University of Applied Sciences and Arts Northwestern Switzerland
School of Business

Applied method of inner company innovation management at Swiss Post

Case study Swiss Post

This thesis documents the business implementation of the top-down and bottom-up approaches to drive innovation at Swiss Post, compared against the latest theories.

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Abstract/ Management Summary

Swiss Post distinguishes between bottom-up and top-down innovation. Top-down innovation is an initiative or campaign as a question or request towards a group of experts. This group can be all employees or a selected committee of internal or external individuals.

By the example of the case at Swiss Post, tools, methodologies and strategic implementation are explained.

Bottom-up approaches are initiated by internal personnel or departments. This is for the continuous improvement process as well as for the radical innovation process. A web based tool called PostIdea is used to describe and gather ideas. Ideas, if incremental, reach an expert of a particular field to take care, if radical, they are passed to an innovation manager.

Top-down and bottom-up innovation are let through a stage-gate process. Once accepted into the process, CHF 50’000 are available to initialy develop a business idea. Through a stage-gate processes, juries judge the ideas upon expertise.

Innovation management is situated within corporate human resources but reports directly to the CEO. It has a budget available of 1.5‰ of the corporations annual turnover. Innovation management at Swiss Post provides tools and methodology to drive innovation but doesn’t act as a R&D department but can start initiatives.

It operates in the fields of communication, structure, processes and methods and employees.

Acknowledgments

I would like to thank the following people for their contribution during the time this work has been done. They all have been important facilitators in the process of setting up the paper and I am grateful for their encouragement:

- Pierre-Yves Caboussat from Swiss Post for sharing his approaches.
- Roland Keller from Swiss Post for his time, explanations and very kind support.
- Thierry Golliard from Swiss Post for giving his view as a participant of an innovation campaign.
- Prof. Dr. Rolf Meyer, supervisor, for his calm attitude and kind support, coaching and availability even in busy times.
- Paulina Patorski, my spouse, for understanding my absence during weekends to achieve this thesis and the great mental support.

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1. Introduction

Have you ever been impressed by the various articles about innovation? About how easy it is for the winners to take it all? Have you seen the journal articles about how you shall behave and what the advantages are of being innovative ? How important culture towards innovation is?

I have.

I got curious about how a huge company could methodically drive innovation but I wasn't too happy about the discussions focusing of how important culture is and how to train staff to be innovative. Starting by adjusting culture first to be innovative somehow felt like starting at wrong end to me.

No surprise I threw out the cultural discussion of this thesis and focused on the application of innovation management. Thanks to Swiss Post I have found an remarkable case to learn how innovation is managed.

Pierre-Yves Caboussat implemented innovation management at Swiss Post as a top management discipline. As the head of innovation management he is directly reporting to the CEO.

Today, Swiss Post distinguishes between top-down approaches such as questions asked to employees or groups of experts, unstructured or structured as campaigns and bottom-up approaches driven by employees for the continuous improvement and the radical improvement process.

Roland Keller from Swiss Post is responsible for a top-down campaign called PostVenture. A campaign were all employees are invited to hand in ideas. The aim is to generate a culture of innovation within the corporation.

Here again. Culture. But this time not the culture is what makes the innovation, the culture changes through reflected and coordinated organisational behaviour by intention!

Although physical and financial assets remain important, intellectual capital (IC) has been identified as one of the most significant key drivers of firm-level performance (Teece, 1998).

Bigger companies have certain difficulties to bring new ventures alive even if a proposal is in line with the companys strategy. Often, innovative ideas seem to stay against daily business or cannibalise existing products. This may let ideas vanish due to a lack of support by decision takers (Caboussat, 2012).

The main disadvantage of this system is, that ideas cannibalising existing products or services are dropped. Further, high optimisations won't be achieved as middle management or directly involved employees may have a low interest in optimizing away their work place or substituting existing products.

It happens, that employee carry away innovation and try to build up their own business. If so, it is a loss for the company as well as a legal and financial risk for the entrepreneurial former employee.

Considering a win-win situation for both parties, employee and firm shall benefit from ideas. This is where this thesis work jumps in.

This thesis documents the business implementation of the top-down and bottom-up approaches to drive innovation at Swiss Post, compared against the latest theories.

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2. Research question

2.1 Main question

How inner company innovation development at Swiss Post is designed to pick-up innovations and brings them to market success?

2.2 Sub-questions

a. How does Swiss Post identify ideas and their drivers?
b. With whom does Swiss Post judge or select innovative ideas worth to develop?
c. What support is offered by Swiss Post to shape an initial idea?

The sub-questions are part of the main question in chapter 2.1. Questions a) to c) are mainly answered by interviews hold on-site as well as documentations handed-out by Swiss Post. Literature research in chapter 6 is done to build-up knowledge and a literature-based concept model. This allows discussion and comparison between the observed model of chapter 7 and the theoretical model in chapter 6.3.

3. Structure of this report

This report is structured along the tasks of a scientific approach of sampling data, analyse the data and to bring it to a result. Though, the chapters of analysing data and results are not linear to provide more consistency within the chapters.

The methodology of data sampling is described in chapter 4. It explains the tools used the main sources of literature and how keywords are constructed.

The literature is used to build-up knowledge and to design a literature-based concept model in chapter 6.3.

Informations directly related to the case as such is covered in chapter 7.

The main question is covered in chapter 7, the sub-questions in chapter 8.

Chapter 9 discusses all findings from literature and from the case study against each other. Main recommendations and conclusion are hold in chapter 10.

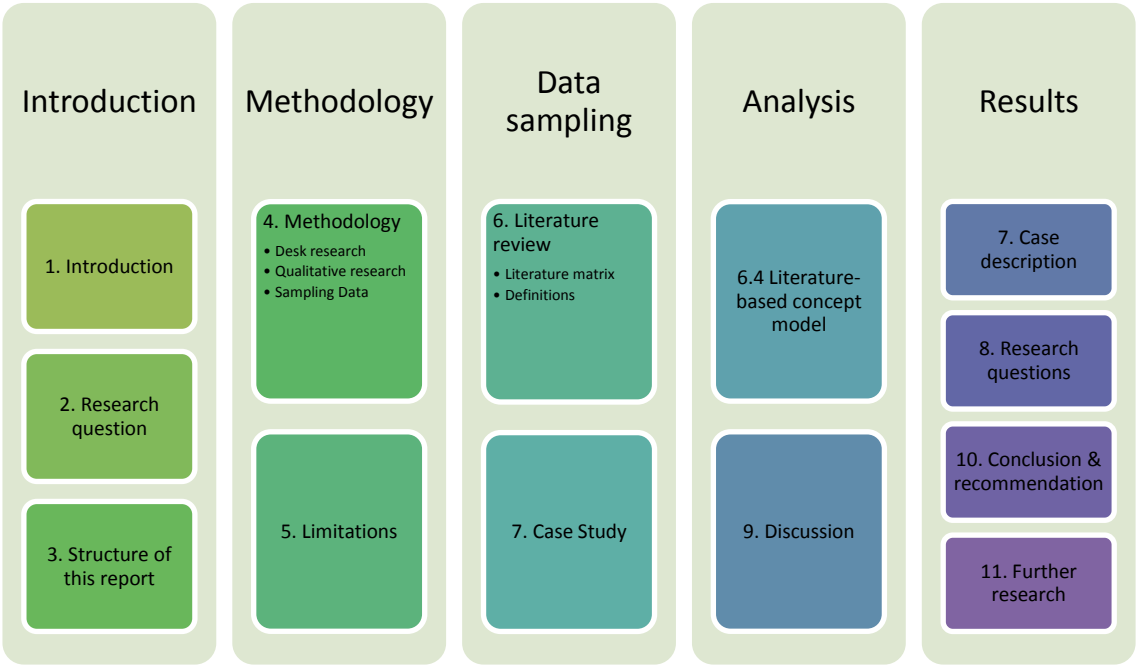

Figure 1: Topology of this report (own illustration).

4. Methodology

The case study is mainly based on onsite-visits at PostVenture in Berne and Zurich as well as the literature-based concept model in chapter 6.3. Interviews are held with the heads of PostVenture, involved employees and members of Swiss Post management.

Different methodologies are used to gather data:

- Literature review (desk research)
- Interviews with involved people (experts interview)
- Documentations or other materials from PostVenture is considered (desk research)
- Observations where possible (field research)

To design the literature-based concept model and to have discussion with a certain competence, knowledge had to be built up and, due to the complexity of the topic, structured in a clever but non-restricting manner. This has been achieved by a mind map first introduced in Figure 4. This mind map is the core of knowledge acquisition, definitions, interview preparation and later analysis.

The analytical framework is designed to achieve a highest quality and justification, is visualised in Figure 2. It is an iterative process that allows learning through all steps. Details are explained in the following sub-chapters.

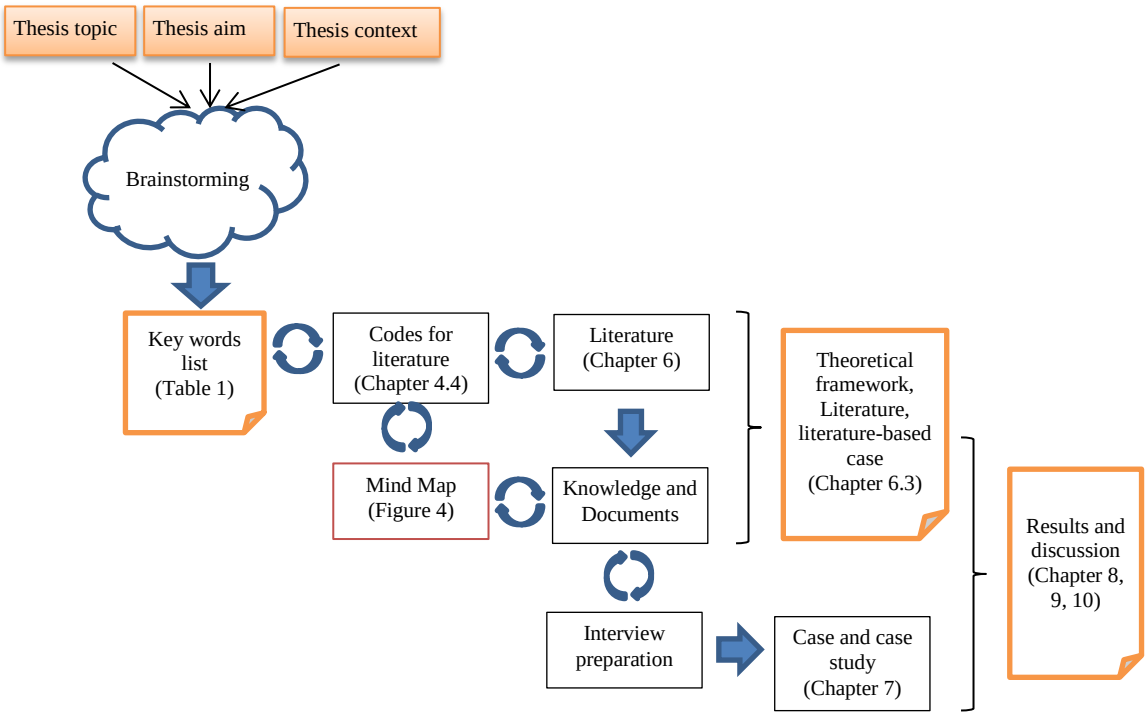

Figure 2: Thesis analytical framework for knowledge aggregation and quality control (own illustration).

4.1 Desk research

University databases are searched by keywords - or combination of those keywords - as shown in table 1 to discover the latest scientific articles in that field.

Table 1: Keywords used in database search (own illustration).

Definition of innovation	Innovation management
Definition of …	Methods of innovation management
Importance company innovation	Innovation public organisations
Innovation	Importance of innovation
Intrapreneur, intrapreneurship	Talent management
Methodology	Seed
Process improvement	Continuous improvement process
Seed management	Spin-off/ company spin-off
Spin-in/ company spin-in	Innovation in company
Success factors of innovation	Economic importance
Six sigma	Failure of innovation
Swiss Post	Post Venture
Community of innovation	Value creation innovation
Federal innovation	3M, Three Roads to Innovation
Open innovation process (main keyword)	Corporate entrepreneur
Stage gate process (main keyword)	

Table 1 keywords are found iteratively during the research process as visualised in Figure 3. This is done until all contrary issues are resolved or defined. The very first keywords where defined in a brainstorm session as a starting point, related to the research topic.

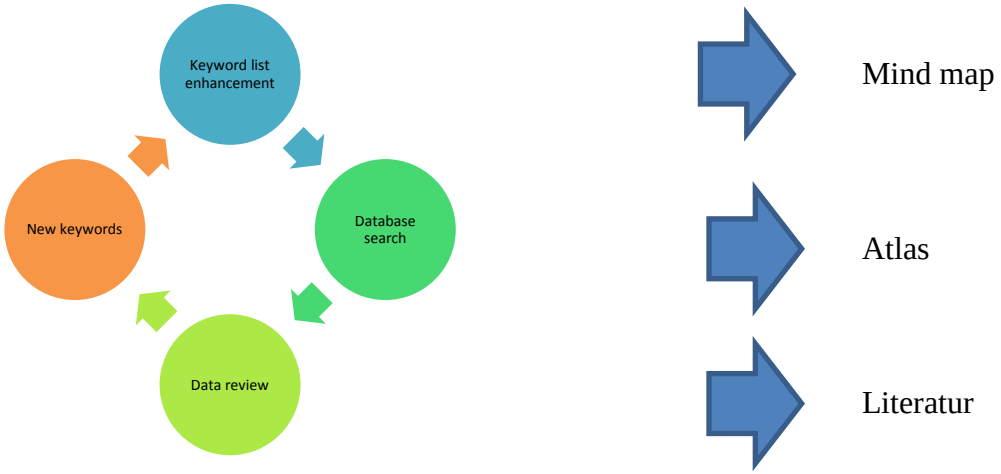

Figure 3: Process of keyword accumulation in detail (own illustration).

An initial search on different databases has shown that the following resources deliver accurate and a wide range of data. An index of the databases is provided by KFH (KFH, 2012). Therefore those are the main sources of journals regarding the this work. For better accuracy, the search is limited to a time frame between year 2003 and 2012. Despite the restriction, some essential sources might be older than 2003.

- Taylor & Francis Online (2012): http://www.tandfonline.com
- Emerald (2012): http://www.emeraldinsight.com
- ProQuest (2012): http://search.proquest.com
- Science Direct (2012): http://www.sciencedirect.com/

All in all, about 130 journals, articles and scientific papers were considered as valuable to round-up this work with its 7 books of primary literature.

The defined topics ensure exposure and consistency within the key words and definitions. However, below points were initially used and iteratively extenden while reviewing the literature.

- Definition of innovation
- Definition of innovation management
- Definition of process improvement
- Definition of continious improvement process
- Definition of seed management
- Definition of an incubator
- Definition of an intrapreneur
- Definition of spin-off
- Definition of spin-in
- Definition of success

Further, to build-up knowledge as such, literature answers below themes. Related keywords are considered in the mentioned process of finding the literature.

During the in-depth literature analysis, the structure was further defined and modeled. This is explained in Figure 4 and its contents explained within the literature review chapter 6.

- Importance of inner company innovation
- Drive innovation versus buy innovation
- Success of spin-offs
- Success of spin-ins
- Innovation at public owned companies
- Methodologies of inner-company innovation
- The literature-based concept model

All insights are documented in the core mind map (Figure 4).

Based on knowledge agregation and due to the growing complexity, a mind map has been created as an inventory of this thesis work. It is the core model for discussion, structuring and gathering data.

The use of topics varies by author and by context in particular. Albeit, the chosen categorisation might not be consistent throughout all literature, it is of great use to inventory findings. Certainly, contradictionary findings are discussed within the literature sections.

