

RAPORTTEJA

HANNELE HYPPÖNEN

Towards a Joint View of the European eHealth Priorities

SWOT Analysis of Patient Empowerment and
Patient Summary Activities in Europe



Sosiaali- ja terveysalan tutkimus- ja kehittämiskeskus

postimyynti: Stakes / Asiakaspalvelut PL 220, 00531 Helsinki
puhelin: (09) 3967 2190, (09) 3967 2308 (automaatti)
faksi: (09) 3967 2450 • Internet: www.stakes.fi

© Writer and STAKES

Layout: Christine Strid

ISBN 978-951-33-2154-3 (soft cover)

ISSN 1236-0740 (soft cover)

ISBN 978-951-33-2155-0 (PDF)

ISSN 1795-8210 (PDF)

STAKES, Helsinki 2008

Valopaino Oy

Helsinki 2008

Forewords

The European Commission's Action Plan for a European eHealth Area (COM 356/2004) promotes joint efforts to form an interoperable way of providing health care services to mobile European citizen. The project eHealth -ERA (Towards the Establishment of an eHealth European Research Areas – IST FP6-2005-IST-015854) was funded by the European Commission under the Sixth Framework Programme for Research and Technological Development. eHealth ERA can be seen as a coordination service to the European Union Member States. The task of the project was to support Member States in their eHealth work by providing them information on current developments, and the strengths and challenges involved in the process.

The eHealth ERA project was realized by an international consortium. Empirica Gesellschaft fuer Kommunikations- und Technologieforschung GmbH from Germany acted as project co-ordinator, and other partners were Consiglio Nazionale delle Ricerche (CNR) from Italy, Jagellonian University, Centre for Innovation, Technology Transfer and University Development (CITTRU) from Poland, Ministerio de Sanidad y Consumo, Instituto de Salud Carlos III (ISCIII) from Spain, and The Engineering and Physical Sciences Research Council (EPSRC) and Imperial College London, both from The United Kingdom. Researchers from the Unit of eHealth and eWelfare in the National Research and Development Centre for Welfare and Health (STAKES) had the opportunity to work as the Finnish team in the consortium. Most comprehensive access to all available information on the project and its products is available on the project web site: <http://www.ehealth-era.org>.

The STAKES team, supported by its partners, was responsible for a structured overview of European eHealth policies, initiatives, roadmaps, and deployment, synthesizing topics with priorities common to multiple Member States. During discussions with the eHealth experts representing the Member States in The European Union i2010 framework, patient empowerment and patient summaries of electronic health records were identified as the most policy relevant development areas of European eHealth. The project partners analysed patient empowerment applications and patient summaries in detail. Results of these analyses are to be found in two respective project deliverables. The STAKES team used the SWOT method to conduct an analysis of these deliverables findings to pinpoint strategic strengths, weaknesses, opportunities and threats for cross-national eHealth research in the two aforementioned domains.

The two deliverables "The European eHealth policy and deployment situation by the end of 2006" and "Towards a joint view of the European eHealth priorities - SWOT analysis of Patient Empowerment and Patient Summary activities in Europe" were regarded nationally as important for eHealth development. Therefore, STAKES updated the data and analysis and is now publishing the deliverables as independent reports. The two reports work in tandem: they can be read independently, but they complement each other and those interested in eHealth developments are encouraged to get familiar with both of them.

Choices on eHealth are policy choices. What are the benefits? Will eHealth succeed in enhancing the efficiency and quality of health care systems, and change the relationship of the patient – or the citizen, and the health care system as a whole? The discussion continues and further research is clearly needed. We hope this work will be a step towards realizing the eHealth ERA vision of the Action Plan. We want to thank the project coordinator, the consortium partners, our project officer Ms Diane Whitehouse and the European Commission for their advice and support.

PhD, MD Päivi Hämäläinen
Head of Unit
Stakes Unit for eHealth and eWelfare

Executive Summary

Hannele Hyppönen. Towards a Joint View of the European eHealth priorities. SWOT Analysis of Patient Empowerment and Patient Summary Activities in Europe. STAKES, Reports 15/2008. pp. 48, price 16 €. Helsinki 2008. ISBN 978-951-33-2154-3

The goal of the eHealth ERA project was to coordinate planning of national innovation-oriented eHealth Research and Technology Development (RTD) as the basis for a common road-map and joint RTD activities. It is towards this goal that the analysis of Strengths, Weaknesses, Opportunities, and Threats (SWOT) is also targeted.

The analysis is based on the work done in previous work tasks of the eHealth ERA project, especially tasks 2.4 and 2.5 (Patient Empowerment and Patient Summaries) These two thematic areas were selected as the priority eHealth application areas, through which the strategic opportunities for joint activities were studied in the project in more detail. Work tasks 2.4 and 2.5 produced reports on these two priority areas. The SWOT analysis (work task 2.6) was based on the reports produced, assessing the complementarities across the priority areas and identifying strategic opportunities for joint activities against the background of the project's overall objectives. The reports offered material to ground the analysis on two concrete themes within eHealth. The issues raised were then reflected on eHealth activities on more general level.

Methodologically, SWOT analysis was performed in three phases. First a content analysis of the two priority area reports was performed. Secondly commonalities were searched for across the two priority areas. The ensuing conclusions are based on these commonalities; they refer to strategic actions to use strengths, reduce weaknesses, exploit opportunities and protect against threats in the eHealth area. In the third phase the analysis was complemented with an expert group session with European eHealth policy makers in order to comment on and elaborate the results.

The SWOT analysis produced ten conclusions (see chapter 4 for details) within the four identified "business categories" for exploiting strengths and opportunities and alleviating weaknesses and threats: From the "product" viewpoint the eHealth policy makers' and implementors' community should create a common view and definitions of the core concepts of eHealth and common target areas to be jointly developed. Regarding "production and distribution", the community should increase joint understanding of the critical factors enhancing and impeding joint eHealth service and application development and diffusion. From the viewpoint of "clients and contexts of use", the community should increase understanding of different users and contexts of use, and the needs and requirements they set for the development. In regard to "Management and research" the community should improve joint eHealth development coordination and research into the critical factors and impacts of eHealth development and diffusion.

The results of this study depend on the community studied, the data used and methodology implemented. The community was diffuse and difficult to confine, This made it difficult to define the "business areas" and core elements of SWOT. The key data consisted of two priority area reports, making the analysis dependent on interpretations within these reports, although an expert group was used to verify and modify the results. The SWOT method is also inherently subjective by nature, even if the content analysis was performed with scientific scrutiny. These limitations in mind, this report offers the resulted set of suggestions and guidelines for joint activities to enhance eHealth development in Europe. The final measure of validity of this analysis is the extent to which the target community agrees on and commits to the suggestions for change.

Keywords: eHealth, health policy, health plan implementation, medical informatics research, medical informatics applications, patient empowerment, patient summary, SWOT analysis

Abstract in Finnish

Hannele Hyppönen. Towards a Joint View of the European eHealth priorities. SWOT Analysis of Patient Empowerment and Patient Summary Activities in Europe [Kohti eurooppalaisen eTerveydenhuollon yhteisiä kehityslinjoja. SWOT analyysi kansalaisen sähköisen asioinnin ja sähköisen potilaskertomuksen kehittämistä Euroopassa]. Stakes, Raportteja 15/2008. 48 sivua, hinta 16 €. Helsinki 2008. ISBN 978-951-33-2154-3

eHealth ERA-hankkeen tavoitteena oli tukea EUn jäsenmaiden kansallisen eTerveydenhuollon toimintapolitiikka- ja tutkimustyön suunnittelua pohjaksi EUn yhteiselle tiekartalle ja yhteiselle tutkimus- ja kehitystoiminnalle. SWOT-analyysin tarkoituksena oli tuottaa menetelmää hyödynnettävä analyysi yhdeksi osaksi tavoitteen saavuttamista.

SWOT-analyysi pohjautuu työlle, jota on tehty hankkeen aiemmissa työsosioissa, erityisesti työsosioissa 2.4 (Patient Empowerment, potilaiden valtaistaminen) sekä työsosiossa 2.5 (Patient Summaries, ydintiedot). Nämä teema-alueet valittiin eHealth ERA-hankkeessa sellaisiksi ensisijaisiksi eTerveydenhuollon sovellusalueiksi, joiden avulla strategisia mahdollisuuksia ja yhteisiä toimintoja ryhdyttiin tarkastelemaan yksityiskohtaisemmin. Mahdollisia vastauksia SWOT-analyysin esiin nostamiin kysymyksiin on johtopäätöksissä tarkasteltu myös laajemmin eHealth ERA-hankkeen tuottaman eurooppalaisen eTerveydenhuollon kehitystä ja tilaa tarkastelevan raportin valossa.

Metodologisesti SWOT-analyysi toteutettiin kolmessa vaiheessa. Ensin analysoitiin edellä mainitun kahden teema-alueen tuottamat raportit. Toisessa vaiheessa verrattiin teema-alueiden raporttien analyysijä keskenään etsien toiminta-alueiden yhteisiä vahvuuksia, heikkouksia, mahdollisuuksia ja uhkia. Tässä vaiheessa luotiin myös alustavat johtopäätökset toimista tarttua vahvuuksiin ja mahdollisuuksiin ja torjua heikkouksia ja uhkia. Kolmanneksi tuloksia käsiteltiin eurooppalaisen eTerveydenhuoltopolitiikan tuottajayhteisön jäsenistä koostuvassa asiantuntijaryhmässä tulosten ja johtopäätösten painottamiseksi ja suuntaamiseksi.

Analyysi tuotti kymmenen suositusta vahvuuksiin ja mahdollisuuksiin tarttumiseksi ja heikkouksien ja uhkien torjumiseksi, jotka jaoteltiin neljän eri "liike"toiminta-alueen alle. "Tuotteen" näkökulmasta analyysin keskeisenä päätelmänä oli, että eurooppalaisen eTerveydenhuoltopolitiikka- ja implementoijayhteisön tulisi luoda yhteinen näkemys eTerveydenhuoltoon liittyvistä keskeisistä käsitteistä ja yhteisistä kehitystyön kohteista. "Tuotannon ja jakelun" osalta yhteisön tulisi lisätä ymmärrystä eTerveydenhuollon palvelujen ja sovellusten kehitystyön, käyttöönoton ja jakelun kriittisistä tekijöistä ja hyvistä käytännöistä. "Asiakkaiden ja käyttökotekstien" osalta yhteisön tulisi entistä paremmin huomioida eTerveydenhuollon erilaiset käyttäjät ja käyttökontekstit ja näiden asettamat tarpeet ja vaatimukset. "Johtamisen, toiminnan tutkimuksen ja kehittämisen" näkökulmasta yhteisön tulisi parantaa edellytyksiä eTerveydenhuollon yhteiselle koordinaatiolle ja kriittisten tekijöiden ymmärrystä lisäävälle sekä vaikuttavuustutkimukselle. Tarkemmin tulokset ja niihin pohjaavat suositukset on esitetty luvussa 4.

Analyysin kohdeyhteisö, ne raportit ja työryhmämateriaali, joita analyysissä on käytetty lähdeaineistona, sekä metodologia, jolla aineistoa on käsitelty ovat vahvasti suunnanneet suositusten sisältöä. Yhteisö ja sen toiminta olivat vaikeasti rajattavissa ja hajanaisia. Tämä vaikeutti keskeisten SWOT-elementtien määrittelyä. Aineistona oli kaksi yhteisön tuottamaa raporttia sekä yhteisön jäsenistä koostuva asiantuntijaseminaari. Lähderaporttien merkitys tuloksiin oli voimakas. Metodina SWOT on subjektiivinen, vaikka tässä pyrittiinkin tieteelliset mitat täyttävään analyysiin raporttien sisällönanalyysin osalta. Rajoitukset huomioiden raportti tarjoaa kohdeyhteisölle suuntalinjoja yhteisten eTerveydenhuollon tavoitteiden ja hyvien käytäntöjen sekä yhteistyön kehittämiseksi. Analyysin lopullinen arvon mitta on se, missä määrin kohdeyhteisö yhtyy suositukseen ja suuntaa toimintaa niiden mukaisesti.

