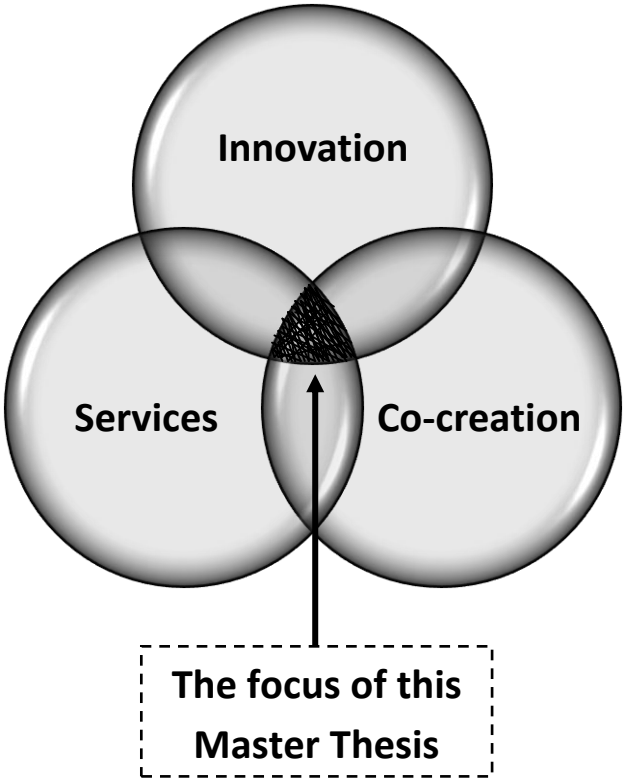

Opening up the contradiction of Open Services Innovation

- ***The dark side of customer co-creation in services innovation***

Written By: Carsten Lund Pedersen

Supervisor: Kristian Anders Hvass,

Department of International Economics and Management

Programme: Msoc. Sc. Service Management

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ABSTRACT

The field of innovation is in an evolutionary state of motion, as products constitute a smaller and smaller share of the economic pie, and as less is known about innovating services compared to products. In this new economic era, product innovation risks leading to a commodity trap of continuous innovation. Chesbrough's theory of Open Services Innovation, which entails customer co-creation, seeks to meet this literary gap and help companies escape the commodity trap.

The present master thesis addresses the issue of the potential contradiction between Open Services Innovation's objective of escaping the commodity trap and the realities of customer co-creation. Furthermore, the thesis attempts to propose a solution based on a deep understanding of this contradiction. The intention is to question the field's positive assumptions of co-creation, understand the contradiction, and propose a solution that can overcome the tension.

The methodological foundation for pursuing this purpose is a theoretical study consisting of a meta-theoretical triangulation. A theoretical study has been chosen due to a gap in research, and as it is the most suitable for answering the research question. The contradiction that co-creation poses to Open Services Innovation is understood by viewing it through the lenses of a meta-theoretical triangulation; ironically, this means that Chesbrough's own medicine of Open Innovation is prescribed to himself, as the theory of Open Services Innovation is opened up to outside sources.

The findings show that all three meta-theoretical perspectives argue that the co-creation element of Open Services Innovation may lead to incremental and sustaining innovation. Consequently, this may exacerbate the commodity trap, which Open Services Innovation *should* be the remedy for; thus, co-creation poses a potential contradiction to Open Services Innovation. The contradiction can partially be explained by the simplified conceptualization that Chesbrough gives of the commodity trap, where the focus is on exogenous, and not endogenous, causations.

To overcome the contradiction, it is suggested that Open Services Innovation should be adjusted in accordance with a new hybrid perspective combining the three meta-theoretical perspectives.

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1. Introduction

> *"Today services comprise roughly 80 percent of economic activity in the United States, and more than 60 percent of economic activity in the top forty economies around the world"* (Chesbrough, 2011, p. 2-3).

As explicated by the above citation, the world economy has undergone a transition to an economy where the importance of services is becoming increasingly pronounced, as services comprise a larger share of the economic pie (Goffin & Mitchell, 2010; Hansen et al., 2005; Lyck, 2008; Wilson et al., 2008), and as, *"future prosperity will come from learning how to manage this shift from a product-based economy to a largely services-based economy"* (Chesbrough, 2011, p. 191).