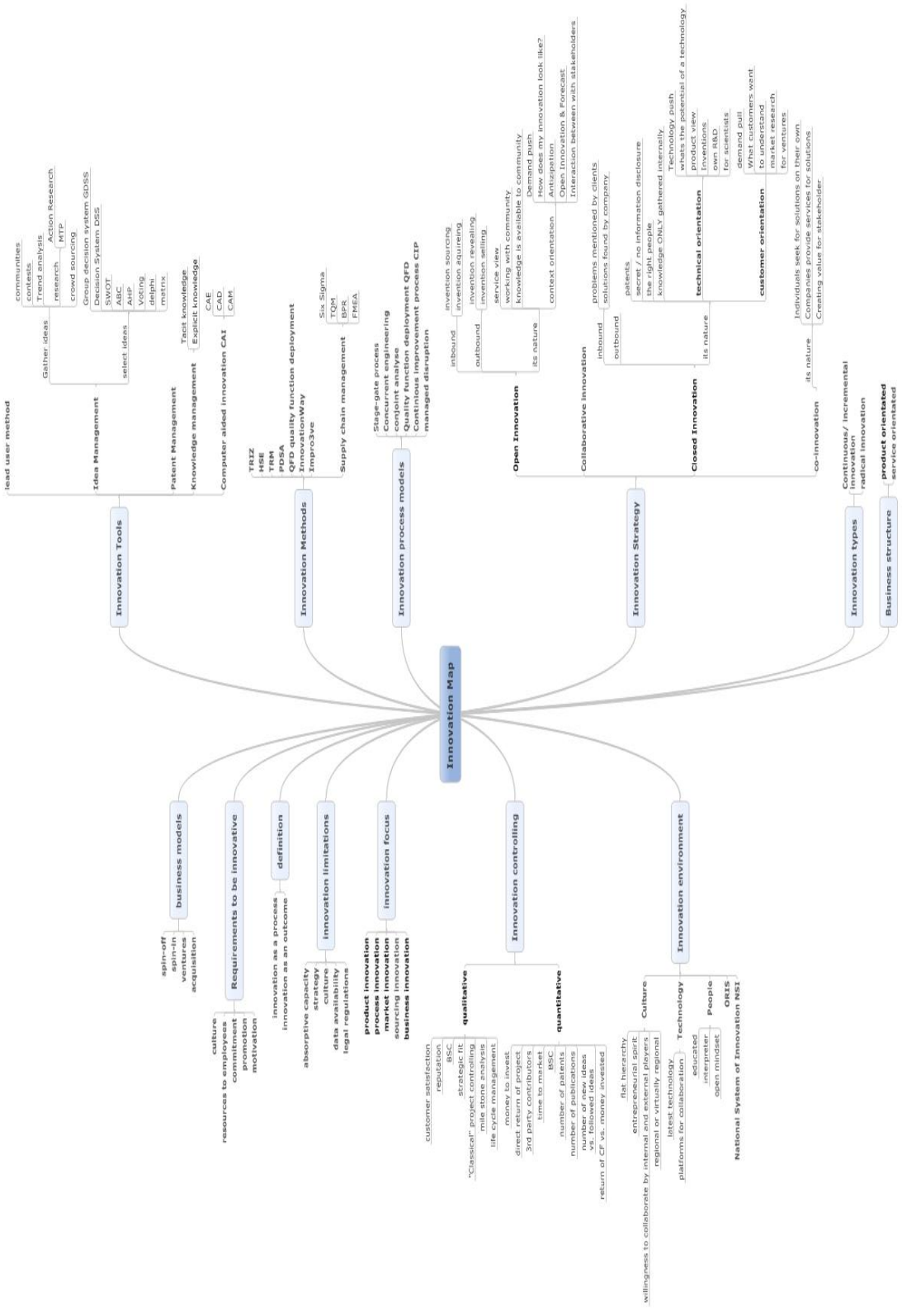

Figure 4: Core mind map based on various sources (own illustration).

4.2 Qualitative research method

In order to link the applied case to theories, on-site visits are held during October 2012 until the full process was covered and possible contrary issues within the interviews are clarified. The same applies for material received by Swiss Post that stands against observations or interviews.

The qualitative research method is chosen to learn from involved people without having to many boundaries of a strict questionnaire or missing individual opinions.

4.3 Sampling data for the case

The aim is to have a rather free conversation with interview partners. To do so, unstructured interviews are prepared, guided by the gathered and categorized knowledge of the literature research, based on Figure 4.

The interviews are taken with the head of Swiss Post innovation management, the project manager of PostVenture and participants.

Issues addressed in the interviews, that lead to further questions or are against previous statements, are discussed with the head of PostVenture and involved personnel until sorted out.

Material, such as documentations, guide lines, hand-outs or campaigns are gathered to enrich the interviews.

All data obtained from the on-site visits are recorded and transcribed. Atlas is used as a data analysis tool during the literature review. Atlas can handle text, images, recordings and location information.

4.4 Coding the literature

After an initial literature review the core mind map was constructed as explained. Its structure is used to build up Atlas codes. Codes are used to create hierarchical structures within extensive sources of data, mostly documents.

The parent codes used to review the literature are explained within this chapter. All parents are indicated with a underscore "_". The relating child's are not explained everywhere: they do not change the parents meaning and are rather for a more convenient data handling.

4.4.1 Generic code

The generic code gathers all text not related to paricular topic.

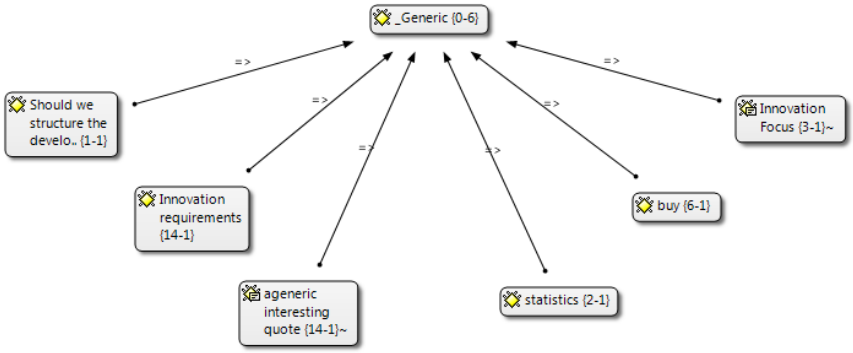

Figure 5: Atlas code "_generic" (own illustration made with Atlas.ti).

4.4.2 Business model and business structure

Information related to the business model on the strategic management level are covered within this code.

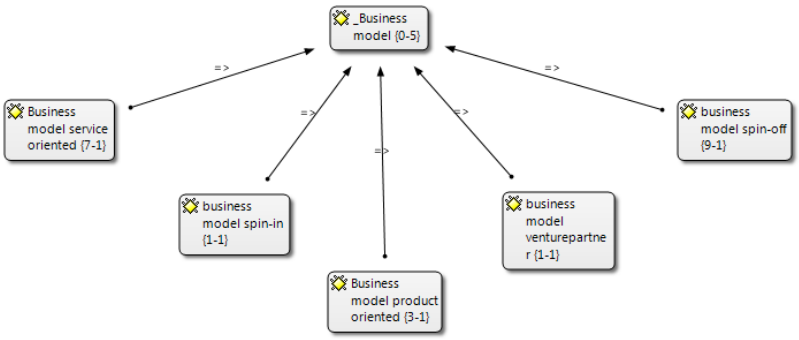

Figure 6: Atlas code "_Business model" (own illustration made with Atlas.ti).

4.4.3 Definitions

This code parent holds additional definitions where not covered within other parent codes.

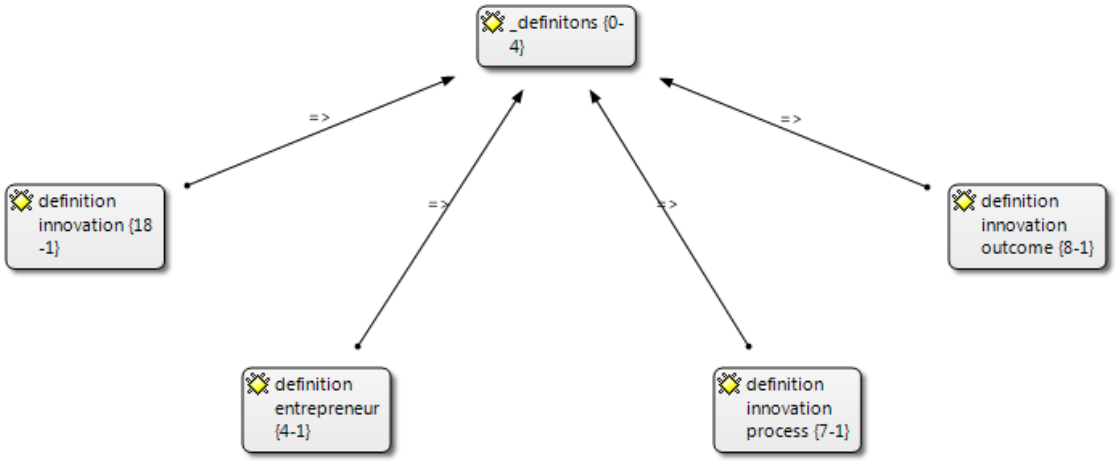

Figure 7: Atlas code "_definition" (own illustration made with Atlas.ti).

4.4.4 Innovation controlling

This code is intended to gather all text related to value, financial outcome, performance as well as qualitative and quantitative elements within controlling.

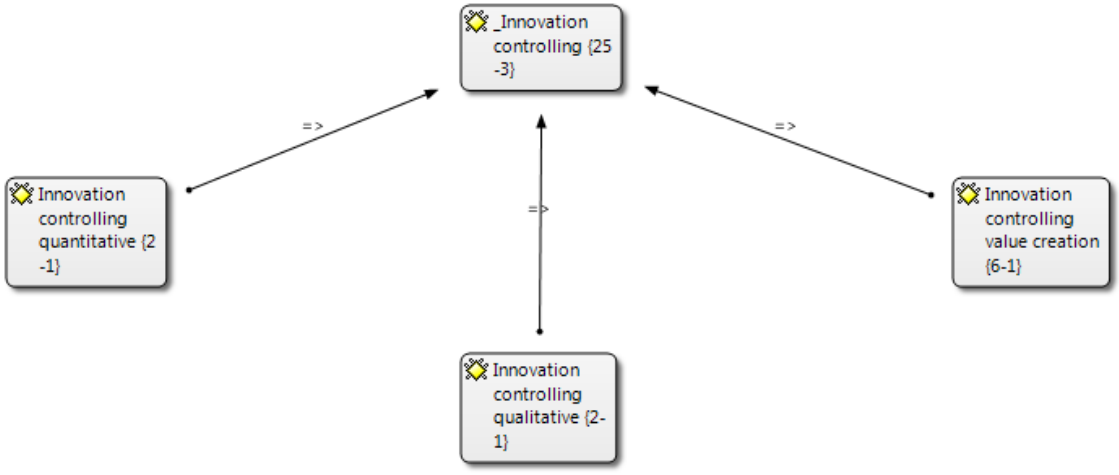

Figure 8: Atlas code "_Innovation controlling" (own illustration made with Atlas.ti).

4.4.5 Innovation environment

The environment-code holds information about how innovations develops well and what is required. Although, innovation-culture isn't analysed within this thesis, certain core elements are taken out.

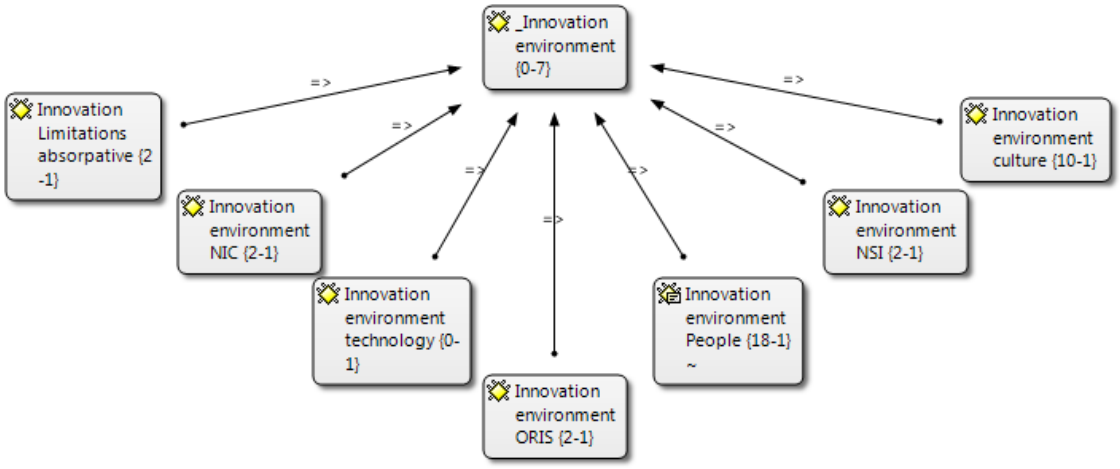

Figure 9: Atlas code "_Innovation environment" (own illustration made with Atlas.ti).

4.4.6 Innovation methods

This code contains everything related to methods as categorised in the core mind map in Figure 4.

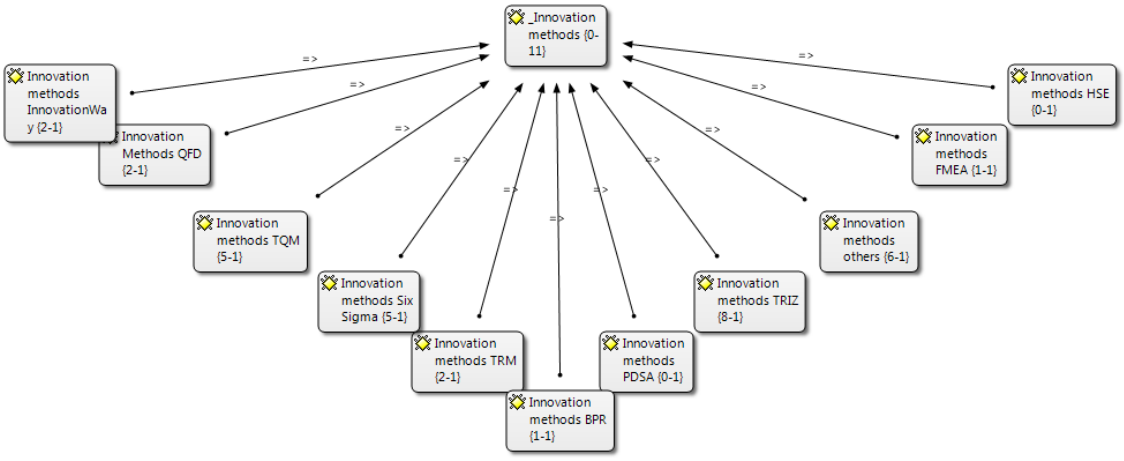

Figure 10: Atlas code "_Innovation methods" (own illustration made with Atlas.ti).

4.4.7 Innovation process

All text relating to process are held in this code.

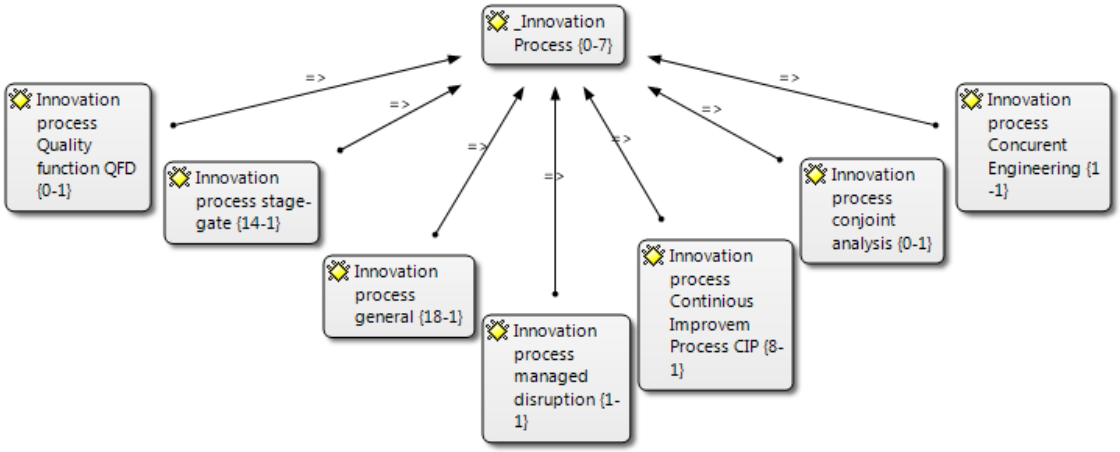

Figure 11: Atlas code "_Innovation process" (own illustration made with Atlas.ti).

4.4.8 Innovation strategy

All literature parts mentioning strategy, its change our outcome ought to be gathered in this parent-code.