Avainsanat: eTerveys, terveyspolitiikka, tietoteknologia, terveydenhuollon tietohallinto, tutkimus, implementointi, potilaan valtaistaminen, ydintiedot, SWOT-analyysi

Table of contents

Forewords

Executive summary

Abstract in Finnish

Abbreviations	9
1 SWOT ANALYSIS: WHAT, WHY AND HOW?	11
1.1 Origins of SWOT analysis.....	11
1.2 What can be analysed using SWOT and how?.....	11
1.3 Using the SWOT analysis for management of change	13
1.4 Limitations of the approach.....	15
2 SWOT IN eHEALTH ERA	16
2.1 SWOT in a context different from the SWOT origins	16
2.2 Setting the objective and anticipated outcome for SWOT in the eHealth ERA project ...	17
2.3 SWOT analysis method in the eHealth ERA context.....	18
2.3.1 Definitions of the SWOT elements	18
2.3.2 An analysis methodology	20
2.3.3 Data and the analysis procedure.....	20
2.3.4 Strengths and challenges posed by the analysis.....	21
2.3.5 Solutions	22
3 RESULTS	23
3.1 SWOT of Patient Empowerment activities.....	23
3.1.1 The product – Idea of Patient Empowerment (PE).....	23
3.1.2 Process and distribution – Deployment of PE ideas: application fields, tools and their deployment.....	24
3.1.3 Customer – Communalities in contextual elements (users, organisations, national healthcare systems)	25
3.1.4 Research and management of the joint activities in PE	26
3.2 SWOT of Patient Summary activities (PS)	27
3.2.1 The product – The Idea of PS.....	27
3.2.2 Process and distribution – Deployment of PS: application fields, tools and their deployment.....	28
3.2.3 Customer – Users (patients, doctors, organisations, National HC systems) needs and contexts of use of PS	28
3.2.4 Research and management of PS.....	29
3.3 Complementarities across the Priority Clusters.....	30
3.3.1 Complementarities in defining the ideas of PE and PS.....	30
3.3.2 Complementarities in deployment of the ideas.....	30
3.3.3 Complementarities in contextual elements (users, organisations, National HC systems)	31
3.3.4 Complementarities in research and management of the joint activities.....	31
3.4 Strategic opportunities for joint activities across PE and PS – preliminary conclusions from the desk top study.....	32
3.4.1 Suggestions for strategic actions in defining joint ideas.....	32
3.4.2 Suggestions for strategic actions in Trans-European deployment of the ideas	32
3.4.3 Suggestions for strategic actions for harmonisation of contextual elements (users, organisations, National HC systems)	33
3.4.4 Suggestions for strategic actions in research and management of the joint activities	34

4	SUMMARY AND CONCLUSIONS	35
4.1	Summary of the key outcomes of the study.....	35
4.1.1	The SWOT elements in the eHealth ERA context.....	35
4.1.2	The common SWOT across the modified business categories.....	37
4.2	The updated suggestions on strategic actions.....	39
5	FINAL REMARKS	43
	Referenses.....	44
	Appendix 1. The analysis procedure.....	45
	Appendix 2. SWOT analysis template	47

Abbreviations

- ERA** European Research Area, established in 2000 by the EU. An idea of a unified area all across Europe, in which researchers could move and interact seamlessly, benefit from world-class infrastructures and work with excellent networks of research institutions; Share and use knowledge effectively for social, business and policy purposes; Optimise European, national and regional research programmes to address major challenges together; Develop strong links with partners around the world so that Europe benefits from the worldwide progress of knowledge, contributes to global development and takes a leading role in international initiatives to solve global issues. The ERA concept combines a European "internal market" for research, where researchers, technology and knowledge freely circulate; effective European-level coordination of national and regional research activities, programmes and policies; and initiatives implemented and funded at European level.[1].
- RTD** Research and Technology Development.
- SWOT** SWOT Analysis is a strategic planning tool used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project or in a business venture.
- WT** Work Task within a specific project work package. WT 2.6 refers to task nr. 6 (Complementarity and strategic opportunities), which is part of work package 2 (Information exchange and strategic priorities).
- PTC** Priority Topic Cluster. A RTD domain, selected on the basis of the knowledge generated under the project WT 2.3 (National programme and roadmap information and analysis: Overview). In eHealth ERA project, two PTC's were selected for a detailed analysis, addressing a range of issues enabling a better understanding of why, how and to what extent coordinated and in future joint activities may accelerate progress in the selected RTD domains, when compared with – up to now - uncoordinated and fragmented efforts made in the participating countries.
- PE** Patient Empowerment. Patient empowerment in eHealth ERA project was defined as a philosophy where citizens are encouraged to take an active part and an accountable role in their own health and healthcare. eHealth represent tools that make its practical implementation possible. PE was one of the two selected PTC's that was analysed in detail in eHealth ERA project. [2].
- PS** Patient Summary. A concise clinical document containing core or minimum data set (e.g., patient demographic information, current medications, allergies, problems, chief complaint) needed in unexpected contacts (e.g. emergencies) and shared clinical pathways for interoperable clinical information exchange across healthcare organisations. [3].

1 SWOT ANALYSIS: WHAT, WHY AND HOW?

This section offers basic information about SWOT – analysis. The history of the methodology (chapter 1.1) shows the problems for which the methodology was originally created. Chapter 1.2 presents fields of application of the methodology. Chapter 1.3 assesses the possibilities and limitations of the methodology. Chapter 1.4 describes the concrete tools for the SWOT analysis, building the basis for chapter 2 – their application in eHealth ERA. The reason for the unexceptionally detailed description of the method is the unexceptional context where it was applied in the eHealth ERA project. The detailed description offers means to increase transparency of the analysis, to discuss validity of the results and to understand the possibilities and limitations of the SWOT analysis as a method applied in contexts outside its original use. This chapter is based on following sources: Wikipedia [4], Participatory IT Design book by Bodker et.al [5], and writings of Humphrey [5], complemented with the Cistrana report [6].

1.1 Origins of SWOT analysis

“SWOT is a method of subjective assessment of data organised in SWOT format to help understand, present, discuss and make decisions about a subbusiness unit, a proposition or an idea.”[4]. SWOT Analysis is used as a strategic planning tool to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project or in a business venture or in any other situation requiring a decision.

The SWOT method was created at Stanford Research Institute in 1960 and 1970 by Albert Humphrey and his research team. The researchers wanted to find out why corporate planning failed and what could be done to rectify this failure. Managing change and setting realistic objectives that are implemented by those responsible was regarded difficult, leading to many compromises. The most important challenge in the change management was to get the management team to agree on and commit to a set of actions for change.

After massive data collection with interviews in over a thousand companies and organisations and questionnaires completed by over 5,000 executives, the first SWOT prototype was tested and published in 1966. By 2004 the system had been fully developed, and tested in coping with the problems of setting and agreeing realistic annual corporate objectives without depending on outside consultants or expensive staff resources.

1.2 What can be analysed using SWOT and how?

The SWOT analysis offers a promising framework for reviewing a strategy, position and direction of a company or business proposition, or any other idea. It is an easy-to-use tool for a structured analysis, providing quick information for decision making about further actions on planning. The benefits of SWOT also include its ease of application in groups, promoting brainstorming, teamwork and a shared approach. It is popular in the organisational world and a commonly used by most (business) executives.

There are several specific contexts in which a SWOT analysis can be used and to which it is most effectively adapted. Different targets for applying SWOT depend on the circumstances and aims. For example, if a team is concentrating its SWOT analysis on a department rather than a whole business, the six “business categories” inherent in the analysis need to be adjusted to

reflect the functional parts of the department, or other entities that enable the raised issues to be translated into aims which are manageable, accountable and of which there is clear ownership.

A SWOT analysis has also been used for defining national policy priorities. One example is the CISTRANA project workshop on national policy priorities and R&D programmes in the field of ICT held in Brussels on November 8, 2005. SWOT analysis was performed to generate a summary of the considerations for future development of the national approach. [6].

A SWOT analysis is typically conducted in a group or workshop session. SWOT analysis also works well in brainstorming meetings. It can also be undertaken in other forums (including electronically). “Ideally a cross-functional team or a task force that represents a broad range of perspectives should carry out the SWOT analysis. For example, a SWOT team may include an accountant, a salesperson, an executive manager, an engineer, and an ombudsman.” [4].

A SWOT analysis proceeds through following three steps:

1. **A definition of the desired end state or objective.** The objective must be explicit and approved by all participants in the SWOT analysis process. Failure to identify correctly an end state leads to wasted resources and possibly failure of the enterprise. The Wikipedia entry for SWOT identifies that the following are various synonyms for “objectives” in SWOT analysis terminology: desired end states, plans, policies, goals, strategies, tactics and actions.

The items listed above may be organised in a hierarchy of means and ends and numbered as follows: Top Rank Objective, Second Rank Objective, Third Rank Objective, and so on. From any rank, the objective in a lower rank answers to the question “How?” and the objective in a higher rank answers to the question “Why?” The exception is the Top Rank Objective, to which there is no answer to the question “Why?” – Which explains how the Top Rank Objective is defined.

2. **Discovering and listing Strengths, Weaknesses, Opportunities, Threats (SWOT)**

- Strengths: attributes of the organisation that is helpful to achieving the objective.
- Weaknesses: attributes of the organisation that are harmful to achieving the objective.
- Opportunities: external conditions that are helpful to achieving the objective.
- Threats: external conditions that are harmful to achieving the objective.

Correct identification of SWOT is essential, since subsequent steps in the analysis are all derived from the SWOT. The aim of any SWOT analysis is to isolate the key environmental factors that are important to the marketing plans of the organisation. The internal factors may be viewed as strengths or weaknesses depending on their impact on the organisation's positions. That is, they may represent a strength for one organisation but a weakness, in relative terms, for another. The internal factors may include products, price, place, promotion as well as personnel, finance, manufacturing capabilities, and so on. The external factors may include macroeconomic issues such as technological change, legislation, and socio-cultural changes, as well as changes in the marketplace or competitive position. The results are often presented in the form of a matrix.

3. **Determining whether the objective is attainable**, given the SWOT. If the objective is NOT attainable, then a different objective must be selected and the process repeated. If, on the other hand, the objective seems attainable, the SWOT are used as inputs to the creative generation of possible strategies, by asking and answering the following four questions:
 1. How can we use each Strength?
 2. How can we stop each Weakness?
 3. How can we exploit each Opportunity?
 4. How can we defend against each Threat?

Identifying SWOT can be approached by answering questions about what is good in the present (Strength); what is potentially good in the future (Opportunity); what is bad in the present

(Weakness); and what can be bad in the future (Threat). Examples of questions to pose and answer in a traditional SWOT analysis include:

Strengths (Internal factors: what do we do or have, that others do not):

- What do we do or is done within the line of activity exceptionally well?
- What advantages do we or the actors or activities have?
- What valuable assets and resources do we/ the actors or activities have?
- What do members/customers identify as our strengths?

Weaknesses (Internal factors: what can be said about our weaknesses):

- What could we do better?
- What are we criticised for or receive complaints about?
- Where are we vulnerable?

Opportunities (External factors: what is changing in organisation, technological changes, government policy, socioeconomic and demographic changes, how to exploit your strengths or address your weaknesses to generate additional opportunities)

- What opportunities do we know about, but have not been able to address?
- Are there emerging trends on which we can capitalise?

Threats (External factors: A member and an environmental scan are critical here)

- Are any of our weaknesses likely to make us critically vulnerable?
- What external roadblocks exist that block our progress?
- Are our competitors or quasi-competitors doing anything different?
- Is there significant change coming in our own or our members' sector?
- Is technology dramatically changing the sector and services to it?

Are economic conditions affecting our financial viability?

1.3 Using the SWOT analysis for management of change

The 'Chain of Logic' is described to be the core of the SWOT system. The chain starts from the company values, proceeds from appraisal through to motivation, selecting solutions for different categories of planning, acting on these solutions, and monitoring the result:

1. Values (of the company or organisation)
2. Appraisal (analysis of current situation – SWOT)
3. Motivation (to change)
4. Search (for solutions)
5. Select (solutions)
6. Programme (ordering the SWOT according to business activities)
7. Act (implement changes)
8. Monitoring and repeating steps 1, 2 and 3.

The first step is thus to appraise the company or organisation i.e. to ask what's good and bad about the present and the future (including the values and objectives of the "company"). As an exercise in and of itself SWOT has no inherent benefit, unless the findings are acted on and are connected to the management of change within the organisation. For this, it is necessary to sort the relevant issues into the six categories related to the programme (business) – products,

processes, customers, distribution, finance, and administration - and examine the respective SWOT for each category:

1. Product (what are we selling?) – SWOT
2. Process (how are we producing and selling it?) – SWOT
3. Customer (to whom are we selling it?) – SWOT
4. Distribution (how does it reach them?) – SWOT
5. Finance (what are the prices, costs and investments?) – SWOT
6. Administration (and how do we manage and develop all this?) – SWOT

These six categories provide a framework by which SWOT issues can be developed into actions and managed by teams. By sorting the SWOT issues into these six planning categories, one can obtain a system which presents a practical way of assimilating the internal and external information about the relevant business unit, searching and selecting – delineating – short and long term priorities, and facilitating an easy way to build a management team which can achieve the desired objectives.

After analysis of the current state the second step is to ask how to act on the findings – ‘what shall the team do’ about the issues in each of these categories. This approach captures the collective agreement and commitment (motivation) of those who will ultimately have to do the work of meeting or exceeding the objectives set. It permits the team leader to define and develop co-ordinated, goal-directed actions, which underpin the overall agreed objectives among levels of the business hierarchy. Translating the SWOT issues into actions in each of the six categories makes them more quantifiable and measurable, and the responsible teams more accountable, and therefore the activities more manageable. Identifying actions from SWOT issues very much depends on the reasons and aims for using SWOT. It also means that there is a need to possess the authority and ability to manage and commit those who are likely to be involved in the delivery of actions.

Within each of the six categories, the translation of a SWOT analysis into actual actions entails maintaining, building and leveraging STRENGTHS. prioritising and optimizing OPPORTUNITIES. remedying or leaving behind WEAKNESSES. and countering THREATS. (Adaptation of Humphrey 2004.)

Other academics (such as Bodker et al, 2004) present a risk matrix for prioritizing the Weaknesses and Threats. The participants discuss each weakness and threat, having assessed the potential strength of any negative impact and the probability of its happening. The results are placed in the risk matrix. The strongest weaknesses and risks are taken as priorities, and an agreement is reached on how, by whom and by when the particular risks should be alleviated.

Negative consequences

Big			
Average			
Small			
	Weak	Average	Big
	Probability		

FIGURE 1. The SWOT Risk Matrix [5]

1.4 Limitations of the approach

Despite its strengths, SWOT analysis also has certain limitations, which are elaborated e.g. in Wikipedia. SWOT analysis is just one method of categorisation. It tends to steer towards compiling lists rather than thinking about what is really important to the business. It may also produce uncritical lists without clear prioritisation, leading to, for example, weak opportunities appearing to balance strong threats.