Whereas the transition to a services economy has broad literary consensus (Goffin & Mitchell, 2010; Hansen et al., 2005; Lyck, 2008; Wilson et al., 2008), the imperative for research into services has not been reflected within the field of innovation, where studies on services innovation still lag behind research into innovation in manufacturing companies (Goffin & Mitchell, 2010). The necessity of studies into services innovation is supported by the idiosyncrasies of services; customers and users are often seen as operant resources (active co-producers) within the realm of service (Vargo & Lusch, 2004), and are often involved as co-creators in services innovation, as much of the knowledge involved in providing and consuming a service is tacit (Chesbrough, 2011).

An exception to the literary gap of services innovation is the theoretical framework of Open services innovation, henceforth referred to as OSI, developed by Chesbrough (2011); this new theory seeks to provide guidance to services innovation, with customer co-creation being one of the four tenets entailed within the theory. Influenced by the new economic era that was ushered in by The Great Recession which began in 2008, Chesbrough (2011) argues that service-oriented thinking provides a trajectory for escaping the commodity trap; a trap describing the difficulty of especially Western product manufacturers to differentiate their products in a globalized market.

Albeit customer collaboration and user-centered innovation are often described as indisputable dogmas within innovation and services (Vargo & Lusch, 2004), which is likewise epitomized in the co-creation approach of OSI (Chesbrough, 2011), important contrary voices are also heard in the innovation debate: For instance, von Hippel (1988) argues that, in contrast to lead users, mainstream users are unable to provide breakthrough innovations, as they are steeped in the

present context of usage. Christensen, Anthony and Roth (2004) argue that focusing on undershot customers leads to sustaining innovations that overshoot the mainstream market; this will drive commoditization and open up for disruptive threats. Furthermore, Verganti (2009, 2011) argues that user-centered innovation fuels incremental changes that reinforce the existing needs, which will intensify the innovation race and contract PLCs. Cases like Apple and IKEA also exemplify that breakthroughs tend not to be created by user-led innovation (Hansen & Skibsted, 2011).

The synthesis of these critical stands can be summarized in the controversial quote of pioneering automaker Henry Ford which states, *"If I had asked my customers what they wanted, they would have told me 'a faster horse'"* (Osterwalder & Pigneur, 2010, p. 129). Research into radical technological innovations supports this notion, as they seldom emerge by chasing users (Christensen, Anthony & Roth, 2004; Verganti, 2009, 2011); for instance, disruptive innovations in telecommunications, from the invention of the telephone by Bell to wireless phones to Skype's VoIP software, all target a basic human need, which in itself, does not require much user analysis.

This polyphonic literary innovation debate draws the contours of a potential contradiction within Chesbrough's (2011) framework of OSI; Chesbrough (2011) argues that OSI will lead western companies and economies away from the commodity trap, but as OSI entails customer co-creation, it may potentially exacerbate the commodity trap (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; D'Aveni, 2010a; Verganti, 2006, 2009, 2011; von Hippel, 1988).

1.1 Research question

The thesis will consist of a theoretical study analyzing the contradictory tension between the promises of OSI and the potential implications of co-creation. The thesis has the threefold aim of:

- **(1)** Contributing to a research gap of services innovation, by questioning the field's commonly held assumption of the positive prospects of focusing on and co-creating with customers.
- **(2)** Taking a step back from the theoretical lenses of the new framework of OSI to identify, understand and reflect upon the potential contradiction that co-creation poses to OSI.
- **(3)** Proposing a solution for overcoming the potential contradiction of co-creation in OSI.