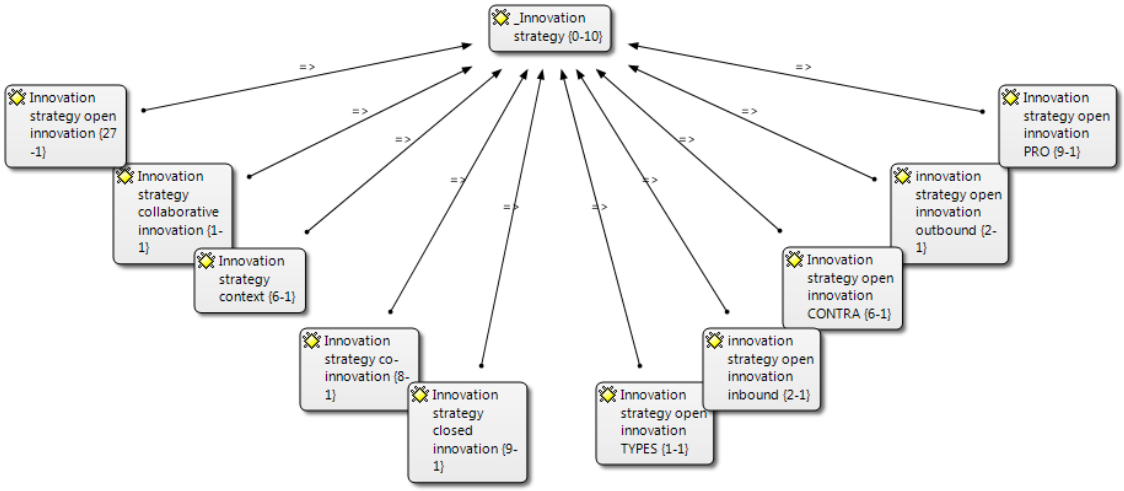

Figure 12: Atlas code "_Innovation strategy" (own illustration made with Atlas.ti).

4.4.9 Innovation tools

Parts relating to tools are covered in here. This codes literature has not a separate chapter in the literature review. The contents are distributed to where it made more sense to attach for a more logical document structure.

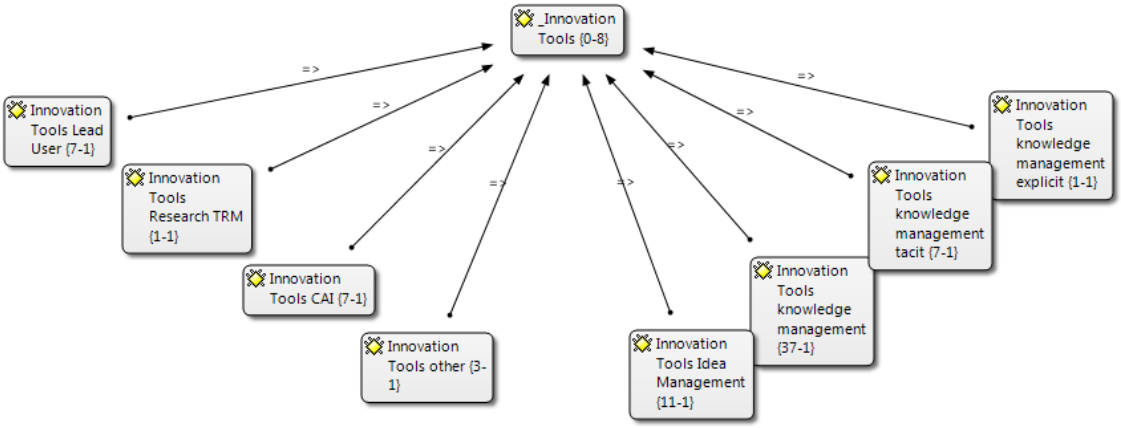

Figure 13: Atlas code "_Innovation tools" (own illustration made with Atlas.ti).

4.4.10 Innovation types

Innovation types are often used for categorisation: As this types are context sensitive, it is often used together with another code.

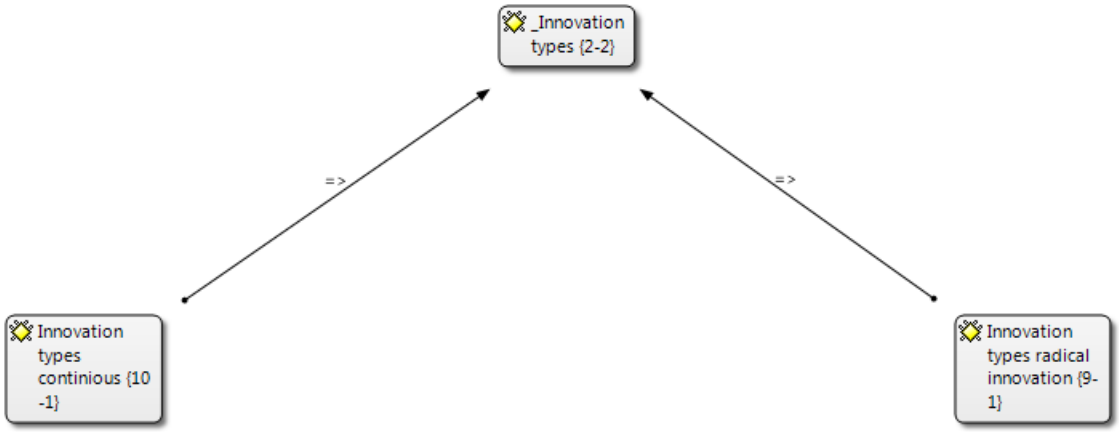

Figure 14: Atlas code "_Innovation types" (own illustration made with Atlas.ti).

5. Limitations

5.1 Threats of used research methodology and strategy

As it is the nature of a single case study, a particular company with a selected case is the field of research. In this case, it is Swiss Post with its innovation process. Certainly, a different setting at another company might lead to different results. As a matter of fact and used non-standardised questionnaire, the date isn't representative regarding a standard model.

Swiss Posts case is under steady review: some aspects may change during time and the aims of Swiss Post might not be adaptable to other companies, in particular to non-service-oriented industries.

Another issue might be the design of the raw process model in chapter 6.3 as those variables are chosen by the expertise of the author. To level out, the literature-based concept model is discussed with the supervisor as well as taken to the interview partners.

The developed methodology shows a good resistance and quality against other or new information with sufficient porousity to aquire knowledge. However, it is was only tested against the used literature which is certainly excessive but not a full coverage.

Also, this work does not address or investigate on cultural issues regarding innovation within a company. Sure, this is by intention but cultural aspects are mentioned as a key success factor for innovation in all literature and interviews.

It is further to mention, that modern literature related to innovation and open innovation in particular are based on Prof. Dr. Henry Chesbroughs books since 2003. Most – not to say all – of the secondary literature is referring to this author. Critics are only few available and in particular related to closed innovation.

5.2 Ethics and human subject issues

Ethics and human subject issues are addressed to interview partners and supervisors. Interview partners are informed about the data handling and are allowed to remain anonymous. Recordings are mentioned and made physically visible during the interview (recording device on table).

The researcher takes notes during the interviews and might enhance interview with other related material. If so, it is mentioned within a text.

The interviews where held in Swiss German and directly translated into standard German during transcription. Quotes within the thesis are in English, translated by the author. The original quotes in standard German are within the footnotes. Due to this three-way translation, nuances in wording could get lost or miss-interpreted. The appendixes II to IV provide all interview in standard German.

All interviewers were able to prove read their statements. Interviews are provided in appendix II, III and IV.

All material is directly available to the University applied Sciences and Swiss Post.

6. Literature review

This chapter reviews the literature relevant for this paper. Information is gathered to define the literature-based concept model within the empirical object and to gain knowledge about the particular field of the case study. This shall allow to discuss the observed methodology against methodologies within the literature.

To ensure no on-site data is missed, the literature-based concept model in chapter 6.3 is designed to discuss the case study by it as a frame work and as a starting point for questions, discussions and comparison against the case.

6.1 Literature matrix

Below table 2 categorizes the primary literature according its contribution.

Table 2: Literature matrix (own illustration).

Source	Knowledge management	Innovation limitation	Innovation focus	Innovation controlling	Innovation environment	Innovation types	Business model	Business structure	Innovation strategy	Innovation process models	Innovation methods	Innovation tools
Adam Brand, 1998					X							
Agarwal & Selen, 2011												
Ahmed & Shepherd, 2010	X		X		X	X	X	X	X	X	X	X
Apreda *et al*., 2010											X	
Belussi & Sedita, 2009									X			
Belussi, *et al*., 2010					X			X				
Briggs Semadeni, 2003												
Caetano & Amaral, 2011					X						X	X
Camilla Jane B, 2011							X					
Chesbrough, 2003					X		X		X		X	X
Chesbrough, 2003	X				X		X	X	X	X	X	
Chesbrough, 2006			X		X	X	X		X		X	X
Chesbrough, 2011			X		X		X		X		X	
Czarnecki, et al., 2000			X			X						X
Dahlander & Gann, 2010									X			
Dahlgaard *et al.*, 2002						X						
Darroch & McNaughton, 2002			X			X						

Source	Knowledge management	Innovation limitation	Innovation focus	Innovation controlling	Innovation environment	Innovation types	Business model	Business structure	Innovation strategy	Innovation process models	Innovation methods	Innovation tools
De Backer, *et al*., 2008									X			
Dismukes, 2005										X		
Donatella Cavagnoli, 2011					X							
Drossou, *et al*., 2006	X	X									X	
Du Plessis, 2007	X											
Frey & Ririn, 1997											X	
Gavin L. Fox, 2009	X		X				X		X			
Gloet & Terziovski, 2004	X											
Gräf & Langmann, 2011				X			X					
Grimaldi & Cricelli, 2012				X								
Gübeli & Doloreux, 2005							X					
Harisona & Koski, 2010	X						X					
Heffner, 2006	X											
Hilgers & Piller, 2009			X	X		X	X	X				
Tuppinger, 2004										X		X
Lee, *et al*., 2012						X						
McFadzean *et al*., 2005		X			X				X			
Miller & Floricel, 2004				X								
Muller & Hutchins, 2012						X			X			
Ojasalo, 2008												
Olson & Savory, 1999						X						
Panesar & Markeset, 2008										X		
Quintane, *et al*., 2011				X								
Robertson *et al.*, 2012					X			X				
Skarzynski & Gibson, 2008	X	X	X	X	X	X	X	X	X	X	X	X
Spithoven, *et al*., 2010		X			X						X	
Taatila, *et al*., 2006												
Teecem, 1998			X				X					
Tenant *et al*., 2002			X			X						X
Tjahjono, *et al*., 2010											X	
Tonnessen, 2005											X	
Vance, 2006							X				X	
Voelpel, et al., 2006	X											
Wang *et al.*, 2012					x						X	
Waseem Abbas Mirza, 2011					X							
Yang, *et al*., 2007											X	

6.2 Innovation landscape

This chapter defines all necessary terms required and provides knowledge about the thesis settings. Furthermore, the literature is used to specify the object of investigation and to unviel topics after the case has been documented. Eventually, it holds the literature-based model for discussions and comparison.

During literature review a certain structure had to be introduced and aggregated as mentioned within the core mind map seen in Figure 4. It shall be further explained in the later chapters.

The terminologies vary within the literature and also their use. All categorisation are referring to the mind map in Figure 4.

6.2.1 Definition of innovation

There is no strict definition of what innovation is (Taatila, et al., 2006). It seems to be an outcome of human brain work to cover a need (Lee, et al., 2012).

A very suitable description is provided by Jukka Ojasalo (2008):

> *In the literature, "innovation" may refer to an outcome of an innovative process or to the innovative process itself (Drucker, 1985b). Yet, some authors have reserved the term "innovation" just for the result of the innovation process, and "innovation management" for the managerial activities that attempt to control the innovation process (Drejer, 2002). The term innovation, most importantly, implies newness (Johansson, 2001). Innovative activity may relate to new products, new services, new methods of, opening new markets, new sources of supply, and new ways of organizing.*
>
> *Innovation has been characterized as a process of commercialization of a newly developed product or practice (Freeman, 1982; Dickson and Hadjimanolis, 1998).*

A broader definition with the element of knowledge is given by Du Plessis (2007):

> *Innovation refers to the introduction of a new combination of the essential factors of production into the production system. Innovation capital is the competence of organizing and implementing research and development, bringing forth the new*

> *technology and the new product to meet the demands of customers. It involves the new product, the new technology, the new market, the new material and the new combination. Cardinal et al. (2001)indicate that the innovation process encompasses the technical, physical, and knowledge-based activities that are central in forming product development routines. Herkema (2003) defines innovation as a knowledge process aimed at creating new knowledge geared towards the development of commercial and viable solutions. Innovation is a process wherein knowledge is acquired, shared and assimilated with the aim to create new knowledge, which embodies products and services. Herkema (2003) also states that innovation is the adoption of an idea or behaviour that is new to the organization. The innovation can be a new product, a new service or a new technology. Innovation is related to change, which can be radical or incremental.*

Ojasolos definition can be further summarised as done by Gloet and Milé (2004):

> *Most definitions share common themes relating to knowledge, which may be turned into new products, processes and services to improve competitive advantages.*

Innovation is also context sensitive (Quintane, et al., 2011) and it only matters little if this is objective (Rogers, 2003, p. 12).

Therefore "innovation", in this work, is the creation of a new service, product or process that either allows to work more efficient, to contribute to knowledge or to increase sales but related to the context. It can either be a radical or a continuous innovation as well as an outcome or a process, carried by an individual or a group of people.

Out of above definition, a few terms shall be clarified further: knowledge (chapter 4.4.5), radical or continuous innovation (in this chapter), innovation as an outcome and innovation as a process.

It is questionable how much applied use can be taken of differentiating between an innovation as a process and innovation as an outcome. However it contributes to the academic discussion and is used later to structure the literature-based concept model (Quintane, et al., 2011):

> *Defining innovation as a process allows researchers to investigate the constituting activities of innovation (Greve and Taylor, 2000; Myers and Marquis, 1969). For example, researchers investigate activities concerning the creation of social ties that lead to innovation (Adner, 2006; Obstfeld, 2005). The sequence of activities required for innovation can be grouped into different phases. At least two phases are typically recognized in the innovation process: the idea generation phase and the implementation phase (Axtell et al., 2000; Clark and Guy, 1998). [..] There is a link between the idea generation phase and the idea implementation phase as an increased number of ideas during the idea generation phase leads to an increased number of innovations being implemented (Clegg et al., 2002). Commercialization or diffusion phases have also been added to the innovation process by some authors, and often refer to products or services for which a commercial gain is expected (Kanter, 1988; Rogers, 2003; Strebel, 1987).*

Looking at innovation as an outcome allows to categorise the innovation results (Quintane, et al., 2011):

> *These definitions help to identify what constitutes an innovation, but also classify innovations into categories for further analysis. Damanpour (1991) presents three well-established categories of innovation: technical versus administrative, product versus process, and radical versus incremental, each of which focuses on innovation as an outcome. For example, the distinction between incremental and radical innovation is represented by the difference in novelty between the innovation and the existing product or process that it improves (Dewar and Dutton, 1986; Henderson and Clark, 1990).*

There are types of innovations to consider: the radical and the continuous (or incremental) innovation. The radical innovation rather seeks for something very new whereas a continuous innovations tries to evolve processes or products.

Above quote from Quintane et al. (2011) and (1991) suggests three categories of innovation. This three dimensions were not discovered again especially regarding radical and incremental innovation. As its logical sense in this context is discussable and not seen in other literature, it is not further considered.

A balance of both, radical and continuous innovation is suggested (Chesbrough, 2006; Darroch & McNaughton, 2002).

The intention of continuous innovations is to improve the value chain (Olson & Savory, 1999; Lee, *et al.*, 2012) with Just-in-Time, TQM, Six Sigma or Lean Manufacturing for example (Lee, et al., 2012).

A generic process of continuous improvement process is taken from Dahlgaard *et al.* (2002). Although a simple version, various authors have similar approaches vary in the degree of detail (Tenant *et al*. 2002; Czarnecki, et al., 2000).

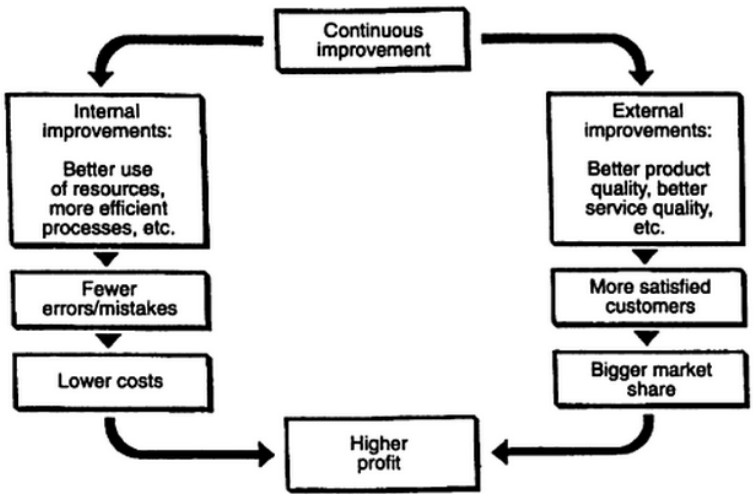

Figure 15: Exemplary illustration of continuous improvement process (Dahlgaard, et al., 2002).