When collecting the data in a group activity, It is advised not to eliminate too quickly any candidate for SWOT entry (that is, not to dismiss any of the suggested SWOT right away). The importance of individual SWOT will be revealed by the value of the strategies they generate. A SWOT item that produces valuable strategies is important. A SWOT item that generates no strategies is not important.

It is further emphasised that SWOT should not exist in the abstract. They can exist only with reference to an objective. If the desired end state is not openly defined and agreed, the participants may have different end states in mind and the results will be ineffective.

SWOT is also not always as simple and straight forward as it seems. Opportunities external to the company are often confused with strengths internal to the company. They should be kept separate. SWOT can also be confused with possible strategies. SWOTs are descriptions of conditions, while possible strategies define actions. This error is made especially with reference to opportunity analysis.

2 SWOT IN eHEALTH ERA

According to the eHealth Conference 2007 Declaration “the European Commission and the Member States have been working together to create a European health information space, building on nearly 20 years of prior cooperation”. [7]. At the eHealth 2005 conference in Tromsø, Norway, the ministers committed to taking up the challenge for integrated and interoperable European health information space. The Member States have since taken steps to implement the European Commission’s Action Plan for a European eHealth Area (COM 356/2004) by including eHealth initiatives in their national programmes [7]. The rationale behind using SWOT in eHealth ERA project is to identify areas where the European Member States can (where it is beneficial, possible and feasible to) work together and facilitate co-operation.

In this chapter, the SWOT analysis principles are reflected against the SWOT assignment in the context of eHealth ERA. In Chapter 2.1, the differences between a business context and the eHealth ERA context are laid out. In Chapter 2.2, the objectives for the SWOT in eHealth ERA context are defined. In chapter 2.3, the methodology and methods for performing SWOT in eHealth ERA context are described.

2.1 SWOT in a context different from the SWOT origins

Although the focus of SWOT analysis has been placed on a business and marketing environment, SWOT has been used over the past four decades in many different circumstances. The strengths of a SWOT analysis in relation to the eHealth ERA project is that the analysis can equally well be applied to policy areas and non-governmental organisations. This section explains the main issues that appeared when applying the SWOT methodology to eHealth ERA material.

Firstly, the eHealth ERA-project presents somewhat different starting points, context and expectations for the SWOT analysis to that of a business environment. It was important to be able to connect the analysis to some concrete practices. This was the aim of the project work plan (Annex I), where the SWOT was defined to be conducted by focussing on the activities around the two priority clusters (Patient Empowerment and Patient Summary). These clusters produced reports, which formed the main data for the analysis (Project Priority Cluster Report 1 on Patient Empowerment [2] and Priority Cluster Report 2 on Patient Summaries) [8]. To complement the desk top study, discussions have taken place among the project team members on the issues raised by the analysis. A workshop with external experts was also held to discuss and elaborate on the results of the analysis and suggested actions.

Secondly, SWOT is in principle a method developed for and focused on the level of a single organisation. Problems can arise in its application in eHealth ERA project, where the community to be developed is not one single organisation with clear and shared set of objectives. The “organisation” or object community for eHealth ERA is a broad network of policy and research institutions and actors with weak and mainly informal ties. What may come closest to an organisation, may be what can be called a “European eHealth policy makers and implementator’s community”. An initial aim of the project was to identify the steps that must be taken in order to move towards *creating a tighter community*, and it is now considered that a SWOT analysis has been useful in enabling it to do so.

The “community” members have limited impact on planning and policy making that concerns *research*, but have a major role in *implementation* of eHealth systems in their own countries but also more widely. If the objective is the creation of a European eHealth Research Area, then the

community could be perceived as one of the relative “weaknesses”. However, if the objective is to enhance implementation of trans-European eHealth systems, this community constitutes strength in itself. The advantage of selecting eHealth policy decision makers to represent the “organisation” offers the advantage of being able to use the i2010 Subgroup in eHealth (formerly known as the eHealth Working Group) as an “organisation” or sounding board for discussing and getting feedback on the SWOT analysis.

Thirdly, the joint (common, shared) activities of the community, e.g. the creation of concrete plans and performing actions to improve co-operation, to agree on indicators and to benchmark Member States’ activities are still emergent. The current joint activities are dispersed into individual member states’ activities and into European level endeavours in harmonising them, but they are still without an established set of concrete plans and actions that would then need to be improved.

Fourthly, “competition” is difficult to define in the eHealth ERA context. It is doubtful whether it is possible at all to define competition in the project’s context in the same sense as in a corporate context, at least at this stage. The only feasible definition could be defining competition as activities of eHealth communities in other continents (African, American, Asian, and Australian) to the extent that they can be identified. There are also various diverse groupings that represent the Member States and their different technological or political interests, and these may be working alongside each other not always absolutely harmoniously.

2.2 Setting the objective and anticipated outcome for SWOT in the eHealth ERA project

According to the project’s Description of Work, the goal of the eHealth ERA coordination action is “to coordinate planning of national innovation-oriented e-health RTD as the basis for a common road-map and joint RTD activities, thereby establishing an effective ERA in this key IST field and important European market. Reducing the serious fragmentation of current planning can be expected to have a strategic impact on regional, national and trans-European e-health infrastructures, improve the quality of medical outcomes and hence the quality of life of citizens in Europe.” It is towards this goal that all activities, including the SWOT analysis, should be targeted. In the course of the project, the focus has, however, shifted from eHealth research to eHealth policy and its implementation, which needed to be taken into account in the analysis.

In the eHealth ERA -project, the SWOT analysis forms part of Work Task 2.6 (Complementarities and strategic opportunities). Based on the in-depth analyses performed on the two Priority Topic Clusters, this task:

- Assesses the complementarities across some, clusters of Priority Topics (PTC) from the PTC reports
- Identifies strategic opportunities for joint activities against the background of the project’s overall objectives as they have emerged from the previous work tasks.
- Pinpoints those RTD topics or topic clusters and road mapping activities for which cooperation is essential or may hold the greatest promise.

The third task was dependent on work done in Work Task 2.3 (National programme and roadmap information and analysis). Since Work Task 2.3 was finalised only after the SWOT analysis, had already been completed, the outcomes were not available as material for detailed analysis within Work Task 2.6 (SWOT analysis). The analysis has been included in chapter 4.2 of this report.

2.3 SWOT analysis method in the eHealth ERA context

The following chapters describe the methodology and methods for SWOT analysis in the eHealth ERA context. Chapter 2.3.1 describes the a priori and a posteriori definitions of the SWOT elements (i.e. definitions made by the eHealth ERA project of the SWOT elements before the analysis took place and how these changed with the experience gained from the analysis). Chapter 2.3.2 describes the methodology for the analysis and chapter 2.3.3 the data and analysis procedures. In chapter 2.3.4, the challenges met in the analysis process are described (leading to the need to partial redefinition of the a priori definitions made in by the project group). Chapter 2.3.5 describes the solutions to the challenges.

To the author's knowledge, this is the first time that a SWOT analysis has been performed and reported in detail using a three-step methodology described earlier. Therefore, the methodology itself and the evolved definitions also form one output of the analysis.

2.3.1 Definitions of the SWOT elements

The definitions of the key SWOT elements in the eHealth ERA context were drafted for the project and discussed in an internal project-meeting (Madrid in December 2006). The *a priori* definitions were as shown in Table 1 (left-hand side column). The right-hand side column offers the a posteriori definition of the key concepts, which evolved during the analysis process (in project group discussions and data analysis). The a posteriori definitions were still modified after the working group session held in 14.6.2007. The final definitions are presented in chapter 4 as one outcome of the study.

TABLE 1. The evolving definitions of the key elements of SWOT in eHealth ERA

Element	A Priori Definition	A Posteriori Definition (elements that were drawn from the data)
Community	The European eHealth RTD and policy makers community	The European eHealth research, implementation and policy makers community
SWOT	<p>1. Strength = internal activity performed well, advantage, asset, identified strength of the community</p> <p>2. Weakness = internal activity performed poorly, identified critique, complaint, vulnerability</p> <p>3. Opportunity = External change in environment (organisation, technology, policies, socioeconomics and demographics) which we know of, which can be exploited, emerging trends to be exploited</p> <p>4. Threat = External factor that blocks our progress, competitor's advantages, change anticipated in the markets, weaknesses that make us vulnerable</p>	<p>1. Strength = current attribute or phenomenon within PE or PS activity that paves way and supports development of joint activities (known advantages of production, customers, distribution, finance and administration of PE or PS)</p> <p>2. Weakness = current attribute or phenomenon within the PE or PS activity, identified need or requirement that impedes joint PE or PS-activities (known disadvantages within the business categories)</p> <p>3. Opportunity = suggestion, proposal, possibility, future phenomenon, activity that is likely to support development of joint PE/PS activities (anticipated advantages of production, customers, distribution, finance and administration of joint PE and PS)</p> <p>4. Threat = challenge, condition phenomenon or activity visible in the future that is likely to hamper development of joint PE or PS activities (anticipated disadvantages within the business categories)</p>
Objective	Creating a joint view of the European eHealth "priorities" and "targets for joint activities"	Analysis of conditions for joint eHealth implementation in Europe
Purpose and results of SWOT	<p>1. Analysis of the current situation - SWOT from the PTC's</p> <p>2. Search for joint views and activities</p> <p>3. Prioritizing SWOT</p> <p>4. Supporting consensus, motivation and commitment of actors to change</p> <p>(5. Acting on results)</p>	
Business categories – SWOT in:	<p>1. Product (what are we producing and "selling")</p> <p>2. Process (How are we producing and selling it?)</p> <p>3. Customers (to whom are we selling?)</p> <p>4. Distribution (how does the product reach the customers?)</p> <p>5. Finance (at what price do we produce?)</p> <p>6. Administration (how do we manage and develop all this?)</p>	<p>1. Product = concept or idea of PE, PS</p> <p>2, 4 Process and distribution = Deployment: application fields, application tools and their diffusion</p> <p>3. Customers: Users (citizens, professionals, organisations, national HC systems), needs, contextual features</p> <p>6. Research and management of (joint) PE and PS activities</p>
Competitors	eHealth communities in other continents (Asian, American, African, Australian) to the extent that they can be identified, focussing on implementation	eHealth communities in other continents (African, American, Asian, Australian) to the extent that they can be identified, focussing on implementation

2.3.2 An analysis methodology

The analysis methodology was undertaken as follows.

- 1) A priori definitions were agreed within the eHealth ERA project consortium, and modified during the analysis. (Table 4).
- 2) Content analysis of the two Priority Cluster reports on patient summaries and patient empowerment was undertaken
 - a. Transferring the reports to Atlas TI analysis programme (this process is explained in greater detail in chapter 2.3.3 below and in appendix 1 to this document)
 - b. Analysis of data with a three-round coding procedure (see chapter 2.3.3)
 - c. Reporting the analysis results to ERA project partners
- 3) The results and suggested actions were further elaborated in communication with eHealth ERA consortium and external experts
 - a. Comments from the partners on commonalities and suggested activities across Priority Topic Clusters were received and the report updated
 - b. The updated reports were sent to participants of an expert workshop session that was organised for further elaboration of the results.
- 4) The report was further updated on the basis of the results and fed into the final deliverable.

Focusing the analysis on the two Priority Clusters offered a possibility to ground the analysis on concrete eHealth activities. The results could then further be reflected on eHealth activities in general. It was foreseen, that to get an understanding of the Strengths, Weaknesses, Opportunities and Threats for the basis of conclusions on strategic actions in a complex context like eHealth in Europe, it was prudent to approach the research task in a stepwise manner. The content analysis of the two priority cluster reports offered a possibility to make the first approximation of the questions on hand, allowing a preliminary understanding of the possible answers to be generated. This preliminary, structured understanding that was offered to the project partners and the members of the expert group was used to help structure and focus the comments to those issues that have been raised within the two Priority Clusters. An important part of the expert group work was to critically review and further develop the results of this study and discuss their relevance in other fields of eHealth.

A group session was arranged with selected members of the i2010 Subgroup on eHealth before submitting a draft report on results to be included into the final report (D3.2). Material for the group session consisted of version 0.4 of the SWOT-analysis report. The final SWOT report (version 1.0) was produced on the basis of the comments. The workshop was arranged in June 14, 2007.

2.3.3 Data and the analysis procedure

This chapter describes the procedure of the content analysis of the textual material. The detailed description of the analysis procedure is presented in appendix 1. The data for the content analysis of the two priority cluster reports was done using versions available on 5.1.2007 of the priority topic cluster 1 and 2 documents (D2.3 version 11.9.2006, D2.4 version 5.1.2007).

Atlas TI analysis programme was selected to assist in the content analysis of the two reports, since it offered a possibility to create and improve the coding system for two large documents in a controlled manner as compared to a manual coding and analysis of the documents. Use of the programme also makes it possible to continue the analysis, to rename and combine codes the

programme attaches automatically the changes that the researcher decides to make to the text segments where the codes have been used.

After assigning the documents to the programme, each text segment in the reports was assigned with a name that reflected the content. The next coding round, thematic coding was then performed using the thematic business categories to group the grounded codes. In the third coding round (value-coding), each text segment was assigned with a value (S, W, O or T). Chapters 3.4 and 3.5 illustrate the end result of this work. It formed the first phase of the analysis.