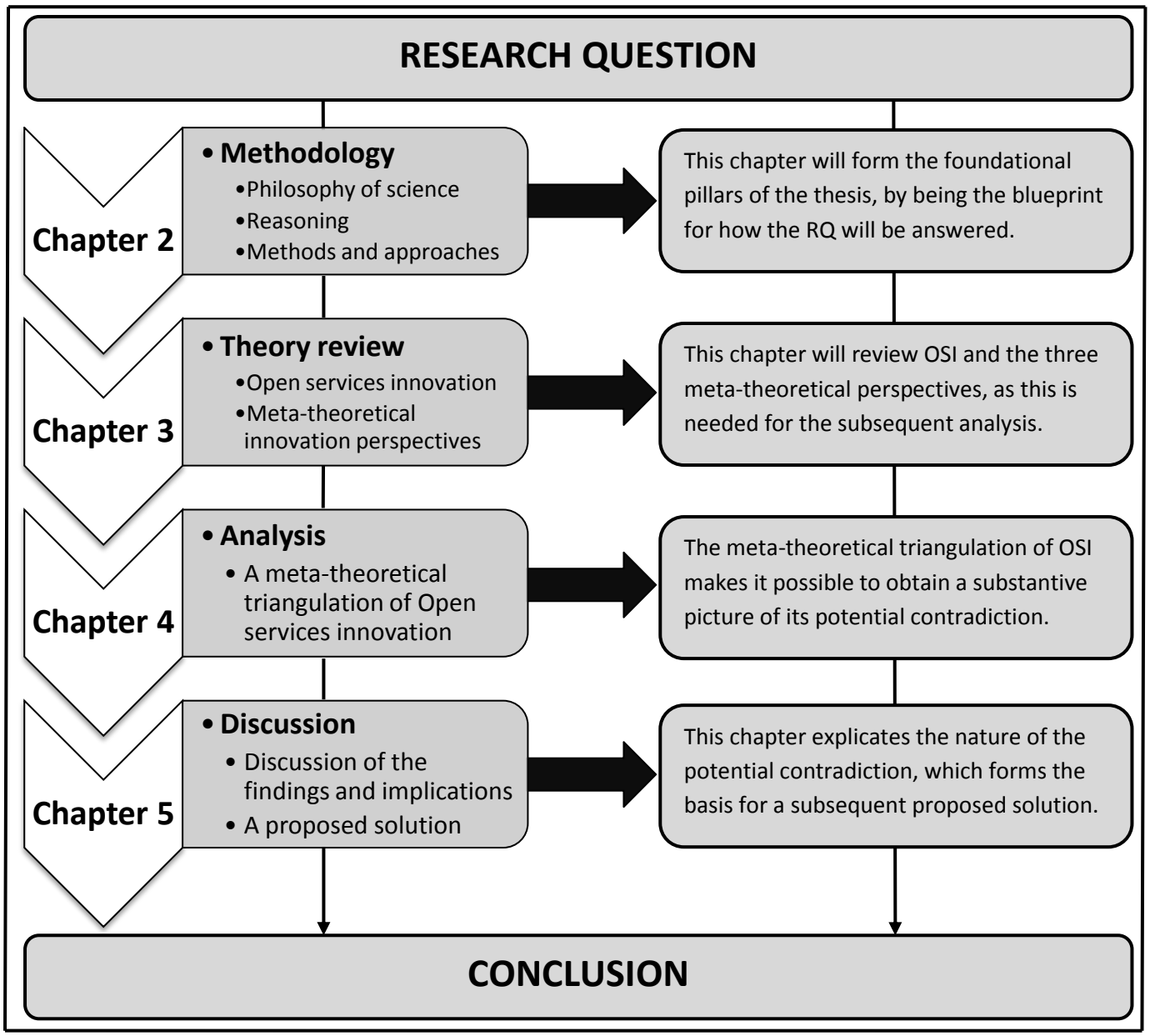
Hence, the main question of the research project is:

How can the potential contradiction that customer co-creation poses to Open Services Innovation be overcome?

1.2 Structure of the thesis

The thesis seeks to transparently guide the reader through the research question to the conclusion by utilizing a progressive structure. Figure 1 is a summarized overview of the chapters and the progressive structure of the thesis, as well as the author's rationale behind the structure.

Figure 1: Roadmap of the structure and progression of the thesis



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The intention of this chapter has been to set the scene for the thesis. The following chapter will further explain the underlying rationale and methodology of the research project.

2. Methodology

> *"Methodology is a mode of thinking, but it is also a mode of acting. It contains a number of concepts, which try to describe the steps and relations needed in the process of creating and searching for new knowledge"* (Arbnor & Bjerke, 2009, p. 3).