This paper however is focusing on the radical innovation.

A radical – also discontinuous innovation – innovation changes big, brings very new radical changes and sometimes brakes with existing settings Robertson et al. (2012) notes

> *According to (Utterback, 1994, p. 200), a 'discontinuous or radical innovation' is one 'that sweeps away much of a firm's existing investment in technical skills and knowledge, design, production technique, plant, and equipment.' As used here, any innovation that is not discontinuous or radical is defined as incremental. Incremental innovations, therefore, do not involve substantial changes in technical skills, knowledge, design, or the other factors identified by Utterback.*

Taking findings ahead, the radical innovations methods on a high an generic view, consist of similar methodologies with a certain iteration between the steps:

- Identifying an idea
- Accepting or denying an idea for further development
- Development
- Functional testing or prototype
- Implementation

This is also observed by Taatila et al. (2006):

> *Thus, it is possible to define four high-level phases in the process that creates economic innovations:*
> *(1) period prior to the idea;*
> *(2) idea development;*
> *(3) implementation culminating in economic success; and*
> *(4) period after economic success.*
> *Naturally the lines between the phases are not clear cut, and most likely the processes are often iterative, i.e. return to earlier phases again and again, but using this division mechanism gives us the basis to study the process of economic innovation.*

As the case study is based on real world facts, it is considered to discuss innovation as an outcome. The process itself will be covered by the methodologies, processes and tools used to achieve an radical innovative outcome of any kind.

6.2.2 Business model and business structure

The business model is a core to drive innovation. It influences corporate actions on a strategic management level about how innovation is driven and carried out (Davenport, et al., 2006).

Spin-offs are a way to bring innovation to market. Literature refers to universities or public research as the origin of spin-offs but also to individuals formerly employed by a firm (Gübeli & Doloreux, 2005):

> *Although these two kinds of spin-offs have much in common, university spin-offs are more active in technology transfer than corporate spin-offs, which often try to keep the research and technology within the firm.*

The same article quotes:

> *According to Callan (2001), the term "spin-off" is loosely-used [..] and generally refers to a small, new, high-technology company whose intellectual capital has its origins in a university or public research institution.*

Further, a spin-off might be created due to more financial background as discovered by Subodh Bhat and Camilla Jane (2011).

> *The finance literature tends to distinguish between a "sell-off" which is the outright sale of some assets of a firm and a "spin-off" which is a distribution of the stake that a firm owns in a subsidiary or division to existing shareholders (Kong & Hamilton, 1993).*

Five main motivation factors for spin-offs exist (Briggs Semadeni, 2003):

- Regulatory issues
- Renew parents firm strategic focus
- Use it as kind of a new department
- To reduce risk in volatility of the parent firm
- For financial reasons

For this thesis it is not too important to define the spin-off in detail. However, for the purpose of this thesis work a spin-off is a new venture controlled by the parent company

to bring a new service or a new product to market where the parent firm does not have the capabilities for any reason.

Certainly, where a spin-off exists, a spin-in isn't far. A spin-in is an independent firm that brings assets, knowledge, know-how services, tools, products or intellectual property into a parents firm. It mustn't but it can be a former spin-off. (Vance, 2006 and Cleveland, 2008).

Looking at the business model of a corperation, literature distinguishes between a service and a product orientation whereas the service orientation is considered as the more modern approach. All definitions highlight a strong involvement of external sources such as customers (Chesbrough, 2011, Harisona & Koski, 2010 and Agarwal & Selen, 2011).

This new perspective fosters a different point of view towards various business activities, controlling and strategy as explained in following table 3.

Table 3: Product- versus service orientation (Chesbrough, 2011).

Product based	**Service based**
Transactional	Relational
Value from exchange	Value in use
Customer is consumer	Customer is co-creator
Quality is zero defects	Quality is customer satisfaction
Core competences built on assets	Core competences built on processes

The modernity of a service orientation has further elements of openness and collaboration (Agarwal & Selen, 2011):

> *"Innovation in service firms goes across firm and industry boundaries" and is not limited to an individual firm. Along the value chain the borders between firms get blurred through outsourcing of service functions, through the use of networks of service professionals, and through mixed project teams in which client and contracting service firm co-produce solutions to problems.*

6.2.3 Innovation controlling

Certainly, any activity has to contribute to the a companys success however success is understood. This is the case in innovation too. This chapters discusses about the operationalization of innovation and how to measure its key figures, value chain and value creation.

Value through innovation can be created through the following approaches (Miller & Floricel, 2004):

- Achieve scientific advantages through investments in R&D
- Gain influence over markets by market opportunities and innovative leadership
- Renew existing products

To add value, the strategy should be harmonized with R&D – or in this case with the strategy (Ahmed & Shepherd, 2010), having the customers needs in mind and anchor all activities in the corporate strategy (Miller & Floricel, 2004) and involving a community (Chesbrough, 2006).

The most value is gained trough innovation that directly adds value to the customers. However, focusing on technology innovation isn't the right way but an enabler. The value creation can appear in product, service delivery (Dillon, et al., 2005).

It is not sufficient to improve products. Also the resources and value chain has to innovate in an efficient way (Hilgers & Piller, 2009).

Creating values and spending resources to do so, makes it necessary to control, analyse activities in that field and to provide the right information at the right time to the management by acquiring, consolidating and improving data. Innovation controlling has often the nature of a classical project and process controlling as stated by Hilgers and Piller (2009) and Lohmann (2010).

Regarding the controlling aspects, Quintane et al (2011) says that

> *the most common outcome-oriented operationalizations of innovation are the number of patents and their derivations (patent citations, active patents) (Archibugi, 1992; Hull & Hage, 1982; Jaffe, et al., 1993; Narin & Olivastro,*

1988; Rothaermel & Hess, 2007; Tortoriello & Krackhardt, 2010; Whittington, et al., 2009). Coombs et al. (1996) suggest the literature-based innovation output indicator as an alternative to patent measures of innovation. Another popular measure is the adoption of innovations (Bell, 2005; Daft, 1978; Frambach, et al., 1998; Leiblein & Madsen, 2009), which reflects innovation definitions such as ''the first or early use of an idea'' (Becker & Whisler, 1967, p. 463).

Measuring patents wouldn't fit into the traditional "innovation as a process" thinking as they relate to an outcome of an innovation (Quintane, et al., 2011). Therefore, key figures and their measurements have to be adopted to the business model.

Meaningful aspects would consider the main value creators in innovation: intellectual capital and knowledge (Grimaldi & Cricelli, 2012).

Therefore a distinct proposal of key factors are introduced by Wong and Chin (2007):

1. Rate of product innovation

- number of product changed to total product
- change in sales (due to product change) to total sales
- change in profit (due to product change) to total profit

2. Rate of process innovation

- number of process changes to total processes
- change in overall productivity due to product change

3. Technology indicators

- percentage of expenditure on R&D to total sales
- number of technologies adopted externally
- number of patents developed internally

Looking at knowledge, in process oriented view, as a source for innovation, the contribution of knowledge management is measured (Jennex, et al., 2009) in addition to above with knowledge transparency and retention and employee satisfaction.
If knowledge is considered as an outcome the next points apply (Jennex, et al., 2009):

- product and service quality
- productivity
- innovative ability and activity
- competitive capacity and position in the market
- proximity to customers and customer satisfaction;
- employee satisfaction
- communication and knowledge sharing

Hilgers and Pillger (2009) look at it from different perspectives:

- Financial
- the cost of the innovation process
- generation of new products related to gross encome
- costs to create a new product (cost-to-market)
- Process
- From product development to market release (time-to-market)
- Number of raised ideas against followed ideas
- Number of projects
- Newness of products (new-to-market)
- Customers
- Experienced grad of innovation (fit-to-market)
- Customer value received
- Quality improvement of products
- Flop rate
- External actors
- Rate of externally used R&D
- Time and costs for idea review
- Rewards paid
- Activities to improve company culture towards innovation

A output related figures set is provide by Gräf and Langmann (2011) given in table 4.

Table 4: Key figures input related by Gräf and Langmann (2011).

Phase	**Key figure**
Idea	• Number of new ideas • Number accepted R&D projects
R&D	• Number of constructions • Number of developments • Number of prototypes • Number of running/ finished/ cancelled projects
Inventions	• Number of patents/ accepted patents • Number of publications/ conferences
Market release	• Customer satisfaction • Number of complains • Turnover, win, loss, cash flow • Market coverage

Gräf and Langmann (2011) futher suggest output releated key figures.

Table 5: Output related key figures by Gräf and Langmann (2011).

Area	**Key figure**
Personnel	• Number of employees • Number of employees involved in a project
Resources	• Number of equipment used • Depreciation on equipment • Investments • Common R&D costs
External	• External costs • Number of projects externally given
R&D	• Gross R&D costs • R&D budget
Information/ Know-How	• Costs and number of database requests • Expenses for exhibitions and conferences • Number and expenses for education • Costs of patents

Ahmed & Shepherd (2010) describe non-traditional measurement as nowadays fashion.

- Strategic measurement and reporting technics (SMART)
- Quantum performance
- Applied measurement model
- Balanced business score card
- Strategic measurement system
- Activity-based management

6.2.4 Innovation environment

This chapter discusses what it needs to be innovation; how innovation prospers.

6.2.4.1 Culture is key

Although the cultural aspects are not in the scope of this research, it has to be mentioned due to its importance to innovation. Below quote is from Adam Brand (1998) discussing the 3M case.

> *A company cannot order people to be caring and creative. All it can do is attempt to create an atmosphere of generosity, freedom and safety in which innovation can flourish.*

This is confirmed by Donatella Cavagnoli (2011):

> *The culture of the organisation influences significantly the system of rewards and so, the commitment to innovate (Danison & Mishra 1995; Kerr & Slocum 2005).*

Another example is given by Dr. Michael Soto Chalhoub (2010):

> *Over the last few decades, company culture became a focal point that helps executives put identity, social stability, and intellectual capital in context.[..] Kelly and Kranzberg (1978) argued that innovation goes far beyond technological components or new product development as it is more of a holistic management process. Clearly, innovation cannot be attributed to isolated events in the organization, but rather a series of activities aligned with a unified purpose.*

6.2.4.2 People are key

The culture influences the companies behaviour and its actions which then again influences the culture through the people in charge – usually it is the management that creates and absorbs an inspiring and motivating environment (Wong & Chin, 2007).

Leaders my benefit from peoples innovations. Employees are an important asset that should be considered within the topic of innovation management (Wong & Chin, 2007).

There, a certain mind-set of people that drive things is documented. Gavin L. Fox (2009) writes about the importance of motivated employees:

> *From a human resources perspective, firms competing on innovation in any industry are thus advised to hire capable, high quality employees and then pay them well in order to motivate performance, while limiting defections to competing firms. Even companies that prosper from innovative cost cutting strategies, such as Wal-Mart, require skilled managers to make those assessments and implement innovative actions.*

A number of author introduced the term intrapreneur or corporate entrepreneur. This is well condensed by Elspeth McFadzean, Andrew O'Loughlin and Elisabeth Shaw (2005):

> *A number of authors have emphasised entrepreneurship as the primary act underpinning innovation (Amit et al., 1992; Drucker, 1985b; McGrath, 1996; Stevenson and Jarillo, 1990), which also resonates with Schumpeter's (1961) view of entrepreneurship, as the primary catalyst of innovation. All of these views are, however, concerned almost exclusively with entrepreneurial activity as a radical change mechanism. Evidences suggest however that this might not always be the case (Afuah, 2003; Tidd et al., 2001) .*
>
> *In Contrast, corporate entrepreneurship is held to promote entrepreneurial behaviours within an organisation (Echols and Neck, 1998), It uses the fundamentals of management, while adopting a behavioural style that challenges bureaucracy and encourages innovation (Barringer and Bluedorn, 1999). It is also responsible for stimulating innovation within the organisation through the examination of potential new opportunities, resource acquisition, implementation, exploitation and commercialisation fo the new products or services (Guth and Ginsberg, 199; Karatko et al., 1990; Sathe, 1989; Stopford and Baden-Fuller, 1994; Thornberry, 2003).*

Gapp and Fisher (2007) contribute to the definition of intrapreneurship further:

> *Intrapreneurship has been conceptualised as the actions of individuals within organisations leading to innovation of product, services or processes (Antoncic and Hisrich, 2003; Kolchin and Hyclak, 1987).*

Considering the information above, a strong link between innovative employees as intrapreneurs that bring meaningful ideas alive and a firms prosperity and innovation exist (McFadzean, *et al.*, 2005; Richardson, 2005).

Here again, the inner company cultural influence regarding freedom and reward system is key to innovative behaviour. Gapp and Fisher (2007)

> *Intrapreneurship has been conceptualised as the actions of individuals within organisations leading to innovation of product, services or processes (Antoncic and Hisrich, 2003; Kolchin and Hyclak, 1987). Other research has suggested that intrapreneurship may also occur through the actions of groups or teams (Abraham, 1997; Bechtold, 1997; Stephenson, 1995; Walton, 2003). What previous research has not considered are the linkages between team development, services innovation and product innovation.*

6.2.4.2.1 Knowledge is key

Looking beyond motivated people as such, it comes down to knowledge and knowledge management as the source or an asset of innovation.

Waseem Abbas Mirza (2011) wrote:

> *According to (Zakariya & Yusoff, 2011) human capital is all about the knowledgeable workers and that knowledge resides in the minds of the employees and in tangible form. Human capital refers to the combination of the talents of the employees, their education, experience they have, and their attitude towards the organization (Hudson, 1993). Human capital can be enhanced by training and education. There is a causal connection between knowledge resources and management of human capital. Human capital can effectively enhance the performance and growth for longer period in SME's (Salojärvi, 2005).*

The aim here is to generate or have tacit knowledge. Quintane *et al.* (2011) referring to (Polanyi, 1967, p. 24) say

> *Tacit knowing is shown to account (1) for a valid knowledge of a problem, (2) for the scientist's capacity to pursue it, guided by his sense of approaching its*

> *solution, and (3) for a valid anticipation of the yet indeterminate implications of the discovery arrived at in the end.*
>
> *When innovation begins with a problem, then tacit knowledge becomes critical, partly due to the impact of path dependency, but also because it acts to direct the further development of knowledge or anticipate the ultimate solution.*

Also, knowledge might arise from innovation (Quintane, et al., 2011).

The importance of such a culture of innovation is further explained by Adam Brand (1998) and linked to knowledge management:

> *Effective Knowledge Management is essential to innovation and it too needs an atmosphere of generosity, freedom and safety if it is to act as the river on which innovation can sail.*

Especially in open innovation environments, not all amount of knowledge can be handled. An organisation is limited in its absorptive capacity (Robertson, *et al*., 2012).

Knowledge and its management is an important tool regarding innovation. It can be seen as the source of an innovation as well as a tool of an innovation process (Quintane, et al., 2011; Heffner, 2006).

The generation of knowledge or the an idea to create knowledge can be initiated. Steps are described by (Voelpel, et al., 2006).

> *Nonaka and Takeuchi (1995) defined five steps which are central to organizational knowledge creation, which is a prerequisite for innovation. The five knowledge creation steps are:*
> *1. sharing tacit knowledge;*
> *2. creating a concept;*
> *3. justifying a concept;*
> *4. building a prototype (archetype); and*
> *5. cross-leveling knowledge (Nonaka and Takeuchi, 1995).*
>
> *The challenge lies in enabling a creative context for knowledge creation and thus innovation.*

6.2.4.2.2 Environment is key

Furthermore, the outside, surroundings (legal aspects, competitions, ..) and region of the company influences or contribute to innovation further.

Belussi, Sammarra and Sedita (2010) discuss the surrounding factors too within regional innovation systems (RIS):

> *The notion of RIS lies on the crossroads of two main bodies of literature: evolutionary theories of economic and technical change, which conceptualise innovation as the result of complex, non-linear social processes, stimulated and nurtured by several actors and factors within and outside the firm (Edquist, 2005), and theories of regionalisation and clustering, which emphasise that economic growth and innovation do not take place in abstract spaces, but are locally rooted, thanks to the advantages of spatial proximity, social embeddedness, interaction with local institutions, and knowledge spillovers (Camagni, 1991; Cooke, 2002; Maskell and Malmberg, 1999; Porter, 1998; Storper, 1997; Belussi and Sedita, 2009). According to the RIS approach, regions, especially when they have developed industrial clusters, and an appropriate administrative framework for supporting innovative enterprise, are meaningful loci of innovation, fostered by direct and indirect linkages, cooperation and synergies among local economic actors an institutions.*

A collaboration with the environment seems to be of use to a firms performance as Belussi, Sammarra and Sedita (2010) empirical studies showed.