The second phase of the analysis consisted of the meta-analysis of the codes and coded material across Priority Clusters 1 and 2, searching for communalities. After this, the results were reflected against the four questions on possible actions (How can we use each Strength; How can we Stop each Weakness; How can we exploit each Opportunity; How can we defend against each Threat). This phase resulted in the list of the suggested actions. The meta-analysis was heavily dependent on the provisional agreement of the eHealth ERA-partners of the key SWOT elements, which was generated in the first phase of the analysis, and results, which was sought by distributing the document for comments at the end of January 2007, and was continued further in the eHealth ERA project meeting on 26–27.4.2007 in Krakow.

Since the document-based method for producing the analysis was unorthodox, final validation and extension of the results was done in an expert meeting arranged by the eHealth ERA project in Brussels on 14.6.2007. The aim of the workshop was to critically review, extend and elaborate on the ideas of the analysis. The workshop discussed the key outputs of the eHealth ERA project with the stakeholder community, the strengths, weaknesses, opportunities and threats (SWOT) related to patient summaries and patient empowerment in Europe. The discussion also covered cooperation opportunities across Member States on concrete eHealth challenges. The material (SWOT report version 0.4 and the SWOT slides prepared for the workshop) were sent in advance to the attendees. Critical review, extensions and ideas to the results were presented from different viewpoints:

- The view from a Member State (Luc Nicolas, Federal Public Service of Public Health, Belgium)
- The view of a national Competent Authority (Tomáš Mládek, M.D. IZIP, Czech Republic)
- The European Commission perspective (Michael Palmer, eHealth unit, eHealth ERA project officer)
- Physicians' perspective (Frederic Destrebecq, European Union of Medical Specialists)
- Citizens' perspective (Ilaria Passarani, Bureau Européen des Unions de Consommateurs)

In addition, a plenum discussion was arranged with invited representatives from different stakeholder groups including industry. The plenum discussion included short interventions by ERA members Angelo Rossi Mori, CNR, Rome; José Monteagudo Peña, ISCIII, Madrid; as well as by Diane Whitehouse, eHealth consultant). The SWOT results and comments generated a vivid discussion, which helped to elaborate the document-based SWOT conclusions.

2.3.4 Strengths and challenges posed by the analysis

The focus that the project Work Plan offered for the analysis (that is, concentrating on the two priority cluster areas based on the analysis done within the clusters in eHealth ERA project) provided a good basis for grounding the analysis on concrete activities, which can be reflected on eHealth activities on a more general level. Conducting a preliminary SWOT analysis based on documentary material is exceptional; however, it showed some strengths, especially for applying the SWOT method in a complex context like eHealth ERA. As a result, a structured document

complete with its preliminary findings could be presented to the readers and expert group participants so as to structure and get further depth to the feedback.

There were, however four challenges inherent in the analysis that stem from the way the SWOT was defined to be performed in the context of eHealth ERA (as a desk top analysis of two documents, rather than an interactive exercise of actors of the organisation).

Firstly, the definition of some of the SWOT elements proved difficult. The “organisation” or “community” and activities to be developed were not as clear as in a corporate setting. Neither of the PTC reports was written for the SWOT purposes. Analysing the strengths and weaknesses of joint activities as *internal* properties of the “organisation”, and opportunities and threats as properties *external* to the “organisation” proved impossible due to problems in distinguishing “internal” and “external”. Many of the text segments could be classified either as strengths or opportunities or as weaknesses or threats.

A second, related problem was that the reports focused on activities on Patient Empowerment and activities on Patient Summary, but they did not necessarily systematically cover the different “business categories” of the “organisation”. Also, had the project selected different priority clusters or other type of material for the desk-top analysis, this could have impacted the SWOT results.

Thirdly, translating the six “business categories” to categories that would make sense within the eHealth ERA context and could be extracted from PTC 1 and PTC 2 reports was not simple and straight forward.

The fourth challenge was caused by the difference in the character of PS and PE activities and consequently the content of the two documents. PS is inherently a more technological (and technical) question, PE is more closely related to changing work practices. Defining commonalities among these two activities was not easy, and the results leave much to be desired. Related to the documents was their focus: the PS report focused less on mapping the actual situation in relation to the activity area and more on suggestions for future collaborative activities. The PE report on the other hand presented a thorough analysis of the current situation for the basis of SWOT, and left the suggestions for future collaborative activities still to be decided.

2.3.5 Solutions

The agreed objective of development of joint (research, policy and implementation) activities for Patient Empowerment and Patient Summary was used to guide the decision on classification of the text segments as Strengths, Weaknesses, Opportunities and Threats.

The *a posteriori* definitions that emerged through the SWOT analysis in the context of eHealth ERA as a result of the grounded analysis of PTC 1 and 2 reports are described in Table 1. The solution to the problem of “internal” versus “external” was to adjust the definition of the SWOT. The categorisation of “internal to the organisation” was replaced by “current in the activity” and the “external” by “future” as described in Table 1. The content of the text did not in all cases give clear indication whether the text segment represented strengths or opportunities, weaknesses or threats. The six business categories defined in chapter 2 were also not directly applicable. They were modified by combining categories and by adjusting their titles to suit the eHealth ERA context better as depicted in Table 1.

3 RESULTS

In the following chapter, the detailed analysis done on the basis of the two priority cluster documents is presented. A busy reader can get a summary of the results, complementarities across the priority clusters, and extension of the results as provided by the expert group meeting and Work Task 2.3 [9] by jumping directly to chapter 4.

Chapter 3.1 presents the analysis on Patient Empowerment and Chapter 3.2 the analysis on Patient Summary. The reason for this order is that in the European eHealth context, there is an increasing emphasis on the patient-centred approach. Within this emphasis, (which can even be referred to as a shift in paradigm), the patient empowerment report offers a birds' eye view to the development. The patient summary report offers one example of application capable of offering a degree of patient empowerment.

For Patient Empowerment and Patient Summary, Strengths, Weaknesses, Opportunities and Threats were initially identified within the modified business categories (Table 1). The modified categories that evolved in the analysis are presented in Table 2.

3.1 SWOT of Patient Empowerment activities

3.1.1 The product – Idea of Patient Empowerment (PE)

Current strengths in definition of PE

- The concept has gained increasing support over a 30-year period across Europe.
- The concept and its practical implementations have been produced jointly with other synergistic factors common in European countries.
- An improved typology of eHealth tools for PE has been created to deal with complexity in the eHealth ERA-project.
- A typology of PE application areas (or mechanisms) has been created in the eHealth ERA-project.
- A classification of strategies to improve PE has been created within the European Union (EU) to improve Access, Competence and Motivation (ACM) for PE.

Current weaknesses in the definition of PE

- The PE concept has a variety of definitions.
- PE forms a conceptually complex entity.

Future opportunities for enhancing joint definition of PE

- The ACM model can be used as a common tool to classify users and required activities offering the possibility to tailor the characteristics of support activities.

Future threats hampering joint definition of PE

- PE may remain rhetorical if it fails to develop any concrete applications.
- The basic assumptions behind the PE concept still require critical examination:
 - PE philosophy impacts on the patient-physician relationship – is there a motivation for redefinition of the patient-physician relationship?

- o A techno centric definition of PE , i.e. one with dependence on machines is not sufficient
- o Assumptions behind the PE philosophy are not shared by all patients and carers leading e.g. to the fact that client compliance cannot be guaranteed.

3.1.2 Process and distribution – Deployment of PE ideas: application fields, tools and their deployment

Current strengths in deployment of PE ideas

- PE idea is widespread – it is deployed in a variety of application areas or fields within health care in most countries. There are successful examples of the telephone based applications covering emergency calls (112), appointment services, health call centres, and direct patient physician communication.
 - o Consumer communication by means of telephony has been used for a long time
 - There are successful examples of the telephone based applications covering emergency calls (112), appointment services, health call centres, and direct patient physician communication.
 - Consumer communication is being enhanced by the internet and mobile phone technology.
 - o Information access is supported through many strategies and tools.
 - o There has been an increase in self care management and chronic care applications.
- National examples exist within EU countries of most categories of eHealth tools supporting PE, even though it would be an exaggeration to imply that the implementation is currently widespread.
- At EU level, the EC public health programme has launched a health-related web portal.

Current weaknesses in deployment of PE

- Member States' health care systems have different mechanisms for deployment of PE.
- Member States are in different phases in deployment.
- Many of the tools supporting different application areas are still at an early phase:
 - o Direct communication with new Information and Communication Technologies requires more effort.
 - Level of use of email is low.
 - o There are problems with the internet, and weak alternative formats to the internet. Web 2.0 has promising potentialities for supporting applications for PE. However, current practical applications are very scarce, quite all addressing physicians. Web 2.0 merits for efforts on how to be exploited for PE applications. A special session on this matter has been arranged at the last National Medical Informatics Congress held on March 2007 in Madrid.
 - o Electronic patient health record deployment is in its early stages, and requires more sound business models, interoperability, education, usability and patient identification.
 - o The quality of the PE services needs to be developed:
 - o Access to information is uneven, and the weakest link is poor quality of health information
 - o Patient education implementation is still modest.

Future opportunities in joint deployment of PE

- There is growing interest to apply PE in various fields across healthcare systems:
 - Patient education using electronic patient records offers promising opportunities.
 - The decision support systems range in ICT is growing.
 - Organised health-related groups on the internet are increasing in numbers and significance.
 - Self care management (free choice) opportunities are increased with electronic patient records.
 - Chronic care is receiving growing attention, and being provided by platforms for personalised services.
- Current status and implementation trend of eHealth tools shows opportunities for RTD and innovation:
 - The internet and mobile telephony offer increased opportunities for consumer communication.
 - Portals are the most relevant information sources.
 - SMS (text messaging) is increasingly used due to universal access.
 - Virtual communities that offer interactive services are growing in number.
 - Electronic patient records initiatives are emerging across Europe.
 - ePrescribing may increase patient convenience.
 - eAppointment applications are increasing smooth patient flow.
 - Systems to support chronic care are increasing.

Future threats hampering joint deployment of PE

- PE deployment is complex with different fields, applications, mechanisms and interests.
- PE will require joint development of interoperability and security solutions.
- PE development requires a participatory design approach, with collaboration of the key stakeholders. This statement is quite general and serves for the development of any ICT application. The critical point for PE applications is that physician's mediation/collaboration is central for PE tools adoption and usage by patients.
- email is used in Europe less than in north America.
- Electronic patient records require new level of trust.

3.1.3 Customer – Communalities in contextual elements (users, organisations, national healthcare systems)

Current contextual strengths supporting joint activities in PE (drivers)

- Consensus is growing on the role of patients as active partners in healthcare.
- Ageing increases the need and demand for tools that support new care models.
- Common concern for healthcare spending and sharing the responsibility of care with the patient act as strong drivers for the reform of healthcare.
- PE is considered as a powerful instrument for healthcare change in Member States, expressing the need to push care to the level of the customer.
 - Increasing health literacy offers personal and economic benefits.
 - PE is seen as a tool for cost containment.
 - There is an active citizen's network, which is e.g. influencing the European Constitution in respect of the rights to Information, Consent, Free Choice, Privacy and Confidentiality.

Current contextual weaknesses (barriers) limiting joint activities in PE

- There is a non-healthcare-specific limited access to technologies.
- There is resistance from organisations, clients and doctors. The types of resistance are listed in detail in the D2.4 report
- Patient's attitudes towards PE vary.
- Lack of health literacy is a risk for PE (lack of competence) on the part of the citizens' themselves.
- Real patient benefits are overridden by organisational interests:
 - o Many applications claim to support PE but were designed to reduce costs.
 - o Chronic care solutions are produced mainly to serve the needs of health professionals. Most chronic care solutions are based on the Disease Management model, illness centred, that incorporates some level of patient involvement but usually it relays on the medical specialists control and quite often is driven by some pharmaceutical companies' interest.

Future contextual opportunities for enhancing joint activities in PE

- eHealth development offers new opportunities for PE policies and applications.
- The healthcare system, powerful advocacy groups, The strength of media influence in the healthcare issue, industry (direct-to-consumer marketing) and use of the internet act as stronger drivers for PE in the EU rather than e.g. in Japan.

Future contextual threats for implementing PE

- The healthcare system, powerful advocacy groups, the strength of media influence in healthcare issue, the industry (direct-to-consumer marketing) and use of the internet offer weaker support for PE in the EU than in the United States.
- Shift of responsibility from people to machines. For example, chronic care solutions are becoming too complex - solutions may fail if they operate without a doctor at the other end.

3.1.4 Research and management of the joint activities in PE

Current strengths in the research and management of activities in PE

- PE is a central element in EU health strategy, supported by national and international institutions:
 - o Council of Europe recommendation support PE, and WHO Europe supports the European Forum of Medical Associations (EFMA) declaration.
 - o EU Health Policy Forum (EHFP) has recommended that the EC develops a coherent approach to health information within the EU.
- PE is seen as a key component of eHealth in national and EU strategies.
- Member states health care policies support the same rights of patients.
- Many initiatives have been supported by EC.
 - o Under the fourth, fifth and sixth Framework Programmes the IST Programme co-funded a number of RTD projects relevant for patient empowerment. (<http://cordis.europa.eu/ist/projects/projects.htm>)
 - o eTEN and the Public Health Programme (DG SANCO) have funded relevant projects (http://ec.europa.eu/information_society/activities/eten/index_en.htm)

- Countries national and regional programmes for eHealth deploy PE based on realistic scenarios.
- There is information of the actual deployment situation and trends across Europe.