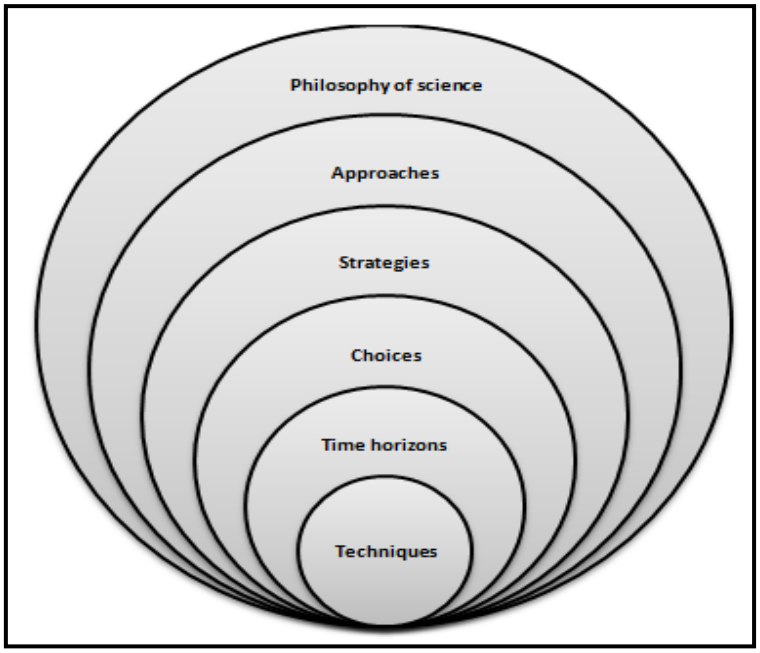
As the above citation illustrates, methodology deals with both the actions and thoughts related to creating and searching for new knowledge. Thus, the following chapter will illuminate the methodological choices inherent in the thesis; methodological choices which to a large extent have been predicated on the researcher's philosophical presumptions and on the posed problem, albeit the methods also influence how the problem is perceived (Arbnor & Bjerke, 2009). Therefore, the chapter will outline the underlying rationale of the research project.

Arbnor and Bjerke (2009) state that different methodological views contain different ultimate presumptions about what is studied. Thus, the various methodological views will also present different ways to understand, explain and improve (Arbnor & Bjerke, 2009). Consequently, the relationships between the ultimate presumptions of the researcher, the problem under consideration, the sets of available techniques and methods are highly interrelated and interdependent (Arbnor & Bjerke, 2009). Due to this interrelated nature, the chapter will seek to provide a holistic perspective on the methodological choices.

Consequently, the methodology section will be structured according to Saunders, Lewis and Thornhill's (2007) well-known 6-layered methodological framework which utilizes the metaphor of an onion, as each layer conveys a methodological dimension relevant for research projects. This framework has been chosen, as it emphasizes the interrelated and interdependent relationships between the various methodological aspects.

As the thesis is a theoretical study, the focus will be on the first four layers of the framework. Furthermore, some of the layers will be adjusted to fit the theoretical nature of the thesis. The methodological framework of Saunders, Lewis and Thornhill (2007) is illustrated below:

Figure 2: The research onion



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2.1 Philosophy of science

Looking at science from a philosophical perspective makes it possible to uncover assumptions which are often implicit to the researcher (Okasha, 2002). As the philosophical assumptions of a researcher influence how the research topic is interpreted (Arbnor & Bjerke, 2009) and how it will be researched (Saunders, Lewis, & Thornhill, 2007), it is essential that the researcher is aware of his own underlying philosophical assumptions and makes them explicit. By bringing the underlying philosophical assumptions (about the nature of the world and how it might be investigated) to the surface, the research process will furthermore be made transparent for other researchers.

In continuation of this; by being aware of his own philosophical assumptions, the researcher can also be made aware of alternative viewpoints, although inter-paradigmatic explorations are rare (Burrell & Morgan, 1979). By exploring alternative paradigms, the researcher may obtain a more holistic understanding of the topic (Arbnor & Bjerke, 2009; Burrell & Morgan, 1979), as well as a greater appreciation of the researcher's own paradigm (Burrell & Morgan, 1979).