This is not a new discovery. It is previously confirmed as noted by Robertson *et al.* (2012):

> *In their pioneering articles on Absorptive Capacity, Cohen and Levinthal (1990) contend 'that the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends is critical to its innovative capabilities' (Cohen and Levinthal, 1990, p. 128).*

6.2.4.3 Open Environment is key

Beside culture, the right environment is an important and often mentioned factor to innovate. It needs to provide a certain freedom to people to be able to act innovative or to act entrepreneurial.

This is illustrated by Ahmed & Shepherd (2010) to describe the innovation process management systems towards network innovation also known as open innovation (Ahmed & Shepherd, 2010).

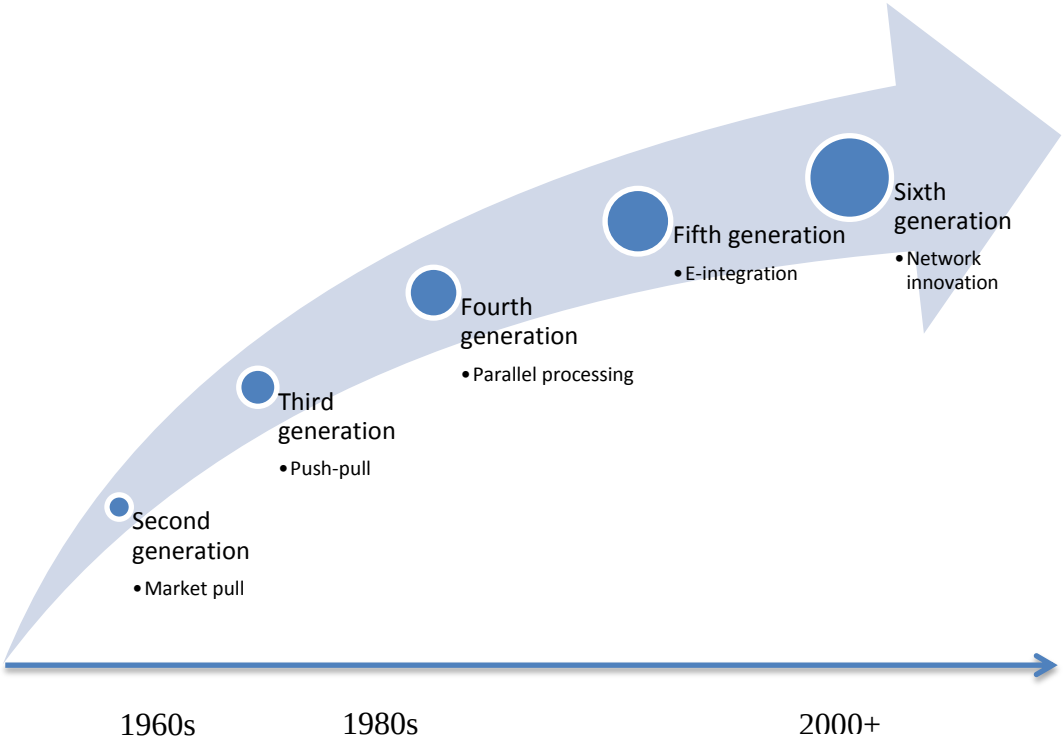

Figure 16: Innovation process management systems based on Rothwell (1994) (illustration adopted from Ahmed & Shepherd 2010).

An open environment contributes to innovation. “Open” stands for porous boundaries of a firm regarding information and knowledge.

As quoted above, literature is referencing to the concept of aggregation of internal and external sources of ideas, it was mainly introduced by Henry Chesbrough (Chesbrough, 2006; Chesbrough, 2011) as open innovation (OI).

Wang *et al.* (2012) wrote

> *In contrast to the internally integrated model of innovation explained by Chandler et al. (1990) the OI model presents a way of explaining how firms have come to organise their innovations so as to make full use of both internal and external innovations (2005).*

Wang et al. (2012) added

> *OI practices depend heavily on the internal capability of firms to leverage outbound and inbound knowledge and on the availability of sufficient external knowledge and other important resources. The supply of external knowledge is largely.*

Chesbrough (2006) argues that the a product based view on innovation is limiting. He rather introduces a service based view on open innovation: certainly, a product has to be of good quality and benefit but the real innovation comes through services received by customers on top of a product.

6.2.5 Innovation methods

There are several methods to be innovative introduces since early industrialisations. There are two aims in the usage of the methods. The focus of this work lays on the radical innovation as the case studys topic aims for the radical innovation. Never the less, different methods are introduced to contribute to the discussion.

6.2.5.1 CAI

Computer aides innovation (CAI) describes software that is used to manage or handle innovation mostly forecasting, idea management, knowledge management and workflows (Hüsig & Kohn, 2011).

CAI may also stand for computer aided invention and is often related to TRIZ (Schweizer, 2007).

6.2.5.2 TRM

Technology road mapping (TRM) is a method to forecast future developments within a field technology. It aims to foreseen changes and to be prepared for those resulting strategic impacts to a business. Caetano & Amaral (2011) marked that

> *The technology roadmapping (TRM) is a method that helps organizations plan their technologies by describing the path to be followed in order to integrate a given technology into products and services. These, in turn, reach the market and meet the strategic objectives of the organization (Kostoff and Schaller, 2001; Phaal et al., 2004).*

Following the given sources, it can be used for an continuous as well as a radical change (Phaal, *et al.*, 2004; Liou & Chen, 2011) and play an important role of forecasting (Drossou, *et al*., 2006, p. 35).

6.2.5.3 TQM

Total quality management is a method to continuously improve a certain product, process or service with a tight methodology and controlling to business excellence (Tonnessen, 2005).

This is congruent with Raphael Patty (2010)

> *The aim of this management philosophy is to change corporate cultures from a passive and defensive culture to a pro active and open culture where the basic TQM principles increased customer satisfaction, continuous improvement and everybody's participation are applied everywhere in the organization. (Dahlgaard & Dahlgaard-Park, 2006, p. 273).*

There are certain concerns about how TQM contributes to the economic success of a firm (Patty, 2010).

6.2.5.4 Innovation Way

Innovation Way is a methodology to systematically found radical innovation by the help of an internal or external (or mixed) community with software support. Its aim is to combine the creative methods such as brainstorming with structured methods such as TRIZ. Apreda et al. (2010) describe it as follows.

> *InnovationWay® is based on Functional Analysis to describe an item or a system through the functions that it performs by linking verb-noun functions filed in a proper lexicon. This kind of description permits people with different technical backgrounds to effectively collaborate together to develop concept design*

carrying out the research of functional variations, the research of analogies between different products, the research of functional solutions to stated contradiction, the application of heuristics to develop the concept. Using functional analysis in fact it is possible to draw functional maps of each product/process. Maps can be navigated. A guided exploration combined with inventive techniques will make possible to identify systematically and quickly new solutions.

6.2.5.5 TRIZ

Teoriya Resheniya Izobretatelskikh Zadatch (TRIZ) is an ambiguous methodology to generate innovations. It also includes creative methodologies, knowledge management and decision taking. It goes beyond generating ideas as it is in all its phases a very methodical approach to find the mechanic behind the innovation to systematically drive the innovation (Rebernik & Bradač, 2009). This algorithm of problem solving uses the laws of evolution (Frey & Ririn, 1997).

Initially a problem exists or something needs to happen, that TRIZ works as illustrated in Figure 17. The problem owner maps a specific problem to a generic framework (Liou & Chen, 2011).

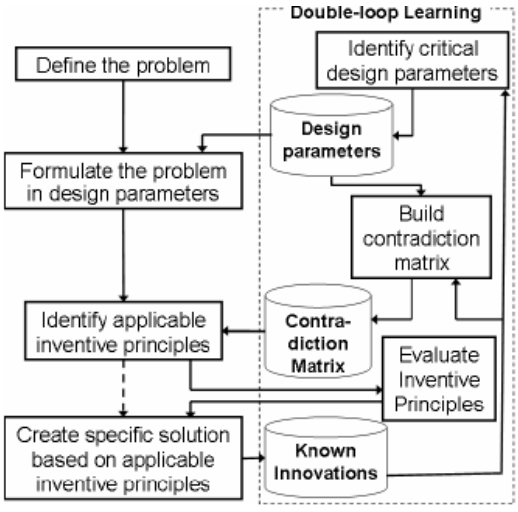

Figure 17: Extended TRIZ innovation framework (Liou & Chen, 2011).

6.2.5.6 Six Sigma

Six Sigma is defined in three ways (Tjahjono, *et al*., 2010):

- As set of statistical tools combined with elements of quality management to improve processes.
- As a management philosophy to shared value among the value chain.
- As a business culture.

Six Sigma is a systematic way to improve the supply chain as a method of supply chain management (SCM). It is rather used for continuous improvements (Yang, *et al*., 2007).

Six Sigma holds a set of guidelines to define, measure, analyse and control products or processes throughout the companies value chain (Yang, *et al*., 2007).

6.2.5.7 Lead user

The lead user concept describes the user centred innovation. Emerald (2012) summarizes that

> *the user centred innovation approach is about looking towards the leading edges of the target market, and analogue markets that face similar problems, and finding ''lead users'' who have already created prototype solutions – or actual products for other markets – that can be adapted for the target market.*

The lead user method aims to identify not only external sources but also internal users too. The core tool of are lead-user-workshops. In this workshops, lead users develop idea together with internal or external exports to an innovation (Hilgers & Piller, 2009).

6.2.6 Innovation process

This chapter is about the whole process from finding until its launch as an innovation.

The majority of the sources follow similar steps to bring an idea alive (Muller & Hutchins, 2012; Ahmed & Shepherd, 2010; Rebernik & Bradač, 2009; Panesar & Markeset, 2008; Taatila, et al., 2006; Dismukes, 2005; Tuppinger, 2004), although naming might differ (Cooper & Kleinschmidt, 2001).

1. Finding an idea externaly or internaly, methodicaly or creatively
2. Evaluating the idea for stratecial fit and economic benefit with a tight methodology
3. Enriching the idea to production readiness or service implementation in a strucured way
4. Implementing the final product or service with the methods of project or production or business management

Panesar and Markaset (2008) describe the process accurately:

> *The innovation process involves idea generation, the successful development of that idea into a usable concept and finally the successful application of that concept (Cumming,1998; Ahmed, 1998). Zeithaml et al. (2006) have identified actual steps to be followed in any type of the services development. The development process is divided into front-end planning and implementation activities. The front-end planning activities include: idea generation, concept development and evaluation, and business analysis. The implementation activities include: service development and testing, market testing, commercialization, and post-introduction evaluation. However, the process requires adaptations and must be objective, precise, fact driven and methodical. Each activity is followed by checkpoints that specify requirements to be met before proceeding to the next activity. Furthermore, Brown et al. (1990) contend that:[. . .] the success of innovation over its life cycle requires a dynamic revitalization process of initiating, evaluating and modifying the offerings. Based on this a simplified framework for a service innovation process and activities is developed to function as a foundation for the research study.* [..], *the process is divided into four different stages, namely:*
>
> *(1) initiation;*
>
> *(2) evaluation;*
>
> *(3) development; and*
>
> *(4) implementation*

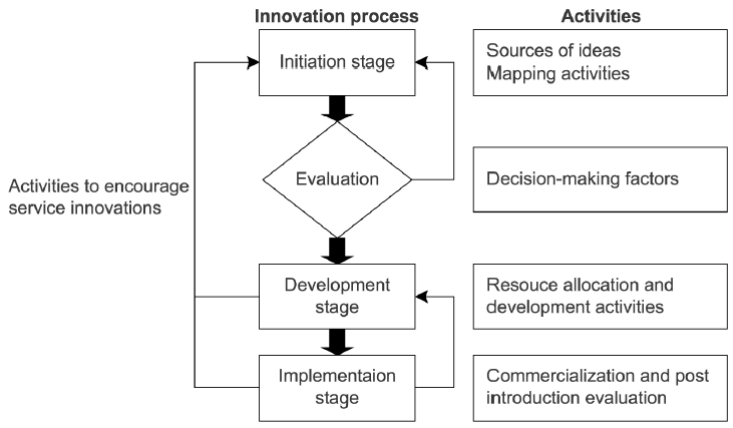

Figure 18: Innovation process and activities (Panesar & Markeset, 2008)

Panesar and Markaset (2008) explain the stages as explained below.

- Initiation stage:
  This is the phase of formal or informal collecting ideas from inside or outside a firm.
- Evaluation stage:
  With the business strategy at hand, the variety of ideas is narrowed down on rational decisions.
- Implementation stage:
  Within the stage actual steps to implement the idea as a new process or product are planned with feedback from customers and organisational environment.

It is most challenging to manage the innovation process at the initiation and implementation stage due to resource constraints (Panesar & Markeset, 2008).

Dr. Joseph Tuppinger (2004) suggests, simplified comparing to above, to use project and knowledge management, innovation controlling, coaching and moderation during the whole process of innovation. He specifies the below phases which correlate with Panesar and Markasets (2008) stages above.

- Idea finding phase:
  Finding an idea with creativity technics such as brainstorming morphology box together with employees and experts or customers and market research, research and trend analysis.

- Idea approval phase:
  By utilising different tools to rate a certain idea. This can be a benefit analysis or a rather complex risk analysis. The most worthy idea(s) are selected for the next phase.
- Idea realisation phase:
  A more detailed analysis is done with technical and economic feasibility studies with quality function deployment (QFD), failure mode and effectiveness analysis (FMEA), target based costing or market research.
- Detail planning:
  This phase focuses on the particular development of the final service or product with prototyping or project, target definitions and action plan.

This process with the different steps, actions or stages is known as a stage-gate-process. Gates represent formal requirements that an idea or a project have to pass before proceeding to a next phase (Rebernik & Bradač, 2009; Cooper & Kleinschmidt, 2001).

Cooper & Kleinschmidt (2001) write

> *Many leading firms have developed a systematic Stage-Gate process for moving a new product project through the various steps from idea to launch. [..]*
>
> *Stage-Gate breaks the innovation process into a predetermined set of stages, each consisting of prescribed, multifunctional, and parallel activities.*

Table 6: Stage-gate process example as suggested by Cooper & Kleinschmidt (2001).

Stage Number	**Name**	**Action**	**Resources**	**Remarks**
1	Preliminary investigation	- Quick review - Brief market assessment - Preliminary technical assessment - Feasibility	low	First look at an idea.
2	Detailed investigation	- Economic and technical feasibility study - Manufacturing or operations appraisal - Legal, patent and regulatory assessments - Detailed financial analysis/ Cash flow forecast - Risks	middle	More expensive than gate 1 due higher grade of detail. Settings for Gate 3.
3	Development	- Lab-tests, prototype - Marketing and manufacturing in	high	Preparing the product or service for its market readiness.

		parallel - Market analysis and launch plan - Customer feedback - Updating financial and legal analyses		
4	Testing and validation	- Quality test - Field trials - Pilot production - Pre-market tests - Updating financial and legal analyses	middle	This stages validates the entire project (process and product).
5	Full production	- Applying marketing launch plan		Put product or service on sale

Also, a stage gate follows tailor made stages. It mustn't consist of five stages as in the example in table 6. Stages can be adjusted to the needs (Ahmed & Shepherd, 2010).

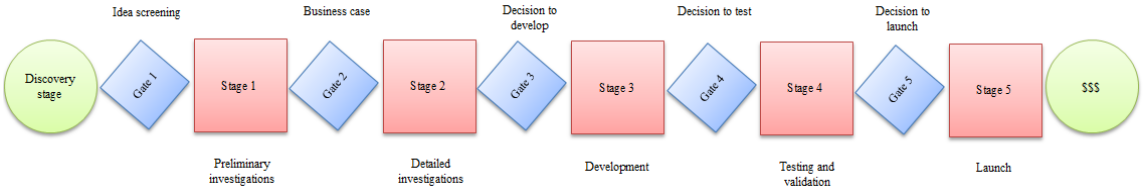

Figure 19: Exemplary stage-gate process with four gates based on Ahmed & Shepherd (2010) (own illustration).

Ahmed & Shepherd (2010) suggest to set empowered senior cross-functional teams to support the process and to act as a jury.

6.2.7 Innovation strategy

There are basically two major strategies known: open and close innovation. "Open" and "close" refer to the porousness of innovation development regarding a firms boundaries (De Backer, et al., 2008; Chesbrough, 2003).