Current weaknesses in research and management of activities in PE

- EU health strategy impacts are limited; the research effort of EU on PE is modest and fragmented.

Future opportunities in the research and management of joint activities in PE

- Research literature on PE is growing.
- EC has generated a health-related web portal aimed at both citizens and policy makers that offers an opportunity to follow health activities in Europe.
- ACM-model (Access, Competence, and Motivation) offers a common, strategic tool to classify required PE activities.

Future threats in the research and management of joint activities in PE

- PE requires management of simultaneous change of PE tools and healthcare processes.
- There is no evidence of the most effective means to support patient in decision making.
- Organised groups activities are not controlled, with little concrete evidence of their impact.
- Little is known about patients' capacities to manage their own health.
- Future studies are required of requirements, design principles and implementation.

3.2 SWOT of Patient Summary (PS) activities

3.2.1 The product – The Idea of PS

Current strengths in definition of PS

- Standards are available for agreement on document headers.
- Stereotypical operational situations have been object of standardisation.
- Standardisation is ongoing for subdivision of sections within document.

Current weaknesses in the definition of PS

- PS idea is not yet stable – there are several variants in its definition.
- Semantic interoperability is not adequate due to the different needs of healthcare professionals and healthcare managers.

Future opportunities for enhancing joint definition of PS

- Standards act as enablers for synergies between programmes.
- Data structure granularity and mark-up can be agreed on between programmes.
- Headers and sections as a basis for agreements could be feasible.
 - suggestion of top level categories of PS categories.
- PS variants can correspond to different policy objectives.
- The language barriers between different Member States [can be overcome by translation, cultural mediators, multilingual terminologies and coding.

Concept – Future threats inhibiting the joint definition of PS

- Language barriers form an obstacle to in-depth interoperability among different regions or nations.

3.2.2 Process and distribution – Deployment of PS: application fields, tools and their deployment

Current strengths in deployment of PS

- National and regional programmes (or systems) are created to store, index and access documents.
- Clinical processes are used as starting points for programmes (systems).
- Standards are being adopted.

Current weaknesses in deployment of PS

- Implementation phase varies in Member States.
- Deployment has not started massively. (Commercially and organisationally, this could be conceived as a strength.)
- Deployment takes five or more years.

Future opportunities in deployment of joint PS

- PS variants reflect the needs of different scenarios/situations, a list of situations can be used in designing programs.
- "A network of voluntary contact points could study joint technological issues covering security, management of registries and repositories, mechanisms about feeding and accessing data, criteria for certification" (D2.3, p.29).

Future threats inhibiting the deployment of joint PS

- PS variants affect interoperability of PS.

3.2.3 Customer – Users (patients, doctors, organisations, National HC systems) needs and contexts of use of PS

Current contextual strengths of PS (drivers)

- ICT Infrastructure for (document-based) e-communication is being developed.
- Storage and authorised access of electronic documents is enhancing Health Care communication.
- The content expectations have been verified by the eHealth ERA PTC 1 study.
- The healthcare user motivation is generated by focusing on clinically oriented processes.

Context – current weaknesses (barriers) in PS

- Different user needs (intended use) influence the need for documentation structure.
- There is little knowledge of coexistence of multiple documents and their relations, content of patient summaries, data items and indicators, relation with selected clinical pathways, terminologies and coding.

Context – Future opportunities for enhancing joint PS

- ICT infrastructure, regulations and standards act as enablers for PS.
- PS offers an opportunity to improve healthcare communication.
- PS variants offer potential for improving quality of care, sustainability of healthcare evolution, improved service access.
- Language barriers can be overcome through translation, cultural mediators, multilingual terminologies and coding.
- Adoption of clinical pathways allows capture of elementary data and building of indicators.
- A scale can be used to classify intended use of PS content.
- A team could be set up to study the coexistence of multiple documents and their relations, content of patient summaries, data items and indicators, relation with selected clinical pathways, terminologies and coding.

Context – Future threats hampering joint PS

- Language barriers form an obstacle to in-depth PS interoperability.

3.2.4 Research and management of PS

Current strengths in the research and management of PS

- Most countries have enough know-how to start co-operation.
- Roadmaps on eHealth are being adopted in many countries worldwide.
- Roadmaps act as support for PS (offering potential synergies between programmes); PS are key components in some roadmaps.
- Roadmaps involve co-existence of clinical, organisational and administrative documents.
- eHealth interoperability is supported by i2010 Subgroup on eHealth cooperation.
- eHealth ERA survey has been undertaken that indicate how to facilitate the coordination of PS.
- eHealth ERA survey provided a basis for finding opportunities of collaboration.

Current weaknesses in research and management of PS

- eHealth programmes need to be described more systematically:
 - Many eHealth programmes lack clear objectives.
 - Roadmaps should express milestones for each task.
- Different eHealth programmes need to cooperate more. Better communication needed for healthcare development.
- Studies are needed about local needs, mechanisms and ongoing programmes.
- Studies are needed that compare summaries deployed in different scenarios.

Future opportunities for the joint research and management of PS

- A taskforce could be established to resolve crucial topics, and organise a large scale pilot.
- Programme synergies could be explored through large scale demonstrators.
- Management of programmes as providers of synergies among programmes.
- Management, governance as enabler for PS's.

Future threats hampering the joint research and management of PS

- Poor coordination of activities concerning agreement of indicators and data sets.

3.3 Complementaries across the Priority Clusters

In this chapter, the results from the two previous sections on Patient Empowerment and Patient Summary are compared within each business category. This is done in order to find parallels and communalities in Strengths, Weaknesses, Opportunities and Threats across the two priority clusters.

3.3.1 Complementarities in defining the ideas

The concept of PE has developed jointly with evolvement of other European-wide synergic factors (i.e. self-help movements, health care consumerism, and rise of alternative medicine). It can also be seen as a larger societal movement that connects with the development of the concept of the inclusive society and eInclusion developments. On the other hand, the emergence of PS is more tied to eHealth technology development. In spite of their quite different origins, a common conceptual **strength** in these two contemporary initiatives is that both concepts (Patient Empowerment and Patient Summary) have been subject to definition and classification activities for a relatively long time, offering a sound basis for searching for synergies within the thematic areas.

A common conceptual **weakness** in concepts across the Priority Topic Clusters is the complexity of both concepts and consequently the variance and lack of commonly agreed definitions and operationalisations.

The classification work already done (e.g. in PE the ACM model and in PS the standardisation work) builds a strong basis and future **opportunity** for continuing work. Conceptual harmonisation can act as an enabler for synergies among policy-related programmes.

A future **threat** that is more clear in PE but also apparent in PS is that the ideas will remain to some extent rhetorical and academic. It is possible that the technological and software applications that are generated as a consequence will not adequately reflect the joint conception of PE and PS.

3.3.2 Complementarities in deployment of the ideas

A joint **strength** in both Patient Empowerment and Patient Summary is that there are national examples applications of PE as well as PS in several EU countries. In a majority of EU- and European Economic Area (EEA) countries there is on-going work in the area of developing patient summaries. The core content of PS has been designed as a joint effort of professional and administrative stakeholder groups in some countries such as Sweden and Finland. Use of applications for promoting different ways of patient empowerment are mentioned as tools in implementation of patient centred care in eHealth policies. Some countries, for example Spain have already worked also on the level of practical implementation.

A joint **weakness** in both is that the implementation stage and mechanisms vary greatly from country to country. The actual implementation is in the early stages in both PE and PS. Different aspects and needs of PS and PE have received different amounts of attention. Organisational aspects often override any meeting of the client's needs.

The current status and technology trends offer promising **opportunities** for future RTD and innovation development within PE as well as PS. Moreover, the variants of PS and the varying mechanisms of PE offer an opportunity for development, since they reflect the actual needs of the concrete use situations. As the EU countries are at different stages of implementation, the more advanced countries could in principle support the less advanced ones. Grounding the technology development to the contextual needs of the managers, practitioners and clients through

participatory development poses an opportunity for developing practical solutions that could be well accepted by the stakeholders.

The need for participatory design also poses a **threat** for development and implementation activities in PE as well as PS. At present participatory development is more rhetorical than practical in many cases. Techno-centric development prevails. Unless the planning and design practices in companies developing technologies and their applications are reformed, there is a real risk of developing PE and PS solutions that are not well accepted by the intended stakeholders. A related threat is that of variants of PS which make it difficult to create interoperable eHealth solutions. For PS, the language barrier poses a specific threat for interoperability.

3.3.3 Complementarities in contextual elements (users, organisations, National HC systems)

A common **strength** is the growing consensus of national and EU-level policy makers and administrators about the need of and expectations about PE as well as PS. The common concern about high health care expenditures acts as a strong driver for implementation of PE and PS solutions.

A common contextual **weakness** is the varying needs of different stakeholders and contexts of use. There is not enough knowledge of the actual needs of administrators, professionals and client groups. Real patient benefits have often been overridden by organisational interests. This weakness is related to the lack of impact studies that study the benefits from different stakeholders' viewpoints.

A joint view of both PE and PS is that both are considered powerful instruments that offer future **opportunities** for healthcare (process) change and cost containment. The question remains, how much the rationality and the logic really is about patient empowerment at all?

For both PE and PS, though more prominent in PE, there is a future **threat** generated by uneven access to technology on the part of the clients, which is a non-health care specific phenomenon and corresponds more closely to what has elsewhere been called 'the digital divide'.

3.3.4 Complementarities in research and management of the joint activities

Both PE and PS are central elements in EU health strategy, supported by national roadmaps. This can be regarded as a powerful **strength**. Both are also part of national and regional programmes that have increasingly realistic implementation plans. eHealth ERA has conducted studies that have provided information about the current situation and trends for the basis of development of joint activities. Most countries have enough know-how to start active co-operation on collaborations with each other.

The current **weaknesses** in both PE and PS are related to the limited impact of the EU health strategy. The effort of the EU is modest and fragmented (in the field of PE, this issue did not rise in the PS report). Another weakness, which came up in the PS but not in the PE report, was the relative lack of quality of the countries' eHealth roadmaps: they often lack clear objectives and milestones and there is poor co-operation between the countries' separate roadmaps. Currently one could say that countries have no obligation to ensure that their roadmaps correspond. Both the PE and the PS reports emphasise the need for studies on local needs, implementation mechanisms, and development of ongoing programmes (as well as impacts of implementation).

As future **opportunities** for enhancing the joint international management, the PS report in particular suggests that a task force is needed to solve crucial issues (as the appropriate use of the diverse variants of patient summaries for various potential scenarios, as well as the related task-dependent data sets and the corresponding value sets) and the setup of a large scale pilot to study programme synergies. In the PE report, the opportunity offered by the EU-wide health portal aimed at policy makers and citizens to follow the eHealth activities and ACM model are suggested as tools for enhancing the joint management of activities. (See chapter 3.4.2 for more details on concrete suggestions for strategic actions).

Poor coordination of classification activities is raised as a future **threat** in the PS report. In the PE report the challenge of managing the simultaneous change of PE tools and healthcare processes emerges as a challenge for management.

3.4 Strategic opportunities for joint activities across PE and PS – preliminary conclusions from the desk top study

In this section the complementary Strengths, Weaknesses, Opportunities and Threats in each of the four categories described previously are used as the basis for discussion on suggestions for strategic actions to use strengths, reduce weaknesses, exploit opportunities, and defend against threats. The conclusions presented here are preliminary suggestions generated on the basis of the desk-top analysis. They are further elaborated in chapter 4 with the input from eHealth ERA project partners and the external experts.

3.4.1 Suggestions for strategic actions in defining joint ideas

Conceptual and standardisation work that has already been done to harmonise the PS and PE concepts offers a good grounding for generating joint definitions of Patient Empowerment and Patient Summaries. This is required as a starting point for future activities. However, the conceptual instability and heterogeneity give rise to a need for further work on harmonisation of the ideas for the basis of joint activities. The ACM-model offer good basis for extracting required PE activities within Access, Competence and Motivation.

3.4.2 Suggestions for strategic actions in Trans-European deployment of the ideas

A solid argument appears to be building for more applied organisational research to be done in the domain of health/eHealth. The current status and technology trends offer promising opportunities for future RTD and innovation development within PE as well as PS. It seems important that, while supporting the development of applications, emphasis will be put on interoperable solutions, participatory development and developing solutions that give real added value to all the relevant stakeholders (the clients, professionals, organisations and the financiers of the services). The shift from an emphasis on techno-centric development to simultaneous development of work and client processes, organisation of services seems important on the basis of these results. Resolving language and cultural barriers to enhance interoperability seem to call for special attention, when developing either joint European or international interoperable eHealth solutions.

The PS report suggests that “a network of voluntary contact points should study joint technological issues covering security, management of registries and repositories, mechanisms

about feeding and accessing data, criteria for certification” [8]. PE report suggests several strategic actions to improve PE [2], which could be used as a basis of future studies and joint actions. They are condensed into the following table 2.