Consequently, it is essential that the researcher understands his own philosophical assumptions, in order to successfully understand alternative viewpoints, and it is important to understand

alternative philosophical assumptions, in order for the researcher to fully appreciate and understand his own paradigm (Burrell & Morgan, 1979). As elaborated by Burrell and Morgan:

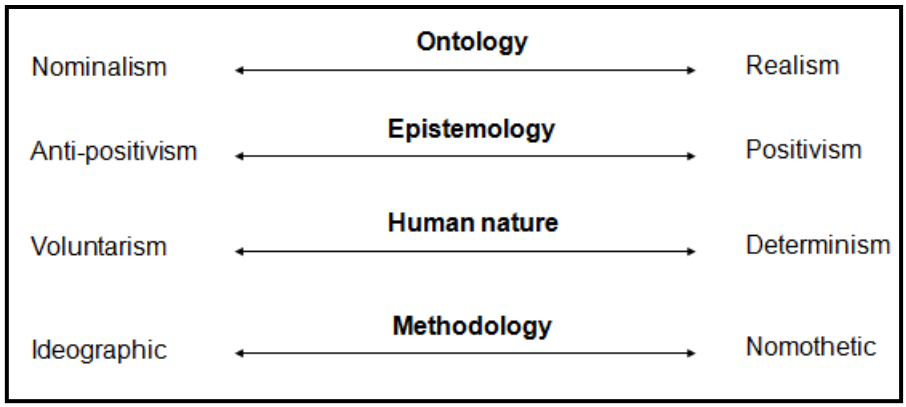
> *"In order to understand alternative points of view it is important that a theorist be fully aware of the assumptions upon which his own perspective is based* […] *It requires that he become familiar with paradigms which are not his own. Only then can he look back and appreciate in full measure the precise nature of his starting point"* (Burrell & Morgan, 1979, p. ix).

Thus, the pages to follow will elaborate on the underlying philosophical assumptions and paradigm of the author of this thesis, due to the importance which this has in understanding the problem and answering the research question. The presentation of these assumptions and the subsequent paradigm will follow the structure and logic of Burrell and Morgan's (1979) framework for sociological paradigms, due to their meticulous categorization of sociological paradigms in relation to organizational studies and the framework's seminal nature. In this framework, 4 key paradigms are identified, based upon differing sets of mutually exclusive meta-theoretical assumptions about the nature of social science and the nature of society (Burrell & Morgan, 1979).

2.1.1 Assumptions about the nature of social science

The first dimension in Burrell and Morgan's (1979) framework for identifying paradigms is assumptions about the nature of social science. It is constituted by a subjective-objective scale, which, in turn, is made up of the four scales illustrated below, representing four different debates:

Figure 3: The four scales constituting the subjective-objective dichotomy



Source: Author's own creation inspired by Burrell & Morgan (1979)

The standpoint of the author on these four scales will be presented and argued for in the following sections. As it will be evident, the author subscribes to the subjective stands on the scales, as opposed to the objective stands, although the framework is arguably somewhat polarized.

Ontology

Ontology deals with the issue of the researcher's belief of what the nature is of the object being studied. In other words, it is concerned with the nature of reality (Saunders, Lewis, & Thornhill, 2007). Thus, ontology deals with whether the researcher believes the world exists as a concrete objective reality or if it is a product of individual cognition (Burrell & Morgan, 1979). This author is positioned within Nominalism (and holds the opposite view of Realism), as it is believed that the world is *not* made up of a concrete objective reality, but rather a socially constructed reality.

Epistemology

Epistemology is associated with the ontological issue discussed above: Epistemology deals with what knowledge is and how knowledge about the world can be obtained. Put differently, epistemology is preoccupied with the grounds of knowledge; how the researcher may understand the world and communicate this as knowledge to fellow human beings (Burrell & Morgan, 1979). The author of this thesis is positioned within anti-positivism, as it is believed that science *cannot* create objective knowledge. Therefore, it is believed that the researcher *cannot* be an independent and objective analyst (Burrell & Morgan, 1979). Unlike what positivism would claim, anti-positivism argues that knowledge has to be experienced personally and cannot be transmitted objectively in tangible form.

Human nature

The issue of the debate of human nature is concerned with the relationship between human beings and their environment, and revolves around what model of man is reflected in social science (Burrell & Morgan, 1979). The author of the thesis is positioned within voluntarism, as it is believed that man is autonomous and free-willed. This is in opposition to determinism which states that man and his activities are completely determined by the situation or the environment in which he is located (Burrell & Morgan, 1979).