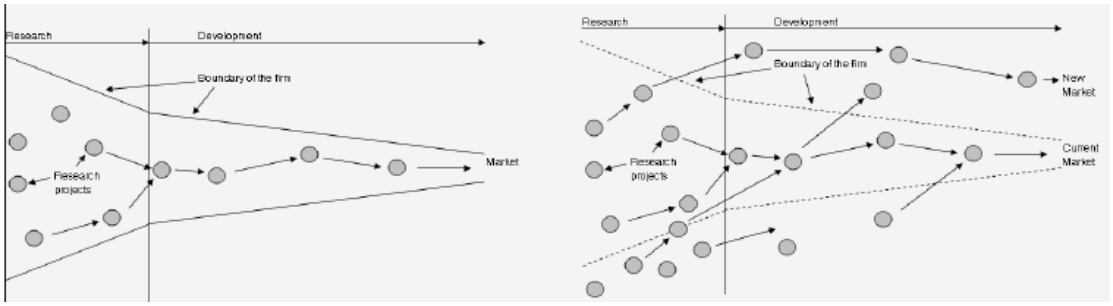

Figure 20: Firms boundaries in close and open innovation as drawn by Henry Chesbrough (2003).

A classic innovation process is focused on inner company sourcing of solutions. External sources are rather not involved into a problem solving process (Freund, 2012).

Open innovation in contrast, aims to improve the innovation process as such as well as the outcome of an innovation itself with help of external sources (Elmquist, *et al*., 2009; Gavin L. Fox, 2009; Hilgers & Piller, 2009; Chesbrough, 2006; Chesbrough, 2003). Although a promising strategy, does open innovation not substitute closed innovation (Hilgers & Piller, 2009).

Albeit the wording "open" and "close", open innovation is not a clear concept. It rather describes degrees of openness (Huizingh, 2011).

Most modern literature suggests to use an open innovation over an closed innovation strategy as in printed by Gavin L. Fox (2009):

> *In addition to internal sources of knowledge, a growing body of literature emphasizes the importance of external knowledge acquisition in fostering innovation (Dyer and Singh 1998; Hitt et al. 2000; Inkpen and Tsang 2005).*

This shall provide access to knowledge that would have been difficult to obtain or reproduce (Robertson, et al., 2012; Elmquist, *et al*., 2009; Gavin L. Fox, 2009; Hilgers & Piller, 2009; Chesbrough, 2006; Chesbrough, 2003).

Following up the thoughts of open innovation regarding collaboration, web collaboration platforms are available to foster a co-innovation (Lee *et al*. 2012; De Backer, *et al*., 2008). Lee *et al*. (2012) wrote

> *The key element of innovation is to provide compelling experience with network effects for value creation. Thus, co-innovation is a platform where new ideas or approaches from various internal and external sources are applied differently to create new value or experience for all stakeholders, including consumers (Von Hippel et al., 2011).*

It is to mention that knowledge and knowledge management (Robertson, et al., 2012), the right culture and motivated people (Emerald, 2007) are strongly linked with the open innovation strategy as introduced in pervious chapters.

The disadvantages of open boundaries is the possible out flow of knowledge that could be of competitive advantage, a higher complexity (Muller & Hutchins, 2012) and absorbed internal resources.

This is summarised by Dahlander & Gann (2010):

> *Competitors can be better positioned with complementary assets and production facilities to make use of the technological advance. It is a challenge to choose what internal resources to reveal to the external environment. Some large companies have different committees that make decisions whether to file patents or disclose. Smaller companies, in contrast, typically lack the resources to structure this process.*

Further, cultural issues such as "not invented here" might appear and resources for internal R&D cut or substituted (Belussi & Sedita, 2009).

By discussing the innovation strategy, the understanding of the business model might change: it goes rather into a service oriented thinking than innovation on products (Agarwal & Selen, 2011; Chesbrough, 2006).

6.2.8 Success factors

This chapter holds the commonly mentioned innovation success factors over the various topics of the previous chapters.

Strategic

- Forecasting or foresight (Brand, 1998)
- Good understating of core competencies (Brand, 1998)
- A knowledge strategy (Brand, 1998)
- A knowledge strategy that identifies users, sources, processes, storage strategy, knowledge, and links to knowledge for the knowledge management (Jennex, et al., 2009)
- work processes are designed that incorporate knowledge capture and use (Jennex, et al., 2009)
- security /protection of knowledge (Jennex, et al., 2009)

Knowledge

- Reusing (internal) knowledge at the right time by the right people (Jennex, et al., 2009)

- A common enterprise wide knowledge structure that is clearly articulated and easily understood (Jennex, et al., 2009)

Tools

- integrated technical infrastructure including networks, databases/repositories computers, software (Jennex, et al., 2009)
- measures are established to assess the impacts of the KMS and the use of knowledge as well as verifying that the right knowledge is being captured (Jennex, et al., 2009)

Culture and environment

- motivation and commitment of users including incentives and training an organizational culture and structure that supports learning and the sharing and use of knowledge (Jennex, et al., 2009)
- Building relationships alliances (Muller & Hutchins, 2012)
- No over-regulation (Muller & Hutchins, 2012)
- An atmosphere of generosity, freedom and safety (Brand, 1998)

6.2.9 Absorptive capacity

This is he ability to absorb, apply and draw commercial benefits from innovation (Cohen & Levinthal, 1990). It is a key factor to adapt new ideas (Harisona & Koski, 2010). Although the term originally describes the capacity to internalize external ideas, in the modern environments, it is understood as the capacity – or limitation – to handle amounts of new ideas (Spithoven, et al., 2010).

6.3 The literature-based concept model (literature result)

This draft or literature-based concept model is designed out of the literature review manly based on literature review chapter 6.2. It is used as a reference for discussions and to discover gaps during the field research. The model goes beyond simple process improvement driven by the known tools as defined in chapter 6: it is designed to discover completely new services, products or methodologies and to bring them to business success within a company or as a spin-off: the radical innovation.

If uncertainties about methodologies appeared, those considered as the most recent are taken into account.

6.3.1 Key factors

According the literature in chapter 6.2.8, a certain culture of innovation and commitment by management are key to innovate, followed by a certain not to tight methodology. Further, innovative people shall receive a certain advantage such as honour or the possibility to develop their own project. It can but mustn't necessarily be monetary benefits.

6.3.2 Strategic level

Innovation is implemented on a strategic level to judge and choose innovative ideas according to the firms strategy but also sets to environment to innovation and influences the companies culture and vice versa. Tools and people (resources) are made available due to a strategy commitment. Compare chapter 6.2.8.

It is about to build a systematic innovation capability as shown in figure 21. It describes the fields of action initiated by higher management or a innovation management department.

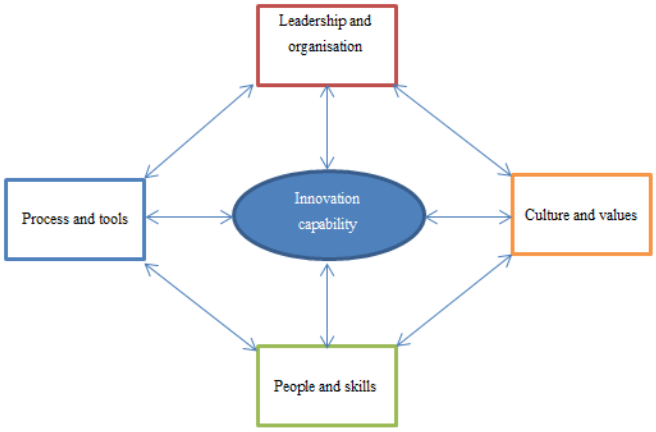

Figure 21: Systematic innovation capability, illustration adobted from Skarzynski & Gibson (2008).

As a service orientated business model usually doesn't own a dedicated research and development department as a production oriented manufacturer, the innovation has to be settled through the whole value chain which isn't particularly answered within the reviewed literature.

6.3.3 Getting ideas

An internal or external community must be provided with a tool set – most likely a webpage – to describe ideas in a structured way. Those individuals should receive a certain reward to be motivated to describe their innovation.

6.3.4 Decision making/ choosing an idea

Certainly not every idea can be developed. It mainly has to fit to the strategy. An initial decision can be taken by individuals, a committee or even an community in very open environments. Chapter 6.2.6 names further examples. Literature mentions the absorptive capacity as an limiting issue beside return on investment and strategic fit.

6.3.5 Developing an idea

Once an idea has been chosen, adjustments or improvements might be required. Individuals receive resources to develop their ideas any further as discussed in chapter 6.2.6. This improved concept then is again judged against its strategic fit and possible return on investment.

6.3.6 Preparing market readiness

After all the previous gates, a new product or service is prepared for its market readiness. This can be done with prototypes, market studies or any other test run. Usually, the person who settled the idea gets further coaching to succeed.

6.3.7 Go life

After a final review, by the final decision takers – usually members of the board – the initial idea goes life within an existing department, a spin-off or a new company. Various degrees of monetary involvements by the parent company are possible .

6.4 Scheme of concept model

The literature-based concept models bases on an stage-gate model with various activities in between. Each stage has to be approved by a community of internal specialists. Involvement of top management appears after gate 3.

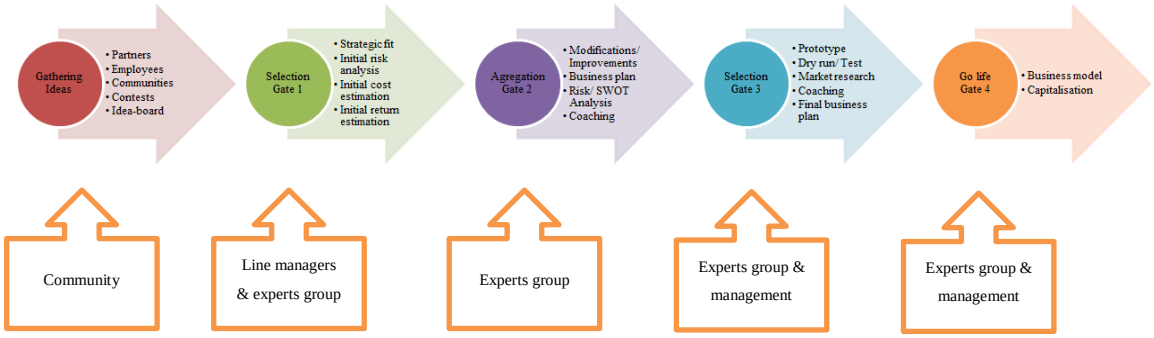

Figure 22: Literature-based concept model (own illustration).

The design isn't written into stone. Figure 23 is an example that gives a good overview of the most common steps. However, a stage-gate model is adapted to the actual needs and may vary strongly from case to case.

7. Case Study

The case study is done on-site by the author during October 2012. Interviews are recorded and transcribed. Supporting materials such as documentations or hand-outs provided by Swiss Post are available in the appendix (II, III and IV). More details about the methodology applied is available in chapter 4.

7.1 The case: Swiss Post

Swiss Post was recognized during the practice orientated research project (PORP) due to their interesting and strictly methodical approach to drive innovation.

The innovation process has been structured after several approaches of innovation incubation within the Swiss Post. It aims beyond seed management or process improvements. It can act as an incubator for internal or external carriers of ideas with own initiatives or with methodical support.

Swiss Posts main aim at the current state is to foster a culture of innovation (Keller, 2012). Further intentions are

- to find innovative ideas and the people behind within Swiss Post
- to let customers participate on and with innovative ideas
- to find suitable start-up companies to support and to integrate into Post by screening the market
- IP management

Swiss Post secures its leading position in innovation to remain competitive in future in the fields of e-post, e-finance, e-commerce and e-government.

Swiss Post is considered as one of the most innovative postal organisations by the international post corporation. Even, since 2011, it is considered to have the most advanced electronic post services in the world (International Post Corporation, 2012).

Swiss Post uses a set of remarkable tools to identify ideas, to learn about innovation, to grow ideas and to implement former innovations back into the company. Although its main focus is on inner company innovation, participants from outside Swiss Post are

allowed to contribute such as consulting services or idea generation with selected partners.

The selection process of ideas is methodical and automated by software called Co-Star. See chapter 7.2.5 for more details.

Most of the ideas brought up are transferred into the possession of Post as well as different degrees of participation are possible in the field of the classical start-up incubation. Initial ideas are supported with up to CHF 50’000 to develop an idea within the early stages one and two speaking of the stage-gate model in figure 19.

7.2 Innovation at Swiss Post

This chapter answers the main research question "How inner company innovation development at Swiss Post is designed to pick-up innovation and brings them to market success?".

Swiss Post has defined innovation as a “commercial successful amendment”. This can apply within processes, business models, products, services or social innovation too. As long as a value improvement occurs (Caboussat, 2012).

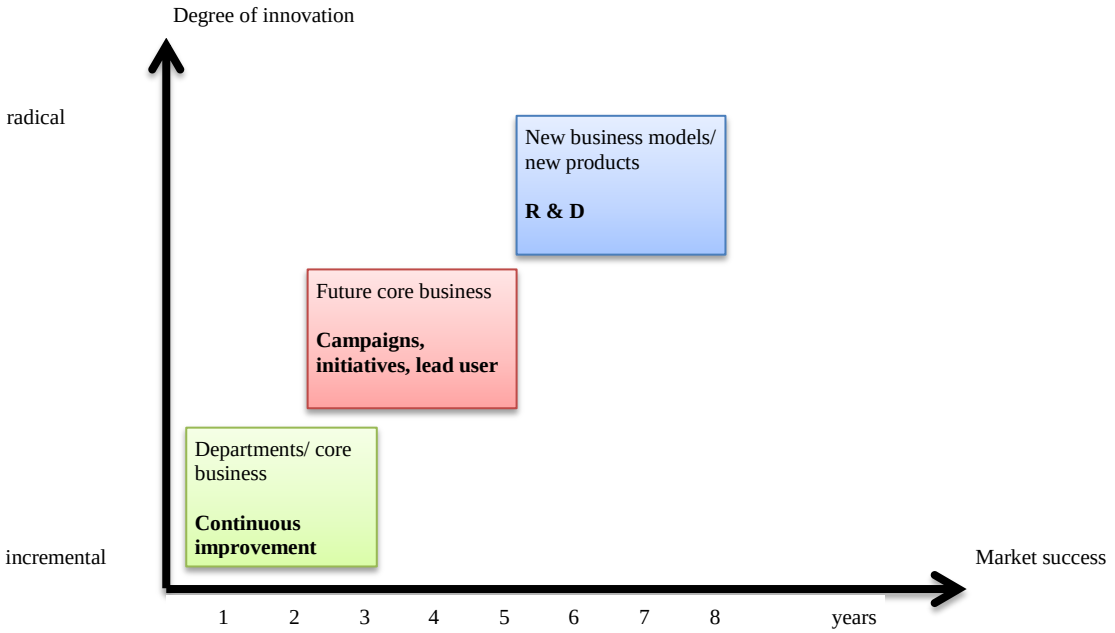

Figure 23: Focus of innovation adopted from Caboussat (2012) (own illustration).

Figure 23 shows an adapted drawing from Swiss Post about focusing innovation. According Pierre-Yves Caboussat (2012), the first green box from 0 to 3 years represents everything that can be applied within three years. This three years are equivalent to Swiss Post strategy periods and the time frame bonuses are measured. Activities are carried out by the business branches on their own.

If it goes more into the direction of the radical innovation, activities or new services and products might be considered as hindering the daily business (Caboussat, 2012)[1]:

> *I don't think, that it is required to have an innovation management as such for incremental innovation. Considering longer periods towards a radical innovation, this has to be well reflected; it has to be organised and structures shall be made available.*

Pierre-Yves Caboussat (2012) sees R&D activities rather in product development such as pharmaceutical products and not as something suitable within Swiss Post.

Caboussat (2012) explains further, that the focus lies on short term approaches close to the core business. As soon as it goes away from the core business it is difficult to carry out ideas by the normal businesses. Ideas have to be taken out, protected and developed beyond the daily business.

Swiss Posts budget to innovate, aquire new businesses and sustainablity is 1.5 ‰ of the annual turnover of the whole Swiss Post group (Caboussat, 2012; Keller, 2012).

[1] Original Quote (Caboussat, 2012): *Und das sind dann Elemente, wo man sich überlegen muss, wie man sie organisiert. Wenn man nur das macht [inkrementelle Innovation], bin ich nicht sicher ob es Innovationsmanagement benötigt wie wir das machen. Ich glaube sogar eher nicht. Wenn man solche Sachen machen will [radikal Change, längere Zeitperiode] wo man dann in einer Zeitperiode bis fünf oder sechs Jahre, mit eher radikaler Innovation, dann muss man sich das gut überlegen, dann muss man das organisieren. Auch von den Strukturen her.*

7.2.1 Strategic implementation

As Swiss Post is a service oriented company, it does not operate a research and development department within the primary activities (Caboussat, 2012). Taking Porters value chain (Porter, 2008, p. 81) the discussion came up to understand innovation rather as a support activity. Innovation management at Swiss Post is situated within HR management but directly reports to the CEO.