TABLE 2. Strategic actions, patient empowering mechanisms and eHealth tools for different types of clients

Targeted population	Strategic action	Patient Empowering mechanism	eHealth Application
I: ACM	Increase offer of services	Communication Personalized Information Patient education. Health literacy Chronic Care	mHealth ePHR Educational tools eChronicCare
II: ACm	Increase motivation	Patient Education. Health literacy Chronic care	Educational tools eChronicCare
III: AcM	Increase competence	Design for all. Accessibility Patient education. e- literacy	Educational tools Inclusive eHealth
IV: aCM	Increase access	Applications using Mobile terminals Accessibility	mHealth Inclusive eHealth
V: Acm	Increase eSkills + motivation	Patient Education. e-literacy Chronic care	Educational tools eChronicCare
VI: aCm	Increase accessibility + motivation	Mobile Accessibility Patient Education. Health literacy Chronic care	mHealth eChronicCare Educational tools Inclusive eHealth
VII: acM	Increase accessibility + eSkills	Mobile Accessibility Patient Education. e-literacy	mHealth Inclusive eHealth Educational tools
VIII:acm	Increase access + eSkills + motivation	Mobile Accessibility Patient education.Health & e-literacy Chronic care	mHealth Inclusive eHealth Educational tools eChronic Care

Source: Report on Priority topic Cluster Two and recommendations D2.4, pg.101.

3.4.3 Suggestions for strategic actions for harmonisation of contextual elements (users, organisations, National HC systems)

On the basis of the previous analysis, it is apparent that the awareness of both PE and PS and their potential benefits is relatively well established within the EU eHealth policy maker’s community. There is also to some extent, an apparent consensus on the needs to enhance activities towards implementation. There are, however, various, partially differing needs within and between different stakeholder groups. Increasing access via multiple technologies to PE and PS solutions is widening the possibilities for implementation, but uneven access to different technologies poses a threat. By paying attention to more equality of access and eInclusion aspects, it may be possible to enhance further adoption of PE and PS solutions.

Collating existing studies and conducting further studies of the actual needs and requirements of the different stakeholder groups and involving the various groups in the development seems important on the basis of contemporary results.

The PE report was based on a more thorough analysis of the literature than the PS report, suggesting that a more systematic review of existing practises and studies of them is required in the field of PS. The PS report already lists some topics that would require a more thorough study. These include “*clinical issues, with spontaneous descriptions of structured clinical documents and their content, as well as the indicators that can be obtained for clinical governance and management (made available in English). Preliminary detailed information should be acquired, about the kinds of*

documents involved, their authors, their expected content and the granularity of agreed structures/mark-up, the triggers for exchange, the criteria for access, the envisaged readers, the expected processing of the received data, the relations to particular clinical pathways.” [8].

Neither of the reports went into detail about stakeholder involvement issues. They did not collect studies of stakeholder involvement, methods used and impacts of this involvement, which could be an important next step for understanding stakeholder involvement in eHealth.

Both reports emphasised developing users’ competence and motivation to deploy PE and PS through education. The PE report suggestion of the strategic actions followed by the ACM analysis includes the following actions that are categorised according to different client groups.

3.4.4 Suggestions for strategic actions in research and management of the joint activities

The national roadmaps of the Member States as well as EU strategies seem to offer solid support for both PE and PS. These should be further developed to operationalise the objectives and activities, milestones and timelines for the tasks in order to provide a basis for concrete collaborative activities between such countries that have similar targets and timelines. The PS report suggests a task force is needed to resolve crucial topics and arrangement of a large scale pilot to study programme synergies.

There is information about the current situation and trends within different thematic areas as well as cross-country experiences for the basis of development of joint activities in a systematic way [9]. This information should be “marketed” to Member States to be used as the basis for benchmarking and planning of collaboration. Further information is, however, needed about local needs, implementation mechanisms, ongoing programmes, and effects and cost-benefits of different applications.

Within PE, there is the opportunity for the creation of an EU-wide health portal aimed at enabling policy makers to follow and communicate the development of eHealth activities. The ACM model is offered as a concrete tool for studying PE and detecting the potential for enhancing joint activities in the areas suggested by the models as well as in relation to EU health policy in the i2010 context.

The joint activities require good coordination. The PS report suggests that *“a small team is set up to collect material, prepare surveys and comparative reports, and coordinate the activities, with the assistance of the Commission Offices and of the ERA project (as Topic Cluster 1). This could be done by volunteers, with the help of at least two members of the i2010 subgroup on eHealth (from different Ministries in different Member States) who would act as a liaison with, analogously, two members of the eHealth Stakeholders’ Group. As its first activity, this team should revise the present list of elements for a strategy, to submit a formal proposal to the Ad Hoc Group on eHealth.” [8].* It should be noted that the roles and names of these groups have shifted, and may continue to shift.

Further suggestions include a proposal to *“establish a network of voluntary contact points on policy and organisation, technical and clinical issues, collect data on these issues, study the material to find commonalities and differences and work out a plan to go towards bilateral and multilateral cooperation and data sharing. [8].* The report also offers a suggested list of topics for a possible explorative task force on PS.

4 SUMMARY AND CONCLUSIONS

The analysis has produced three distinct outcomes. This chapter summarises these outcomes: In chapter 4.1.1 the final understanding of the SWOT elements in the context of eHealth ERA is presented, updated with the expert group comments. Chapter 4.1.2 presents the actual S's, W's, O's and T's, updated with the expert group discussions – The SWOT table (Table 4). Chapter 4.2 presents conclusions of the analysis updated with the expert group proposals and Work Task 2.3 report [9] in form of suggested actions.

Before presenting the conclusions, it should be noted that there were some limitations in this study that impact the reliability of the results. Instead of generating the analysis in a working group session, the preliminary conclusions were drawn on the two Priority Topic Cluster reports' analysis. The reports were quite different in content and nature. The definition of the “organisation” was delusive, consisting of a loose community of policy makers, implementors and researchers of eHealth issues in Europe. The activities of this community are at present dispersed, posing a challenge for defining the possibilities for joint activities. Also defining the business categories was not as straight forward as in an analysis conducted in a company context.

To reduce the impact of these limitations, the analysis was subjected to comments and feedback in several occasions (discussions of the a priori definitions in Madrid project group meeting in December 2006; e-mail comment round in February-March 2007; discussions in Krakow meeting in April 2007 and finally the three-hour expert meeting in Brussels (14.6.2007) organized by the eHealth ERA project.

4.1 Summary of the key outcomes of the study

4.1.1 The SWOT elements in the eHealth ERA context

The analysis produced a modified definition of the SWOT elements compared to the definitions presented by the SWOT literature. The relevance of this modified definition are twofold: first, the definition can be used in consequent SWOT analyses undertaken in similar contexts, especially where the definition of the organisation and business categories is not as straight forward as in corporate contexts. Secondly, and more importantly, the definition implements a methodology by which preliminary desk-top analysis on concrete activities can be taken as basis of high level group session and decision making about strategic actions.

The modified definitions compared to the definitions provided by the literature are presented below.

TABLE 3. The a posteriori definitions of the SWOT elements

Element	Definition in the literature	eHealth ERA modified definition
Community	Company (department or organisation)	The European eHealth implementation and policy makers community
Objective	reviewing a strategy, position or direction of a company or business proposition, or any other idea.	Analysis of conditions for joint eHealth implementation in Europe
Purpose of SWOT	to get the management team to agree on and commit to a comprehensive set of action for change/ development	to identify what the member states could do together to facilitate integrated and interoperable European health information space
Methodology	group session.	Three-phase approach 1) desk-top analysis of selected reports focussing on two eHealth application areas 2) search for communalities between areas 3) group session on validating – further developing the desk-top analysis results
SWOT	<p>1. Strength = internal activity performed well, advantage, asset, identified strength of the community</p> <p>2. Weakness = internal activity performed poorly, identified critique, complaint, vulnerability</p> <p>3. Opportunity = External change in environment (organisation, technology, policies, socioeconomics and demographics) which we know of, which can be exploited, emerging trends to be exploited</p> <p>4. Threat = External factor that blocks our progress, competitor's advantages, change anticipated in the markets, weaknesses that make us vulnerable</p>	<p>1. Strength = current attribute or phenomenon within PE or PS activity that paves way and supports development of joint activities (known advantages of production, customers, distribution, finance and administration of PE or PS)</p> <p>2. Weakness = current attribute or phenomenon within the PE or PS activity, identified need or requirement that impedes joint PE or PS-activities (known disadvantages within the business categories)</p> <p>3. Opportunity = suggestion, proposal, possibility, future phenomenon, activity that is likely to support development of joint PE/ PS activities (anticipated advantages of production, customers, distribution, finance and administration of joint PE and PS)</p> <p>4. Threat = challenge, condition phenomenon or activity visible in the future that is likely to hamper development of joint PE or PS activities (anticipated disadvantages within the business categories)</p>
Business categories - SWOT in:	<p>1. Product (what are we producing and "selling")</p> <p>2. Process (How are we producing and selling it?)</p> <p>3. Customers (to whom are we selling?)</p> <p>4. Distribution (how does the product reach the customers?)</p> <p>5. Finance (at what price do we produce?)</p> <p>6. Administration (how do we manage and develop all this?)</p>	<p>1. Product = concept or idea of PE, PS. The expert group suggested that it is through these and other eHealth activities that member states are in fact trying to sell "mobile Health"</p> <p>2, 4. Process and distribution = Deployment: application fields, application tools and their diffusion</p> <p>3. Customers: Users (citizens, professionals, organisations, national HC systems), needs, contextual features</p> <p>6. Research and management of (joint) PE and PS activities. The expert working group discussion stressed, that also the question of financing should be included in this category</p>
Competitors		eHealth communities in other continents (Asian, American, African, Australian) to the extent that they can be identified, focussing on implementation

A suggestion was raised by the expert group on elaboration of defining the "product" as "mobile Health" to European citizens through eHealth solutions like PS and PE. Suggestion was also made that it would be important to study use cases especially in home care and elderly care, since there are no proper use cases of Patient Summaries as yet.

A question was also raised of the key importance on discussing and agreeing on the financing the joint eHealth activities. It was emphasised in the SWOT presentation for the expert group that the used definitions emerged from the data. Since there were no contents in the report on the question of financing the joint eHealth activities, the finances could not be included as a separate category. This extension was, however, added to the conclusions on activities in management of the joint activities.

4.1.2 The common SWOT across the modified business categories

The second outcome of the study are the actual common Strengths, Weaknesses, Opportunities and Threats in each of the modified business categories. The updated results are presented in Table 4. Comparing the table 4 and a template to guide a SWOT analysis (appendix 2 to this report) raises some questions that the PE and PS reports did not cover, which would need to be studied further. These questions are at least three in number:

- 1) What evidence is there of concrete benefits from PE and PS for different stakeholders?
- 2) What are the impacts on different stakeholders, national and international policies and legislation?
- 3) What are the SWOT of the financing of eHealth, and what evidence is there of the costs and return of investment (ROI) of PE and PS?

Proceeding with a SWOT analysis in inherently subjective in character, even if part of the process was “objectified” by content analysis of the two Priority Cluster reports, using a scientific method. The common SWOT which condensed into Table 4 were critically reviewed in the joint expert meeting in order to agree on the classification and contents.

As a strength for joint activities, it is important, that there seems to be a common understanding in EU, its member states and further countries about the importance of not only PE and PS activities, but eHealth in general. The ideas of the EU eHealth Action Plan (2004) have been quite well adopted on the national policy level, even if the time frame from policy-level discussions to full deployment is rather long. The infrastructure (national and regional eHealth networks) is operational or in planning in the majority of countries. (for more details, see [9]). There are national examples of PE and PS as well as most of the other eHealth applications in several or most EU countries with ongoing work on standardisation and semantic interoperability. A common concern about high health care expenditures acts as a strong driver for implementation of eHealth solutions, and there is also increasing readiness for eHealth adoption within the user communities. The expert working group noted a recent study conducted in UK (which.co.uk) revealing that the citizens are comfortable with eHealth and want to access their own data. Implementing eHealth is more a question of convincing the doctors and administrators. There is also on-going work and initiatives for joint activities: e.g. the eHealth indicators work which is ongoing, an innovation programme, which is open until 23.8, and the large scale pilots’ call which is also open. There are ca 100 cross border cases and the Baltic Sea network, which have solved many problems. The Commission has also published some good practices e.g. in form of common quality criteria for health related web-pages.

Common weaknesses that emerged across the PTCs and in general were that the impacts of the EU health strategy are still limited and fragmented without strong coordination Member states have no obligation to ensure that their roadmaps correspond (see also [9]). A common understanding and definition of eHealth related concepts is still missing. Implementation stage and mechanisms vary greatly from country to country. eHealth implementation is complex, bringing often more problems than solving. The development of eHealth applications is rarely

TABLE 4. The joint SWOT across different business categories

JOINT STRENGTHS	JOINT WEAKNESSES
<p>There is support, synergies and (long) history of defining PE and PS concepts in member states</p> <p>There is know-how and national examples of deployment, with variants reflecting the needs of different contexts of use. There is a lot of information on user-centred design approaches.</p> <p>Cost and quality improvement act as a strong driver for developing PE and PS solutions. There is increasing amount of activity of advocacy groups and readiness for change in the clientele.</p> <p>The visibility of PE and PS in EU and many national eHealth strategies is good. Joint activities can be grounded on the existing know-how. EC has supported initiatives. Implementation plans are increasingly realistic.</p>	<p>Both concepts are heterogenous and unstable. Language barriers offer an additional obstacle</p> <p>The implementation is in different stages in member states, focusing on different elements and deployment mechanisms. Experience is still weak. User-centred design is more rhetoric than reality.</p> <p>The needs of different stakeholders and contexts vary. Deployment has focused on organisational interests instead of patient benefits. Readiness for change distributed unevenly.</p> <p>There is lack of co-operation and coordination of joint eHealth activities. There is lack of research on policy implementation, impacts, local needs of eHealth. Information on SWOT of eHealth funding is missing.</p>
JOINT OPPORTUNITIES	JOINT THREATS
<p>The existing classification and standardisation work offers good opportunity for programme synergies.</p> <p>Technology developments and trends offer promising opportunities for future RTD and innovation development. Good practices can be collected for the basis of defining joint activities. There is increasing evidence on benefits of user-producer collaboration.</p> <p>Clientele is increasingly aware and demanding.</p> <p>Joint coordinated actions offer possibilities to tackle weaknesses, threats and manage development.</p>	<p>The idea of PS and PE remain unrealistic and rhetorical, without commonly agreed concepts, contents and practical applications.</p> <p>User-centred approaches are ignored, eHealth solutions will not bring added value to key stakeholders leading to poor user acceptance. The co-development of services and technologies is complex. Variants make it difficult to generate interoperable solutions.</p> <p>The customer benefits are overridden by organizational benefits. The digital divide causes uneven access to services.</p> <p>Common interests and objectives for joint activities cannot be found. Management of joint activities remains weak. Evidence on cost-benefits in cannot be found.</p>

well grounded in service and organizational processes. Organisational aims and objectives often override workers' or clients' needs leading to poor acceptance of applications. Varying needs of different stakeholders and contexts of use call for trade-offs, making it difficult to create win-win applications. The expert group also confirmed that the market is at present fragmented. There are no use cases where conflicts of interests and collaborative interests are analysed from different stakeholders' viewpoints. There is not enough knowledge of concrete applications, actual needs of administrators, professionals and client groups, implementation and diffusion mechanisms of eHealth solutions. There is also a lack of impact studies that study the costs, benefits and impacts from different stakeholders' viewpoints, and SWOT of the eHealth financing issues.