Methodology

The assumptions outlined above have direct implications for the methodology, as they each have consequences for *how* researchers attempt to investigate and obtain knowledge about the social world (Burrell & Morgan, 1979). This author subscribes to an ideographic approach to social science, as it is believed that firsthand knowledge of the subject under investigation must be obtained, in order to understand the social world (Burrell & Morgan, 1979). Thus, the thesis' methodology contrasts with the nomothetic approach which is preoccupied with the use of systematic protocol and technique; epitomized in the methods employed in natural sciences (Burrell & Morgan, 1979). Furthermore, the ideographic approach resembles Arbnor and Bjerke's (2009) notions of the methodological stand of the actors approach, as interest is directed toward the finite provinces of meaning held by leading actors; hence, the actors approach is also used.

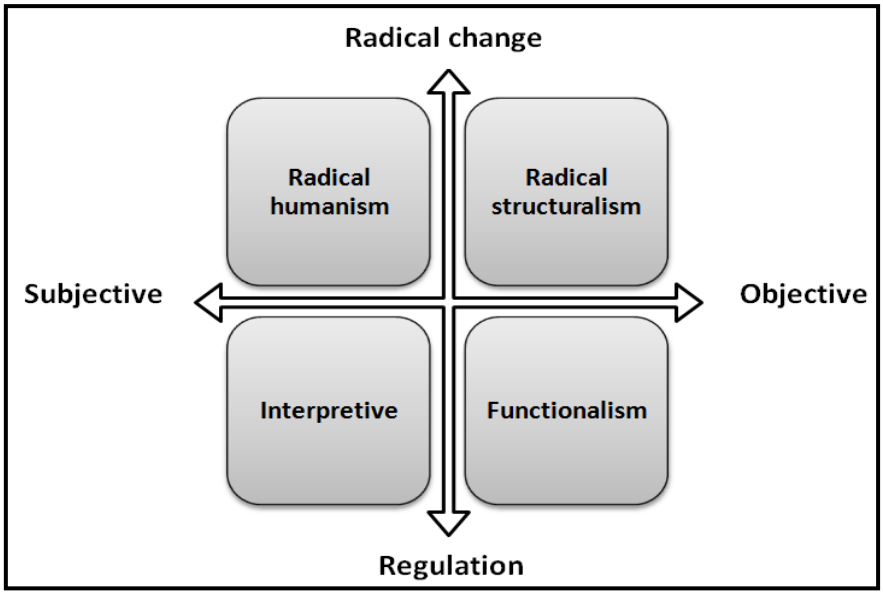
2.1.2 Assumptions about the nature of society

The second dimension in the framework of Burrell and Morgan (1979) deals with the assumptions about the nature of society. It is constituted by the regulation – radical change scale (Burrell & Morgan, 1979). Whereas the radical change scale deals with deep seated structural conflict, modes of domination and structural contradiction, the regulation scale focuses on unity, cohesion and what holds societies together (Burrell & Morgan, 1979). Seen from an organizational perspective, the viewpoint of the radical change scale is to approach organizational problems with the purpose of overturning existing state of affairs; whereas scholars within the regulation scale seek to work within the existing state of affairs (Saunders, Lewis, & Thornhill, 2007). The author of this thesis subscribes to the regulation scale, as this is arguably the most prevalent within the field of organizational studies and as it is congruent with this author's perception of the nature of society as well as the normative approach to organizational problems.

2.1.3 Paradigm

When combined, the subjective – objective scale and the regulation – radical change scale define four distinct sociological paradigms (Burrell & Morgan, 1979). The four paradigms, and their respective positions on the two scales, are illustrated below:

Figure 4: Sociological paradigms



Source: Author's own creation inspired by Burrell & Morgan (1979)

Burrell and Morgan (1979) give the following definition of paradigms as:

> "*meta-theoretical assumptions which underwrite the frame of reference, mode of theorizing and modus operandi of the social theorists who operate within them"* (Burrell & Morgan, 1979, p. 23).

