäntö, jota noudatetaan.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit





3. Tuotanto

Tuottaminen käsittelee verkkopalvelun toteuttamisessa, kehitystyössä ja ylläpidossa huomioitavia laatuksymyksiä. Tuottamisen laatua tarkastellaan palvelun rakentamisen, käyttäjäkeskeisyyden, sisältötuotannon hallinnan sekä turvallisuuden ja toimivuuden näkökulmista.

3.9 Tietojen luottamuksellisuudesta ja eheydestä on huolehdittu.

3.9.1 Käyttäjälle kerrotaan mitä tietoja hänestä kerätään ja mihin niitä käytetään.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.9.2 Tallennettujen tietojen oikeellisuus ja luottamuksellisuus on varmistettu.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.9.3 Käyttäjä voi varmistua siitä, että luottamuksellisen sisällön on tuottanut luotettava taho.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.9.4 Henkilöstö on koulutettu toimimaan tietoturvallisella tavalla.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit

3.10 Käyttöoikeuksia hallitaan.

3.10.1 Käyttöoikeusperiaatteet on määritelty.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.10.2 Käyttöoikeudet haetaan ja myönnetään hallitusti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.10.3 Käyttöoikeuksia arvioidaan uudelleen säännöllisesti.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

3.10.4 Verkkopalvelulle on luotu salasanaikäytäntö, jota noudatetaan.

	1	2	3	4	5	
Ei toteudu						Toteutuu kiitettävästi

Kommentit



Appendix 2. Agenda for development group meeting 28.11.2013

Participants

Deputy director general

Director, head of data administration

ICT specialist responsible for servers

CMS key users, 2 persons

CMS main user

Web communication experts, 2 persons

Agenda

1. Background for the survey and development group
2. General overview of results from the survey
3. First impressions
4. Discussion on members of the development group
5. Next steps

Appendix 3. Agenda for development group meeting 12.2.2014

Participants

Deputy director general
Director, head of data administration
ICT specialist responsible for servers
Information manager
CMS key users, 2 persons
CMS main user
Web communication experts, 2 persons

Agenda

1. Overview of areas where quality was lowest or where there was most variation between respondent groups
2. Meaning and objectives of Oph.fi
3. Primary target groups and user needs
4. Informing vs. interaction
5. Ways of tying production, maintenance and content into operations and processes
6. How to develop cooperation
7. Usability and accessibility: Desired level and development actions