Common opportunities that emerged across the PTCs and in general included the standardisation and classification work. It builds a strong basis and future opportunity to develop EU-wide interoperable applications. Semantic and conceptual harmonisation can act as an enabler for synergies among policy-related programmes. Market fragmentation, legal and data protection issues and procurement will raise eHealth on the political agenda. The current status and technology trends offer promising opportunities for future RTD and innovation development within eHealth. These issues together with the increasingly aware and demanding clientele can act as strong drivers for development. The variants of applications and the varying implementation mechanisms can be seen not only as a threat but also as an opportunity for development: As

the EU countries are at different stages of implementation, the further advanced countries can provide benchmarks and support the newcomers. Grounding the technology development to the contextual needs of the managers, practitioners and clients through participatory development poses an opportunity for developing practical solutions that will be accepted by the stakeholders. If successful, joint activities can build a basis for interoperable solutions.

Some common threats across the PTCs and in general were also identified. These included a threat of implementation remaining small-scale without interoperability, diffusion and expected impacts. Language barriers, specific features of national health care systems and related specific national legislations, crossing interests of different players may fragment the joint development and prevent from setting common goals. There is a further threat caused by the liability of professionals in cross-boarder eHealth production emphasising the questions on legal issues when exchanging ePrescriptions, patient summaries or other patient data across Europe. Public health systems are different in different member states. Uneven access to technology especially on the part of some client groups can cause 'the digital divide' to deepen. Interests of technology providers and technology policies may continue to override the interests of health and social policies, service providers and clients without genuine willingness to collaborate. Implementing collaborative, participatory design requires a change of planning and design culture in technology and service providing organisations, as well as in the financing institutes. Without genuine willingness and skill for co-construction of new, innovative services with ICT in these organisations the acceptability of solutions and benefits for different parties will remain poor.

4.2 The updated suggestions on strategic actions

Equally important than agreeing on the joint Strengths, Weaknesses, Opportunities and Threats is to propose actions jointly that should be taken on the basis of these results. The preliminary list of the suggested joint actions (chapter 3.4) was updated with the feedback from the expert group meeting. Overall, the expert group meeting did not contradict any of the "ten commandments". As one of the experts put it: *"I could agree on most that has been said."* Another member state representative stated: *"We have identified two opposed approaches in our development: Some stakeholders prefer to implement fast and see what happens, others to define use cases, the needs and then implement solutions to the needs. The 10 suggestions and the working group discussion clearly speak for the second alternative offering a guideline for gaining user acceptance."* The expert group made, however, some important elaborations on the initial suggestions. These are indicated in the following as outcomes of the expert group session.

The final ten suggestions – updated from chapter 3.4 with the expert group feedback and Work Task 2.3 report [9] – were grouped into the four identified business categories as follows:

A. create a joint view of the "product" – European eHealth concepts

- 1) The community should create joint minimum definitions of the thematic areas and related concepts (e.g. Patient Empowerment [PE] and Patient Summaries [PS]) based on the existing definitions for the basis of international collaboration
 - Conceptual similarities and differences of the different eHealth application areas and classifications should be studied in order to find common ground, agree on common definitions and operationalisations that reflect needs of different stakeholders
 - Resolving language and cultural barriers so as to enhance eHealth interoperability seem to call for special attention when developing joint international solutions.

- B. select common target activities and agree on basic principles for the European eHealth Deployment**
- 2) Member states should agree on jointly defined target activities for cross-country deployment for different sectors using existing experiences and use-cases, national objectives and studies on stakeholder needs and requirements.
 - The expert group elaborated on this suggestion by stating, that use cases should be collected in each sector and thereby identify issues, where member states could have a common interest in collaborating. Patient Summaries is not a good sector for use cases since there are still none available. A presentation in the Rome conference on development of information flow in elderly care could be used as one interesting use case.
 - The outcome of Work Task 2.3 [9], helps to pinpoint those RTD topics or topic clusters and road mapping activities for which cooperation is essential or may hold the greatest promise. To identify these, four different strategies could be applied:
 1. to identify clusters where there are previous common deployment activities in several countries that coincides with policies in the corresponding countries (existing experience + national interests = existing basis for cooperation activities). Those clusters, where there was active policy + deployment in over 10 member states (table 21 in [9]) include Electronic Health Record or Electronic Patient Record, Standards, Telemedicine and Cards (professional and client ID).
 2. to pinpoint activities, where there are common policy activities with deployment in some countries (national interest + lead user experience = basis for benchmarking and learning) In Table 21 [9], areas, where there was interest in policy level in over 10 member states with lead user experiences available, included Service Network Infrastructure. The table does not necessarily give a realistic picture of the broadband network situation in member states. It can however be anticipated, that fast (especially) mobile networks will in future increase in importance, supporting patient empowerment, self care and mobility.
 3. to pinpoint activities known essential for information exchange: These include networks and interoperability between the systems and data exchanged. Semantic interoperability (Patient Summaries) was identified already in eHealth ERA as one priority topic cluster, even though there is still relatively little experience on its deployment. Standardisation and fast (mobile) networks was discussed earlier.
 4. to identify future trends, which call for development and cooperation. In eHealth ERA, one of these – patient empowerment – was already identified: It includes systems for self prevention and self care, as well as some telemedicine applications with client interfaces. The expert group emphasised applications for home care and elderly care, which is an application area increasing in importance due to population ageing. In addition, table 21 [9] helps pinpoint areas where there is wide implementation without policy objectives. These include patient portals (can be seen as applications for self prevention and self care) and legislation.
 - 3) In deployment of the eHealth applications, member states should encourage a shift in emphasis from techno-centric development to co-construction work, client and information processes and organisation of services. Deployment mechanisms with stakeholder participation should be encouraged. Due to differences in the service delivery systems and their regulation in different member states, special attention should be paid in searching commonalities in the work, information and client processes as well as organisation of services for the basis of cross-country deployment.

- The expert group emphasised the need for a collaborative approach: eHealth acceptance it is not only a question of the patients or doctors views. Patients have contacts with different professionals.
 - The expert working group stressed, that it is important to start with simple solutions and voluntary basis to develop use cases (SMALL STEPS APPROACH), not to copy an existing solution. An example was cited where a simple EPR solution with some key features brought added value to users and was implemented as a commercial activity. The use case was used by the service providers to communicate with the ICT developers.
- 4) Member states should work jointly further with common technological issues that have already been identified including security, management of registries and repositories, mechanisms for feeding and accessing data and certification. (See PS report for details.)
- Minimum requirements could be set for the eHealth applications in order for them to be secure, interoperable and at the same time meet the contextual needs of different stakeholders.
 - Comparison of different eHealth applications' specifications, deployment mechanisms and impacts on different stakeholders in different situations/contexts could act as a basis of detecting best practices and practical interoperability issues.
 - The experiences of different countries could be structured, shared and used for mutual learning and creation of interoperable systems.

C. increase understanding of different users and contexts of use

- 5) Member states should pay attention to equal access and eInclusion and create mechanisms for stakeholder involvement (participation) issues in order to enhance added value of solutions to key stakeholders and thereby wide adoption and acceptance of eHealth solutions. A question about cross-boarder care quality and cost should also be solved.
- Conditions to access eHealth solutions should be studied and barriers to the digital divide tackled (e.g. Health literacy).
 - The expert group discussions added that it is also important to consider the element of trust when generating joint activities. It is not uncommon for a specialist to start from zero in the treatment due to not trusting the work done by general practitioners. (Indicating to a need to generate common, European level quality standards for treatment).
- 6) Member states should continue to increase users access, competence and motivation to deploy eSolutions (for PE and PS) as well as producers' competence to develop acceptable solutions through education. (See PE report for details)
- Education is needed for technology companies, service providers and citizens to become competent actors in collaborative eHealth development and use.
 - Actual impacts on costs and benefits of different eHealth applications should be studied in order to generate realistic "market rhetoric" and motivation for the users to accept eHealth solutions.

D. Improve joint management, coordination and research of European eHealth

- 7) Member states should develop National eHealth strategies and roadmaps further to operationalise the objectives and activities, milestones and timelines for the collaboration of countries that have similar targets and timelines. Critical topics could be resolved by a relevant task force. A large scale pilot to study programme synergies could be arranged.
- Further information is needed about ongoing programmes on eHealth.
 - The expert group stressed the need for the member states to take responsibility in developing the roadmaps.

- 8) Member states should support research on analysis of the member state objectives, collect evidence on the use cases, cross-boarder activities and users' needs and requirements to inform decision making and management of joint eHealth activities. It is important to study the critical factors that enhance and impede eHealth deployment.
 - According to the expert group meeting, discussing and agreeing on the financing of the joint eHealth activities is also of key importance in management of the joint activities. A question of how the payments will be organised has also not been solved.
- 9) Research should be conducted on the key issues enhancing and impeding the development.
 - The expert group stressed the role of use cases, which raises the question of learning from different studies by comparative analysis from the point of view of different stakeholders.
 - Comparative analysis of eHealth strategies and roadmaps is needed to increase understanding of the member state goals and their deployment mechanisms.
 - Research on mechanisms for supporting wide market acceptance (studies on critical factors in development, implementation and diffusion), including evidence on concrete benefits of eHealth applications for the different stakeholders (costs and ROI (return of investment)).
- 10) Management of information on current situation, trends, objectives and progress should be transparent. Common information space could be used as the basis for benchmarking and of planning of collaboration.
 - The working group elaborated that the eHealth ERA website is an important tool for collating and transferring information.
 - The working group suggested that there could also be a need for a member state wide journal on eHealth to communicate study reports and material in a journalistic way to make the data more usable for decision making.

The way towards the proposed developments has been paved by many current development trends. Demographic trends as well as rising health care expenses act as strong drivers for these developments. The PE and PS scenarios are becoming more realistic with the development and diffusion of contemporary ICTs like the internet and mobile telephony. Both concepts are complex and pose a challenge for interdisciplinary research and development as well as some technical issues to be solved. The Priority Topic Cluster reports present a number of concrete tools (like the ACM model) that focus on the future activities needed, and present a basis for further analysis on opportunities for cooperation of eHealth within the EU.

5 FINAL REMARKS

The task of defining let alone acting on the agreed action points is demanding in corporate world, where the business, actors and activities are well defined. The difficulties are magnified in the EU eHealth context, where all of these elements are ill defined. This document is one step towards defining these elements and suggesting some common actions for the community defined. Both the definitions and suggestions still represent merely a preliminary view of the community, business areas and areas where the Member States could work together and facilitate co-operation. In terms of learning, this report provides **orientation** to the task at hand. The results need to be further elaborated; verified and suggested actions prioritized by the member States for a roadmap of joint eHealth activities. Gaining wide acceptance and translating the SWOT issues into actions in each of the four categories makes them more quantifiable and measurable, the responsible teams more accountable, and therefore the activities more manageable.

The ultimate question that remains to be answered after agreeing on and prioritising the results is who and how to **act** on the actions agreed - in corporate terms 'what shall the team do' about the issues in each of the identified issues. Acting converts the collective agreement and commitment (**motivation**) into concrete achievements towards meeting or exceeding the objectives set. It permits the eventual, agreed team leader to define and develop co-ordinated, goal-directed actions, which underpin the overall agreed objectives among levels of the business hierarchy.

The results indicate that the first step in prioritizing the results and elaborating them further could be to identify and analyse the experience on concrete, ongoing joint activities, use cases ("joint" is understood here to mean collaboration among countries) as well as potentially possible joint activities within different eHealth topics, where there are shared objectives between member states. Concrete targets for joint activities as well as conditions for their development could then be jointly defined between several Member States.