This definition is in alignment with Thomas Kuhn's seminal work on scientific paradigms (Kuhn, 1970), as well as Okasha's (2002) definition of a paradigm as:

> *"…an entire scientific outlook – a constellation of shared assumptions, beliefs and values that unite a scientific community"* (Okasha, 2002, p. 81).

Whereas old paradigms are replaced by new ones in natural sciences, old paradigms survive alongside new ones in social sciences (Arbnor & Bjerke, 2009); also reflecting this author's stand.

As a logical consequence of the author's stands on the previously mentioned dimensions in Burrell and Morgan's (1979) framework, it can be concluded that the thesis is conducted within the realm of the interpretive paradigm; the interpretive paradigm argues that the fundamental nature of the social world should be understood at the level of inter-subjective experience (Burrell & Morgan, 1979). Therefore, the interpretive paradigm argues that the social world is constructed and given meaning subjectively by people, which means that the researcher is part of what is observed.

As a proportion of the theories discussed in the thesis may be located within the bounds of other paradigms than the interpretive, the author will seek to understand the theories, by simultaneously understanding the paradigms which they belong to, and the theoretical context within which they have been created. This is in line with the mode of understanding illustrated in the hermeneutic circle and the actors approach (Arbnor & Bjerke, 2009), which is also a common modus operandi within the interpretive paradigm (Burrell & Morgan, 1979). Thus, following the logic of the field of hermeneutics as propagated by Gadamer (Durst-Andersen, 2004), a fusion of the horizons between the various theories and the researcher will be sought in the thesis.

2.2 Approach

The second layer of the methodological framework is concerned with the research approach. The research approach refers to whether an inductive, deductive or abductive approach is utilized in the scientific reasoning (Okasha, 2002).

The deductive approach of reasoning moves from the general to the specific. Thus, arguments based on generally accepted principles, theories and laws are utilized in deductive reasoning. In contrast to deductive reasoning, inductive reasoning moves from the specific to the general, by making generalizations or building theories from specific observations. Thus, inductive reasoning brings about a higher degree of uncertainty than deductive reasoning. Consequently, Popper argued that induction should be utilized to falsify theories (Okasha, 2002).

In continuation of this, Hume has argued that induction cannot be justified rationally (Okasha, 2002). Hume argued for this claim with reference to induction's presupposition of the uniformity of nature, which cannot be proven true without making an inductive argument which in itself depends on the assumption of the uniformity of nature (Okasha, 2002). In contrast, Strawson has countered Hume's problem of induction, by stating that due to the fundamental role which induction plays in how we think and reason, it is not the sort of concept that *should* be justified rationally (Okasha, 2002).

This thesis will utilize a scientific reasoning which can be categorized as deductive: As the thesis is constituted by a theoretical discussion, the arguments will follow the pattern of moving from the general to the specific, by utilizing logical reasoning and theoretical frameworks. Although the

thesis does *not* make use of a case study as understood in the conventional sense (Yin, 2003), the thesis *does* make use of small illustrative cases which will illustrate and support the theoretical frameworks being discussed. Thus, the reasoning will go from the general (theory and logical reasoning) to the specific.

Therefore, the type of scientific explanation utilized in the thesis *resembles* Hempel's covering law model of explanation; where explaining a phenomenon is to show that its occurrence follows deductively from a general law (Okasha, 2002). Although it is acknowledged that the interpretive paradigm, which this thesis is conducted within, is critical towards explaining phenomena in terms of general laws, the theories which will be discussed in the thesis, generally have characteristics of the functionalist paradigm, where deductive explanations utilizing general laws frequently appear.

Furthermore, the thesis will present a range of perspectives with diverging general laws, as this can illustrate the multiple perceived realities presented in the various theories, which is in alignment with the ontological assumptions of the interpretive paradigm.

However, it is also acknowledged that many of the functionalist theories, following the analytical approach (Arbnor & Bjerke, 2009), do not fit perfectly within Hempel's covering law model, due to the problem of asymmetry (Okasha, 2002). This is because the theories from the functionalist paradigm often provide causal explanations, which are asymmetric by nature; where an independent variable explains a dependent variable, but not vice versa (Okasha, 2002).