Caboussat (2012) designed an innovation architecture to introduce a common understanding and to define the fields of implementation activities[2]:

> *Our mission is to make innovation possible and to support the transformation. We are not brighter or more intelligent than all others. Our discipline is to know how innovation can work within the complexity of Swiss Post. We support people with structures, methods and processes to bring their ideas to market readiness. Speed is important and too our innovation model that we have built up.*

Caboussat (2012) points out parallels to the common understanding of building a house. There are several people involved with drawing, masons, builders and an architect. The owners then define if they want a bunker or if they like more windows or doors which stands for the openness of innovation. Innovation management would be represented by the architect.

[2] Original Quote (Caboussat, 2012): *Wir haben es bei uns Positioniert, dass wir sagen, wir machen Innovation möglich und unterstützen die Transformation. Wir sind aber nicht schlauer oder intelligenter als alle anderen - wir wissen, unsere Disziplin ist zu wissen, wie die Innovation in der Komplexität von Post, funktionieren kann. Wir helfen den Leuten mit Strukturen, Methoden und Prozessen, dass diese möglichst schnell mit ihren Ideen zu einer Marktreife gelangen. Also bei uns ist zu einem grossen Teil auch Speed ein Thema. Was bei uns wichtig ist, in diesem Innovationsmodel, was wir aufgebaut haben...*

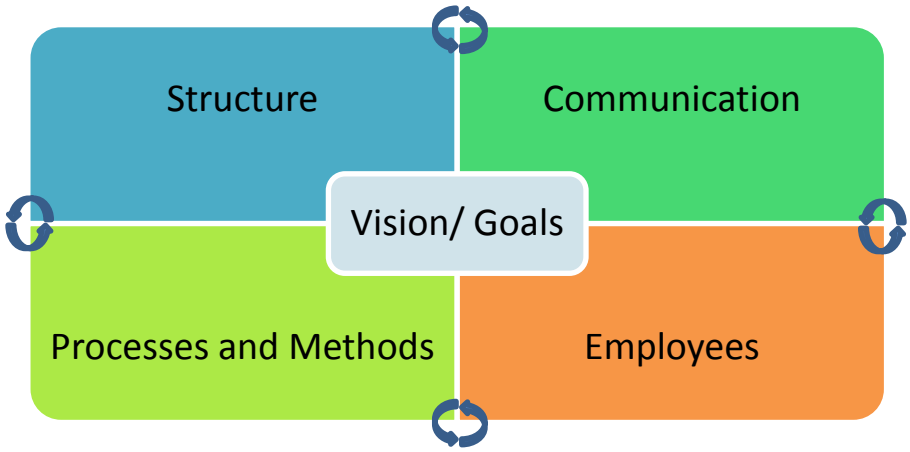

Figure 24: Innovation architecture introduced by Pierre-Yves Caboussat (2012) (own illustration).

Figure 24 displays an illustration of the fields of activities whereas the rounded arrows indicate an exchange with an environment considered as the source of external R&D and communication (Caboussat, 2012).

Caboussat (2012) says[3]

> *The structure explains how innovation is organised, what recognition it gets and what importance it has within the organisational aspects. [..]*
> *Processes and methods are the processes to enable innovation, to support innovation and to make innovation transparent. [..]*
> *Employees represent the element of culture. It is very important to me to have the employees networking, to create transparency to let the people know what happens and what the aims are. It is our aim that everyone can be innovative if he or she wants to.*

[3] Original Quote (Caboussat, 2012) *Also, für uns, die Innovationsarchitektur, basierend auf Vision und Ziel haben wir die Strukturelemente: wie ist Innovation organisiert, wie ist es aufgehängt, welche Bedeutung hat es im Unternehmen auch von den organisatorischen Aspekten. Das zweite ist, welche Prozesse und Methoden gibt es im Unternehmen, die Innovation ermöglichen, Innovation fördern, dass wir schneller werden, vielleicht auch schnellere Transparenz der Vorhaben, dass wir Visibilität haben.. hängt alles miteinander zusammen. Für mich ein drittes Element sind die Mitarbeitenden der Post. Das Kulturelement halt, welches sie ausgeklammert haben. Für mich aber extrem wichtig, die Leute zu vernetzen, Transparenz zu schaffen, damit die Leute überhaupt wissen was da abgeht und mein Ziel ist es eigentlich , das zu sagen und das glaube ich auch bei der Post, bei Post kann jeder, wenn er will. Das ist einfach das was wir haben müssen, was wir leisten müssen als Innovationsmanagement: Jeder der will, der kann. Und diese Message rüber zu bringen, dass man die Chance hat die Post mit zu gestalten, das ist so eine Aufgabe die wir uns auf die Fahne geschrieben haben. Wir haben zum Beispiel im Moment auch ein Vorhaben Enterprise 2.0. Da geht es darum, dass man die sozialen Medien wie sie ausserhalb realisiert werden, Facebook, Twitter, Blogs und so weiter. Dass man die an das Unternehmen anpasst. An die Enterprise 2.0 Plattformen. Was es so gibt. Das Ziel ist dort eigentlich die Vernetzung, Transparent schaffen mit dem Ziel der Effizienzsteigerung der Unternehmung. Aber auch das geht natürlich auf die Kultur ein, wie Innovationskultur ist für mich eigentlich...*

Within processes and methods, three options are available (Caboussat, 2012; Keller, 2012):

I. Bottom-up approach innovation (chapter 7.2.2):
Employees may address radical ideas to innovation managers to start own initiatives.

II. Bottom-up approach PostIdea (chapter 7.2.3):
Continuous improvement process called PostIdea to follow suggestions by employees.

III. Top-down approach (chapter 7.2.3):
initiatives or campaigns started by management to learn new, solve a problem or to generally work at a topic. Currently also used to exercise innovation and to anchor innovation within the culture.

As this thesis investigates on the radical innovation, III is not further explained. I, in chapter 7.2.2, and II are more detailed within the chapters 7.2.3.

Accordingly, culture, carried by employees, is a major element to transform ideas into business and to carry ideas throughout the company (Caboussat, 2012). Enterprise 2.0 for example, is one program to use external social media platforms within the company Caboussat (2012)[4].

> *The fourth element is communication within the company and outside the company. We have to the employees that we have many good things. [..] This is because not all employees and even less external people know about the great things we do.*

[4] Original Quote (Caboussat, 2012)*: Und das vierte Element ist die Kommunikation. Gegen innen und aussen. Den Mitarbeitenden auch sagen, dass wir ganz ganz viele tolle Dinge haben. Das wissen die auch nicht. Das wissen aber auch die externen nicht. Die haben keine Ahnung von der Post und was wir eigentlich alles machen.*

7.2.2 Bottom-up approaches: CIP and lead user

Post considers two methods as bottom-up approaches (Caboussat, 2012; Keller, 2012):

- Continuous improvement process CIP
- Innovation process INN

The continuous improvement process isn't considered within this thesis.

Innovation management provides tools and methodologies to all corporate employees and available all the time, accessible through intranet, initiated upon employees motivation. The process is usually started by an idea entered into a software called PostIdea.

Within PostIdea, the idea has to be described and then goes to an idea manager. An idea manger is an expert of the field the idea is raised. She or he judges about the feasibility and how useful an idea is. It is within the employees responsibility to push an idea, declined by idea managers, to innovation managers (Caboussat, 2012; Keller, 2012). Idea managers can be but usually aren't the same person as innovation managers. Comparing against the theory, this makes it rather a lead user (chapter 6.2.5.7) approach.

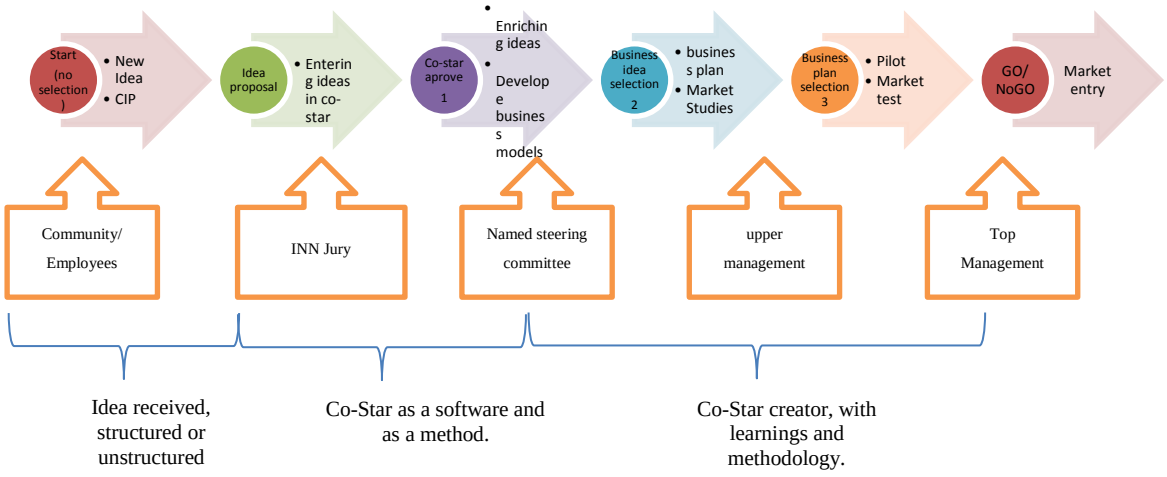

Figure 25: Stage-gate model of INN process based on Pierre-Yves Caboussat (2012) and Roland Keller (2012) explanations (own illustration).

Idea proposal

If an idea is approved by innovation managers, a stage-gate model as drawn in figure 25 applies.

During this phase, ideas have to be structured into a software called co-star. This is of about four to five pages of work (Caboussat, 2012; Keller, 2012).

Gate 1: Co-Star approve

This gate can be passed if KLA INN agrees to continue with an idea. KLA INN is a committee with members of the board taking care about innovation management within the corporation. Usually, the originator of the idea has to hold a presentation in front of the KLA. Already at this stage, CHF 50’000 are available to improve a first idea (Caboussat, 2012; Keller, 2012).

Gate 2: Co-Star creator

The idea now receives structuring into a business plan. This is done with a software called co-star creator. It provides tools and guide lines to enhance the data from co-star. The prepared idea goes again to KLA INN to get commitment for a final phase. Within this step further, the decision of setting and financing go-life is negotiated. Its not a must, that the originator of an idea will be in charge.

Between gate two and three, more resources than the received CHF 50’000 can be requested.

Gate 3: Market test

This phase prepares tha later possible go-life. If a new product or service is accepted, operations is organised here. For this again, INN Fonds provides 50% to implement it at a particular entity where as the chosen entity contributes with another 50% of reserved money.

Gate 4: Run

This phase is the actual go-life where a particular department or a new entity takes over the business.

The INN process approach is considered as a tough approach: employees have to overcome many hurdles especially for business ideas that cannibalize existing products. It is up to the employees stamina to go beyond such barriers (Caboussat 2012; Golliard 2012).

7.2.3 Top-down approach: initiatives or campaigns

Swiss Post understands a top-down approach as an initiative or campaign initiated by upper hierarchy levels. A defined peer group is asked to participate in various degrees of involvement (Caboussat, 2012; Keller, 2012). The peer group can consist of only a few employees or all employees, external people and experts. An applied example is the currently running PostVenture campaign which involves all Swiss Post employees and initiated by the corporate management KLA INN (corporate management steering committee for innovation; see chapter 0) (Caboussat, 2012; Keller, 2012) as a business plan contest. According to Roland Keller (2012), PostVentures aims are:

1. To foster a culture of innovation.
2. To distribute an innovative and entrepreneurial mind-set within the employees.
3. To develop the cases received through this initiatives.
4. To make participants familiar with Co-Star.

Rather the way is the goal: the prime aim is to foster the culture of innovation.

The way it is implemented is close to Posts standard state-gate-model. All top-down campaigns or initiatives re-use existing tools and methodologies but tailored to the actual needs (Keller, 2012). For PostVenture employees are asked to hand in their business ideas. This question reached the staff through various internal channels such as intranet, video messages from the CEO, internal newspaper and a brochure made for this campaign.

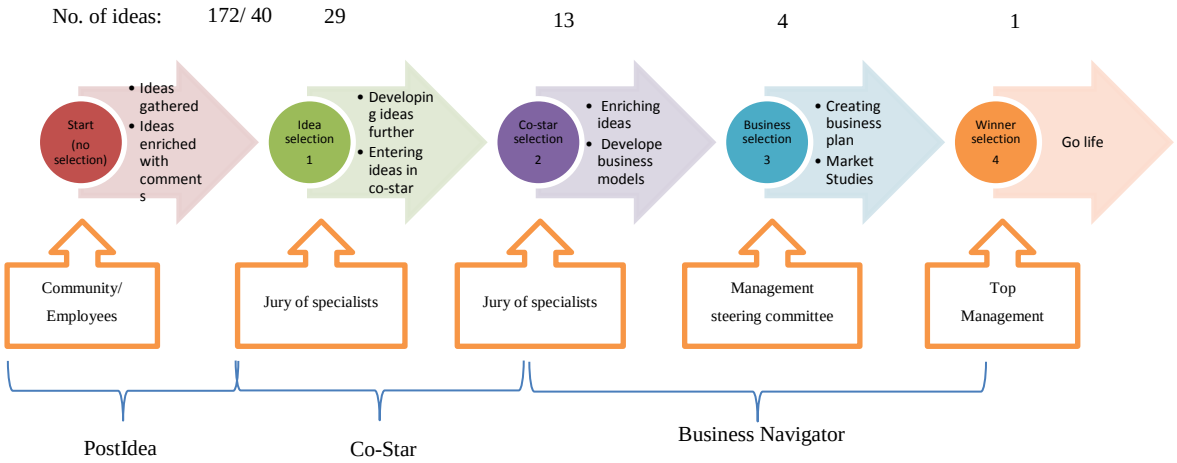

Figure 26: Stage-gate process of PostVenture campaign as explained by Roland Keller (2012) and Thierry Golliard (2012). (own illustration).

Start (Keller, 2012)

All ideas were first gathered and entered by the employees into a web based tool to have a slight structure. This structure was forum like and due to this, ideas were commented by voluntary participants, open to all employees (Golliard, 2012).. Also, kind of a star rating was available to click on by other employees but was only of minor importance for the steering committee. In total 40 ideas out of 172 were entered into a tool called PostIdea. PostIdea is used to describe an idea.

Gate 1: Idea selection (Keller, 2012)

The received ideas went through a first gate to estimate the feasibility and to ensure that a similar activity isn't started somewhere within the company. This was done by an idea jury with 40 members all over the company and external experts. The jury is selected by the topic received as a group of experts of a particular field. This jury gave grades to criterias which then led to a ranking. The grades are given after discussions within the jury. The jury is the main difference to the regular process (Golliard, 2012).

Selection criterias are designed by the PostVenture project team and weighted:

- How new an idea is
- An estimated effort to achieve it
- Expected results
- Strategic compliance

The idea mangers from all departments came together and felt the decision as a group. From initially 172 ideas, 40 passed gate 1. All participants received a letter about the decision.

Ideas passed the gate had to be entered into co-star, a software to structure ideas into business plans, of about four to five pages. Participants are offered coaching and workshops.

Gate 2: Co-Star selection (Keller, 2012)

After a first structure more into business like languages a further selection was made based on the ideas detailed in co-star with the same jury as in gate 1. This time, q&a sessions were held and presented to a named steering committee of upper level managers. 21 suggestions passed this gate. Passed topics now had to be developed, supported by co-star into real business opportunities supported with coachings and workshops.

The so received possible future ventures had to be structured. This was done with the software business navigator from IFJ (Institut für Jungunternehmen, 2012).

The main difference here to the classical INN process is the use of external experts for trainings, jury members and from the commission of technology and innovation KTI (Schweizerische Eidgenossenschaft, 2012).

Gate 3: Business idea selection (Keller, 2012)

The new jury with members of the innovation steering committee received presentation of the business ideas, mostly the same as in gate 2. Passing this committee gave the allowance to develop the business plan or prototypes.

The feedbacks out of this sessions streamed down the remaining issues and made business ideas more particular. One idea remained.

Gate 4: Business plan selection (Keller, 2012)

This last step is presented to the very top management. It decides about the final go and the implementation. The implementation can be a participation on a spin-off, a new department or an additional task within an existing department. Whatever fits the most. Certainly within this step, a final go or no-go is communicated.