References

1. Commission, GREEN PAPER The European Research Area: New Perspectives (Text with EEA relevance). Brussels, 4.4.2007 COM(2007) 161 final {SEC(2007) 412}. 2007.
2. Monteagudo, J.L. and O. Moreno, ICT Enhanced Patient Empowerment. Report on Priority Topic Cluster Two and recommendations, in WP 2deliverable D 2.4. eHealth ERA Project: Towards the Establishment of a European Research AREA. 2007, Research Area of Telemedicine and Information Society, Institute of Health Carlos III: Madrid, Spain.
3. Comyn, G., ICT PSP – WP2007 ICT for Sustainable and Interoperable Health services. ICTPSP Info Day, Brussels, 24th May 2007: slide 6. 2007, ICTPSP: Brussels.
4. Wikipedia, SWOT analysis. 2007.
5. Bodker, K., F. Kensing and J. Simonsen, Participatory IT Design. Designing for Business and Workplace Realities. 2004, Cambridge, Massachusetts: The MIT Press.
6. Cistrana, National Policy Priorities and R&D Programmes in the Field of ICT. Report on Cistrana Workshop Brussels, 8.11.2005. 2005.
7. Conference, e., eHealth in Europe: Succeeding Together. European Co-operation on Europe-wide Electronic Health Services. 17 April 2007: eHealth Conference 2007 Declaration - Final. 2007.
8. Rossi Mori, A., et al., Report on Priority Topic Cluster One and recommendations: Patient Summaries. 2007, eHealth Unit, Institute for Biomedical Technologies, CNR.
9. Hämäläinen, P., P. Doupi, and H. Hyppönen, The European eHealth policy and deployment situation by the end of 2006. Deliverable 2.2 of the eHealth ERA project., in eHealth ERA. Towards the Establishment of a European e-Health Research Area. FP6-2005-IST-015854. <http://www.ehealth-era.org>. 2007.

Appendix 1

The analysis procedure

1. The document analysis

Both PTC reports were converted to txt-format and assigned into AtlasTI-analysis programme as two primary data sets (P1 and P2) of a single hermeneutic unit (ERA). This method of importing the data made it possible to analyse both reports using a single coding system. Adding an identification of the report in front of each code created allowed the analyst to follow commonalities and differences, but still left space for creating document-specific codes. The search for commonalities was left to a further analysis (meta-analysis) done on the basis of code lists generated from the separate data sets (P1 and P2). The first coding round (open coding phase) proceeded by creating codes naming the text segments in both primary data sets with names representing the actual content of the text segment (grounded analysis). The open coding process is illustrated in figure 1.

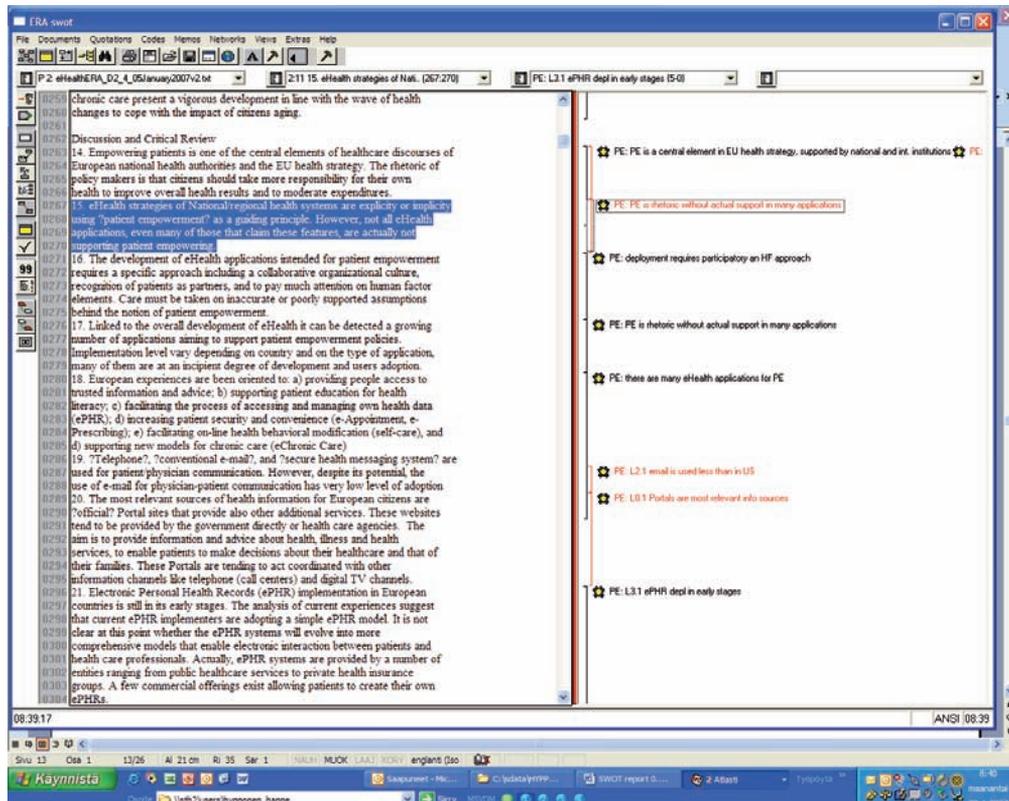


FIGURE 1. Open coding of the data

In the second coding round (which is called axial coding), the code lists were sorted and arranged hierarchically by adding summary or head codes to the code list. These codes were drawn from the SWOT elements (product, process and distribution, customers, and research and management); The codes generated in the previous coding phase were arranged under the appropriate heading. At this stage, each text segment was also given a property of a strength, weakness, opportunity or threat in relation to developing joint activities within the business category.

The screenshot shows a software interface for axial coding. The main window displays a list of text segments with associated codes. A 'Codes' window is open, showing a list of codes and their descriptions. A 'PE' window is also open, showing a list of codes and their descriptions.

Codes

- PE: Deployment (0-0)
- PE: deployment - application areas - 1 direct communication as basic means has a
- PE: deployment - application areas - 1 direct communication with new ICT requires
- PE: deployment - application areas - 2 health literacy as opportunity to press + ecor
- PE: deployment - application areas - 2 health literacy lack is a risk for PE (1-0)
- PE: deployment - application areas - 2 info access - many ways to support (1-0)
- PE: deployment - application areas - 2 info access is a complex entity (1-0)
- PE: deployment - application areas - 2 info access site is increasing (1-0)
- PE: deployment - application areas - 3 Patient ed. exp. modest (1-0)
- PE: deployment - application areas - 3 Patient education offers opportunities (1-0)
- PE: deployment - application areas - 3 patient education tools development should
- PE: deployment - application areas - 4 decision aids - growing range available (1-0)
- PE: deployment - application areas - 4 decision aids - no evidence of best means to
- PE: deployment - application areas - 5 targeted groups increasing in re and sprals
- PE: deployment - application areas - 5 targeted groups uncontrolled, no evidence
- PE: deployment - application areas - 6 self care management - ePHR offers high st
- PE: deployment - application areas - 6 self care management applications increasir
- PE: deployment - application areas - 7 chronic care is receiving growing attention i
- PE: deployment - application areas - 7 chronic care patients attitudes in self-manag
- PE: deployment - application areas - 7 chronic care platforms for personalized servi
- PE: deployment - application areas - 7 chronic care solutions becoming too comple
- PE: deployment - application areas - 7 chronic care solutions fall if without doctor a
- PE: deployment - application areas - 7 chronic care solutions produced mainly to st
- PE: deployment - application areas - EU has experience on different application an
- PE: deployment - applications - L0 Internet - gain increased opportunity for consu
- PE: deployment - applications - L01 internet as the main channel for decision aids
- PE: deployment - applications - L01 portals - EC public health programme learned
- PE: deployment - applications - L01 Portals (gov) are most relevant info sources i
- PE: deployment - applications - L01 Portals act with call centres and TV (1-0)
- PE: deployment - applications - L01 problems with internet (1-0)
- PE: deployment - applications - L01 weak alternative formats to internet (1-0)
- PE: deployment - applications - L1 1. Addressing how home based for home P. 0)

PE

- PE: management - is a central element in EU health strategy, supported by national an
- PE: strength
- PE: classification - PE is rhetoric without actual support in many applications
- PE: weakness
- PE: deployment requires participatory on HF approach
- PE: threat
- PE: deployment - applications - there is growing nr of eHealth applications for PE
- PE: opportunity
- PE: deployment - application areas - EU has experience on different application areas
- PE: strength
- PE: deployment - applications L21 email is used less than in US
- PE: threat
- PE: deployment - applications - L01 Portals (gov) are most relevant info sources
- PE: strength
- PE: deployment - applications - L01 Portals act with call centres and TV
- PE: strength
- PE: deployment - applications - L21 ePHR depl in early stages
- PE: weakness

FIGURE 2. Axial coding of the data

When the axial coding was completed, the hierarchical code list was transferred from Atlas TI to Word and cleaned (the abbreviated code names were completed to sentences, primary data set and business category identifications from code names were removed).

Appendix 2

SWOT Analysis Template

Please note that these criteria examples relate to assessing a new business venture or proposition. Many listed criteria can apply to other quadrants, and the examples are not exhaustive. You should identify and use any other criteria that are appropriate to your situation.

<p>criteria examples</p> <p>Advantages of proposition? Capabilities? Competitive advantages? USP's (unique selling points)? Resources, Assets, People? Experience, knowledge, data? Financial reserves, likely returns? Marketing - reach, distribution, awareness? Innovative aspects? Location and geographical? Price, value, quality? Accreditations, qualifications, certifications? Processes, systems, IT, communications? Cultural, attitudinal, behavioural? Management cover, succession? Philosophy and values?</p>	<p>strengths</p>	<p>weaknesses</p>	<p>criteria examples</p> <p>Disadvantages of proposition? Gaps in capabilities? Lack of competitive strength? Reputation, presence and reach? Financials? Own known vulnerabilities? Timescales, deadlines and pressures? Cashflow, start-up cash-drain? Continuity, supply chain robustness? Effects on core activities, distraction? Reliability of data, plan predictability? Morale, commitment, leadership? Accreditations, etc? Processes and systems, etc? Management cover, succession?</p>
<p>criteria examples</p> <p>Market developments? Competitors' vulnerabilities? Industry or lifestyle trends? Technology development and innovation? Global influences? New markets, vertical, horizontal? Niche target markets? Geographical, export, import? New USP's? Tactics: e.g., surprise, major contracts? Business and product development? Information and research? Partnerships, agencies, distribution? Volumes, production, economies? Seasonal, weather, fashion influences?</p>	<p>opportunities</p>	<p>threats</p>	<p>criteria examples</p> <p>Political effects? Legislative effects? Environmental effects? IT developments? Competitor intentions - various? Market demand? New technologies, services, ideas? Vital contracts and partners? Sustaining internal capabilities? Obstacles faced? Insurmountable weaknesses? Loss of key staff? Sustainable financial backing? Economy - home, abroad? Seasonality, weather effects?</p>

REPORT-series: Previous publications

2008

Avuttomuus lainsäädännössä. Sosiaali- ja terveydenhuollon ulkopuoliset tekijät -työryhmän 1. raportti
Raportteja 14/2008 Tilausnro R14/2008

Rauha Heikkilä, Harriet Finne-Soveri, Jussi Ripsaluoma, Anja Parikka, Ella Suojalehto, Anja Noro.
Koukkuniemen vanhainkodin asiakasrakenne ja hoidon laatu RAI-järjestelmällä arvioituna 2006–2007
Raportteja 13/2008 Tilausnro R13/2008

Virpi Hotti, Riikka Huttunen, Ani Kajander, Antero Lehmoskoski, Matti Ojala, Teppo Taskinen, Timo Tiihonen. Tietämyksenhallinta ja ontologiat sosiaalihuollon näkökulmasta
Raportteja 11/2008 Tilausnro R11/2008

Marja-Liisa Heiskanen. Henkilökohtaisen avustajajärjestelmän kaksi vuosikymmentä suomalaisessa vammaispolitiikassa
Raportteja 10/2008 Tilausnro R10/2008

Hannele Hyppönen & Anne Niska. Kohti kansalaisen sähköisten terveyspalvelujen rakentamisen hyvää käytäntöä
Raportteja 9/2008 Tilausnro R9/2008

Hanna Heikkonen, Tero Meltti, Soila Mäkitalo (toim.). Verkkokonsultointi sosiaalialalla. Malleja ja kokemuksia sähköisistä konsultointipalveluista
Raportteja 8/2008 Tilausnro R8/2008

Maisa Toljamo & Marja-Leena Perälä. Kotihoidon henkilöstön työn, työtyytyväisyyden ja palvelujen laadun muutokset PALKO-hankkeen aikana. Kysely kotihoidon henkilöstölle vuosina 2001 ja 2003
Raportteja 7/2008 Tilausnro R7/2008

Helinä Kotilainen, Outi Räikkönen. Käyttäjien arvioita päiväkirurgisten yksiköiden tiloista
Raportteja 6/2008 Tilausnro R6/2008

Markku Pekurinen, Hennamari Mikkola, Ulla Tuominen (toim.). Hoitotakuun talous. – Hoitotakuun vaikutus terveydenhuollon menoihin, toimintaan ja sairausvakuutuskorvauksiin
Raportteja 5/2008 Tilausnro R5/2008

Marjaliisa Kauppinen. Omakielisten sosiaali- ja terveydenhuollon palvelujen järjestäminen kaksikielisissä kunnissa
Raportteja 4/2008 Tilausnro R4/2008

Minna Pietikäinen, Pauliina Luopa, Annikka Sinkkonen, Jaana Markkula, Jukka Jokela, Riikka Puusniekka. Kouluterveyskysely 2007 ammatillisissa oppilaitoksissa Kainuun maakunnassa ja Oulun seudulla
Raportteja 3/2008 Tilausnro R3/2008