Participants can use up to CHF 50’000 after gate 1 to develop their ideas during the whole process. There is no limitation or regulation of how to use this amount. Employees to not receive additional time to develop ideas and so, have to do it in their free time. It is considered as very valuable (Golliard, 2012).

Ideas that are dropped are not considered for any further evaluation or discussion nor systematically gathered or filed. It is upon employees in charge, such as project managers, to review PostIdea. Within this campaign however, three ideas failed on gate 3 are taken by the business units for further development.

It is to mention, that from it lead to certain argumentations between the jury an originators of declined ideas. Not all employees handled the rejection too well (Golliard, 2012).

Thierry Golliard (2012) mentions explicit, that he wouldn't have brought in his idea if this campaign wouldn't exist.

7.2.4 Corporate management steering committee

Swiss Post formed a steering committee consistent of corporate managers called KLA INN: *Konzernleitungssausschuss Innovation*. This committee is allowed to distribute CHF 50’000 for an initial start for each venture considered as worth to develop into a business plan. It is financed through a fund. The fund again is 1.5‰ of the annual turnover of the corporation.

This amount is meant to develop an idea. Once an idea is approved, the use of the money is under charge of the originator of the idea. Also, it is common that departments receive this seed money to develop innovative ideas. If a new product or service is goint to be implemented by a particular own entity financing is splitted between INN and the legal entity by half for each. KLA INN is also the principal of PostVenture and steering committee in the bottom-up approaches.

7.2.5 PostIdea, Co-Star and Co-Star creator

The explanation about the uses software is based on the interviews with Pierre-Yves Caboussat (2012), Roland Keller (2012), Thierry Golliard (2012) and on the fact-sheet PostVenture (2012) in appendix V.

PostIdea is a tool to enter ideas methodically but less structured than in Co-Star. An originator of an idea describes the idea according its field of change, expected return and benefits. PostVenture uses an tailored version of the very same idea to gather ideas.

If an idea goes beyond continuous improvement, it is processed through Co-Star (Customer – Opportunity – Solution –Team – Advantage – Results). An author enters in Co-star to describe the tasks, returns and field of activity more details and more structured. It would be further possible that the software is on training to be able to filter out innovative and non-innovative ideas on its own in future.

Co-Star as a software and as a methodology garantuees a compairability of ideas and assists an author with the nessecerely methodology and knowledge to build up an idea. It is used over serveral gates of the stage-gate process.

Co-Star creator is an enhancement of the Co-Star. It allows to create a business plan with all its needs out of the initially raised idea.

8. Results

The differences or similarities between theories, chapter 6.3, and the observed case are discussed in chapter 7. This chapter holds the summaries whereas the full details are covered in the case study.

8.1 Main question

How inner company innovation development at Swiss Post is designed to pick-up innovation and brings them to market success?

This is answer is mainly covered in the case study of chapter 7.

Swiss Post has settled innovation management at top management level as a department within human resources organisation.

It considers bottom-up and top-down approaches. Bottom-up approaches are started upon employees motivation. Methodologies are PostIdea for rather incremental improvements and the INN process for rather radical improvements.

Top-Down approaches are initiatives or campaigns started by top management. Todays main focus lays on fostering a culture of innovation within the corporation to introduce the bottom-up approach. Within campaigns a problem or a question to solve is asked to a community of employees. A community could be all employees or a selection of experts as well as external experts.

8.2 Sub questions

8.2.1 a) How does Swiss Post identify ideas and their drivers?

Swiss Post considers two main ways to gather ideas. A bottom-up approach as described in chapter 7.2.2 where originators of ideas push an idea and top-down approaches as seen in chapter 7.2.3, carried out by initiatives or campaigns from upper management.

Both approaches use the same tools and methodologies but are applied differently.

The tool to identify an idea is PostIdea. Originators of an idea enter their proposals within this intranet based software. As the contact details of the originator are provided during that process, their drivers are identified within the idea completion.

8.2.2 b) With whom does Swiss Post judge or select innovative ideas worth to develop?

Swiss Post distinguishes between a bottom-up and a top-down approach. The bottom-up approach is rather static and uses the same setting permanently. At the initiation phase, ideas are evaluated by idea and innovation managers before giving the allowance to enter the bottom-up stage-gate model.

A steering committee called KLA INN (see chapter 0) consistent of members of the management judges about the an opportunity.

Top-down approaches follow a similar methodology but are adapted to the needs of an particular campaign. In the example of PostVenture, the project team decided to have at first, a group of experts selecting ideas. Ideas passed and developed into business plans are presented to the KLA INN.

8.2.3 c) What support is offered by Swiss Post to shape an initial idea?

Tools provided are PostIdea and Co-Star. Both software have linked trainings, manuals and examples to explain the expected outcome.

To shape and enrich ideas, employees are allowed to talk to experts and to use up to CHF 50’000 to gain expertise, field research or whatever is need to build up ideas.

In campaigns it is further possible, that all personnel with access to the intranet might comment ideas to bring in other feedback and insights.

9. Discussion

This chapter provides a comparison between the case at Swiss Post and the literature-based concept model. It allows discussing the findings from the literature review against the qualitative case study.

It has to be mentioned, that today Swiss Post has a mature yet developing implementation that works well in a service oriented firm. The innovation team is experienced and did a lot of reflection to structure as well as the firms history shows different approaches for innovation management.

9.1 Strategic implementation

The reviewed literature does not give a straight approach of how to implement or situate innovation at the strategic management level for a service oriented company. Product oriented companies are well documented with their research and design departments but this doesn't apply for service oriented firms.

A service oriented company needs another approach whereas Swiss Post understands it rather as a support activity (Caboussat, 2012) considering Porters value chain (Porter, 1998). Although, innovation management at Swiss Post is situated within human resources, reporting goes directly to the CEO. Figure 27 shows an improved value chain based on the discussion between Pierre-Yves Caboussat (2012) and the author.

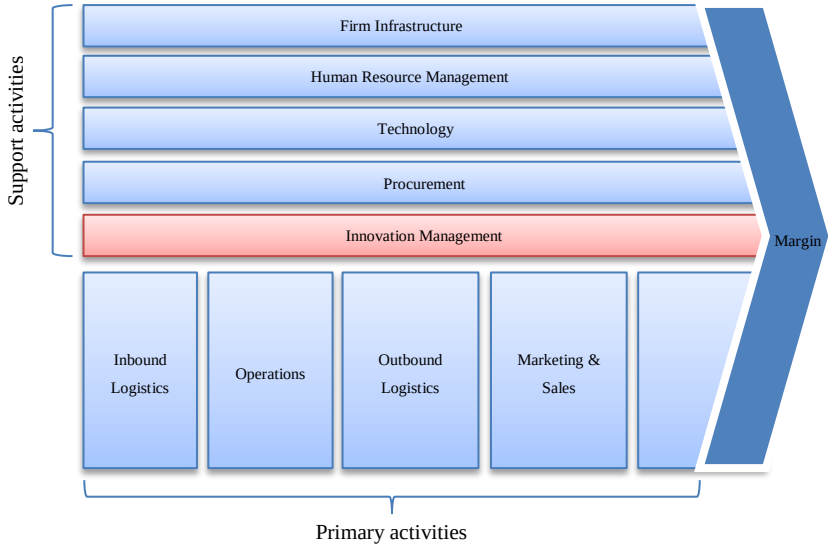

Figure 27: Enhanced Porters value chain (own illustration).

This to understand is of importance to management to correctly set the value of innovation management and to understand, that it is carried through the whole service oriented company rather than through a particular R&D department. It also would be in line with the demand by Henry Chesbrough (2006) of a service oriented view. Though, Skarzynsky & Gibson (2008, p. 240) see HR as the primary driver of such a setting.

Figure 24 further gives good insight about the task of an innovation management department. The fields of activities are in line with the discovered theories and explains clearly the fields of activity in relation to an experience based time frame.

9.2 Distinction between incremental and radical innovation

A valuable model has been provided by Pierre-Yves Caboussat (2012) in figure 23 to contribute to the theories about the time frame and radicalness of an innovation. His model is in line with the usual strategic time frame of a company and gives another dimension to the definition of radical and incremental innovation with a more applied approach. A similar model is drawn by Ahmed & Shepherd (2010) in figure 28.

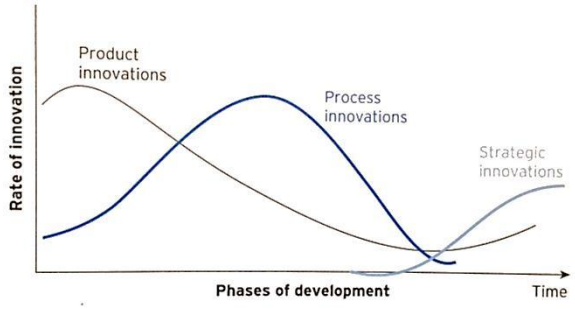

Figure 28: Patterns of innovation over time (source Ahmed & Shepherd, 2010).

9.3 Tools and methods

Theories suggests a lot of methods and tools to do innovation. Interestingly, the case does not unveil them again. Beside the stage-gate models (chapter 6.2.6), no other methods are applied. To judge about ideas, management juries or groups of experts are in charge. Even the stage-gate models certainly follow the main steps but are much slimmer than theory suggests. Although the observed stage-gate models shows more gates than named, it overlaps with the theoretical stage-gate models.

9.4 Absorptive capacity

During the interviews, it was never mentioned that too many ideas to absorb are raised. This is often considered in theories but seems not to be an issue here. Possible reasons are that either there is more money available than before limitating factors appear or that it is the nature of the things that not more ideas than a few appear. However, it ist most likely not limiting because the originator of an idea takes care about its progress as a lead user. This certainly adds capacity.

10. Conclusion and recommendations

10.1 Contribution to the theories

It is considerable to transfer Henry Chesbrough (2006) of a service oriented understanding – or in brief: a R&D-less view – into Porters value chain (Porter, 2008, p. 81) as proposed in figure 27. This is to link the academic discussions with its application in the real world. The benefit would be a adjusted understanding at management schools of how and where to situate innovation management and its tasks.

Further, deep, complex and even expensive methodologies are discussed to drive innovation by Cooper & Kleinschmidt (2001), Panesar and Markaset (2008), Apreda et al. (2010), Wang *et al.* (2012) to name a few. Swiss Post on the other hand hardly mentions any of the methodologies and processes. It sees it as more important *to do* the innovation with as few restrictions as possible. This approach is also supported by Henry Chesbrough (2006) and brought to the point by Cherns (1987):

> *[..] no more should be specified than is absolutely essential and while it is necessary to be quite precise about what has to be done, it is rarely necessary to be precise about how it is to be done.*

Nevertheless, tools such as communication, project management or human resources management are well established and contribute to innovative behaviour.

The sound architecture model drawn in figure 23 and designed by Pierre-Yves Caboussat (2012) is of use to explain a broader audience the field of action at management level regarding innovation management.

10.2 Contribution to the case

Swiss Post has a mature and well reflected innovation management in place. However, it has divergences from what is suggested within the theories.

One main observation was, that declined ideas and therewith acquired knowledge isn't systematically reviewed or enriched. It might be of value to have a systematic review process in place that picks-out ideas for a new evaluation as described in chapter 6.2.4.2.1 and 6.3.3. This would enhance Caboussats figure 23 to figure 29.

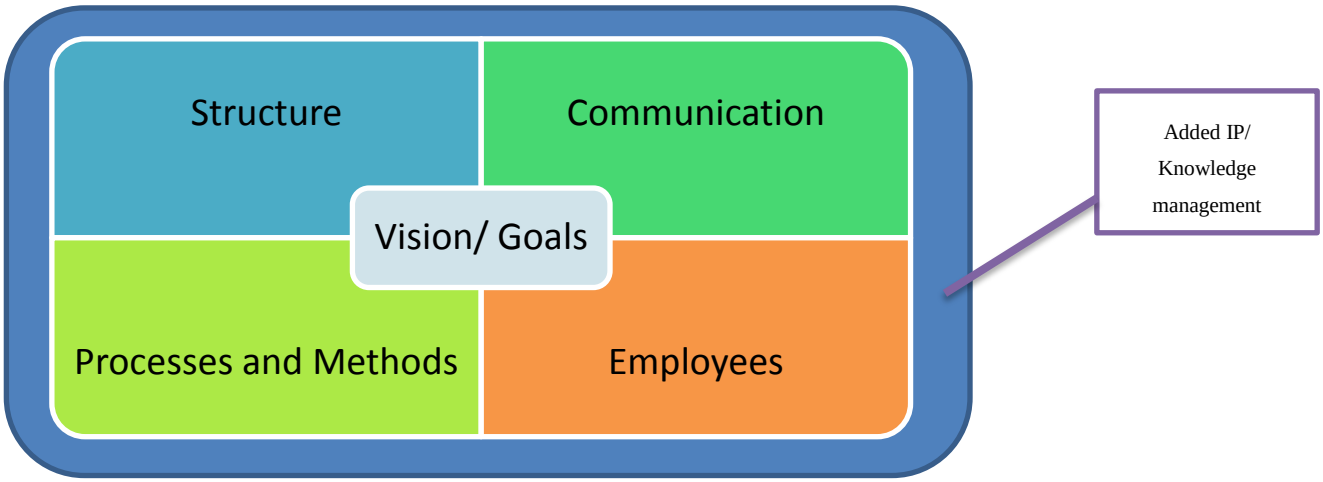

Figure 29: Innovation architecture by Caboussat (2012) enhanced with knowledge management (own illustration).

An active cultivation is not only a need of the theories. There seems to be a demand indicated by a few project managers who do enhance their projects or identify key personnel (Caboussat, 2012) by reviewing former ideas.

Speaking of methodology, Ahmed & Shepherd (2010, p. 52) suggest to train all staff with creativity techniques and give an example from the company DuPont trains:

- Lateral thinking
- Metaphoric thinking
- Positive thinking
- Association trigger
- Capturing and interpreting drams

It was recognized that Swiss Post does not cover all decision points (gates) within the stage-gate process as actual gates. Especially in the bottom-up approach where idea and

later innovation managers are taking certain decision that could make a valuable idea vanish (Popescul, 2011). It was mentioned by Caboussat (2012) that it can be sort of tough for employees to bring radical ideas through. If being aware of this additional gates, certain steering or controlling could be applied regarding the protection of innovation.

Once, the processes become more mature, a portfolio management as suggested by Ahmed & Shepherd (2008) might be of use.

11. Further research

During this work, with its exhaustive literature research and very interesting intellectual exchanges with several participants, possible new fields or research are discovered.

- What are the success factors of a spin-in venture?
- How is a fertile cooperation between universities and companies in Switzerland *applied*? A research focused on universities of applied sciences.
- Why do innovative ideas disappear? Who blocks them? How to overcome?
- Does innovation rather contribute to be sustainable or is it against? E.g. if a new smart phone comes out, older models are thrown away.
- The missing link between process improvement methodologies and the radical innovation. What methodology needs to apply, that radical ideas do not vanish in the continious improvement process?
- How many individuals need to participate until an innovation is an open-innovation?
- Is the enhancement of Porters value chain in figure 27 valuable and valid?

12. Indexes

12.1 Abbreviations

Keyword	Meaning
CIP	Continuous improvement process
HR	Human resources
HRM	Human resources management
IFJ	Institut für Jungunternehmen. [Institute for junior ventures]
IP	Intellectual property
KFH	Konferenz der Fachhochschulen [Conference of universities of applied sciences Switzerland.]
KLA INN	Konzernleitungssausschuss Innovation (see glossary)
KM	Knowledge Management
KTI	Kommission für Technologie und Innovation. [Gouvernmental commission for technology and innovation]
ORIS	Open Regional Innovation System
PORP	Practice-oriented research project
Q&A, q&a	Questions and answers session
R & D, R&D	Research and development
RIS	Regional Innovation System

12.2 Glossary

Keyword	Meaning
ATLAS or Atlas.ti	It is the brand of software to do qualitative data analysis. It allows importing text documents, images, movies or voice recordings. Those data can be structured according keywords - so called codes - an linked hierarchically. It is used to structure and find data more efficient.
Enterprise 2.0	Manly refers of an upcoming setting within a company, that focuses on the free exchange of information between employees, mostly achieved with social media networks, chats, blogs and similar.
Intranet	Webpages accessible through an internal network (computer) exclusively for members of a firm. The term may refer to a set of tools, software or information accessible online.
Intrapreneur	Usually an employee in a cooperation that acts as an entrepreneur
Konzernleitungssausschuss Innovation	Steering committee with members of corporate top management to drive innovation

12.3 Figures

12.4 Tables

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