So while some of the theories in this thesis may *appear* to be following Hempel's covering law model of explanation at first glance, it may be more accurate to state that many of the theories make use of a causality-based account of explanation, which Hempel's model did not take account of, as he subscribed to the philosophical doctrine of empiricism, and thus, was suspicious of the concept of causality, as causality cannot be experienced (Okasha, 2002). Hence, Hempel did not analyze the concept of scientific explanation by utilizing a concept which *itself* cannot be explained; such as explaining the phenomenon of scientific explanation with reference to causality, as he was not able to *explain* the concept of causality (Okasha, 2002).

2.3 Strategies

The third layer of the methodological framework deals with the research strategies. Hence, this layer initiates the focusing of the research design (Saunders, Lewis, & Thornhill, 2007). Although it is not explicitly mentioned as an option in Saunders, Lewis and Thornhill's (2007) categorization of research strategies, the thesis will be a theoretical study creating a priori knowledge.

Consequently, the thesis will *not* be an empirical case study (albeit a few small cases will be included for illustrative purposes). The thesis will rather be constituted by a theoretical discussion, where diverging meta-theoretical perspectives in innovation will be utilized to analyze, discuss and criticize Chesbrough's (2011) OSI theory. Thus, the theory will be discussed by utilizing multiple meta-theoretical voices, as this can disclose the complexity of the issue.

Although theoretical studies are not explicitly mentioned in Saunders, Lewis and Thornhill's (2007) categorization of research strategies, theoretical studies are arguably an equivalent alternative to their categorization of options, as:

(1) The list of Saunders, Lewis and Thornhill (2007) is not exhaustive.

(2) Saunders, Lewis and Thornhill (2007) emphasize that the "proper" research strategy is the one which enables the researcher to answer the research question, which can often be done by a theoretical study.

(3) Bogers, Afuah and Bastian (2010) state that there is a need for theoretical research on the subject matter of user-innovation, due to the abundant empirically based research.

(4) Theoretical studies are considered a beneficial modus operandi within range of disciplines, evident in the philosophical debate of a priori vs. a posteriori epistemology.

(5) Finally, conceptual breakthroughs arguably often do not come from descriptions of common empirical patterns. Hence, theoretical studies can often provide more radical results than empirical studies.

The research strategy of a theoretical study has been chosen for the thesis, because of the inherent benefits of theoretical studies and because of the appropriateness of this strategy in answering the research question. These reasons will now be reviewed in further detail:

Firstly, a theoretical study has been chosen as it has certain benefits which have been mentioned above. They can provide conceptual breakthroughs (Durst-Andersen, 2004), and may therefore provide more radical results than the incremental results often stemming from empirical studies (although inductive reasoning utilizing deviant cases may also provide radical results). This benefit of theoretical studies is illustrated in the classic examples of Copernicus' and Kepler's alternative models of the Solar system, which were built around deductive theoretical hypotheses rather than inductive empirical evidence (Durst-Andersen, 2004; Okasha, 2002).

Secondly, the justification of a given scientific method should be found in how suitable it is in answering the posed research question: A theoretical study is appropriate in answering this thesis' research question, as Chesbrough's (2011) theory of OSI is a relatively new theoretical framework: Consequently, the scale in which it has been applied in practice is, of yet, restricted. Thus, empirical studies would offer a limited explanatory effect, as opposed to a theoretical study.

The objective of the thesis is not that of theory building, but rather that of theory adjustment: Whereas theory building often follows the process of observation, categorization and theory development (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003), the thesis will make adjustments to OSI, based on theoretical anomalies. The motivation for analyzing OSI is rooted in its relevance in the current economic era and the literary debate on users in services.

2.4 Choices

The fourth layer of the methodological framework deals with the research choices. In the original framework of Saunders, Lewis and Thornhill (2007), this part deals with the choice of the combination of qualitative and quantitative techniques; in other words, whether mono or multiple methods are chosen. However, as this thesis is not an empirical study, but a theoretical study, this section will be adjusted to fit the methodological approach of the thesis. Consequently, the section will not deal with the choice of either mono or multiple methods, but rather deal with the choice of one or multiple theoretical perspectives.

The thesis will utilize multiple, diverging meta-theoretical perspectives to analyze and discuss the user-centered approach inherent in Chesbrough's (2011) OSI theory. Consequently, the use of multiple meta-theoretical perspectives constitutes the approach of triangulation: Albeit the term

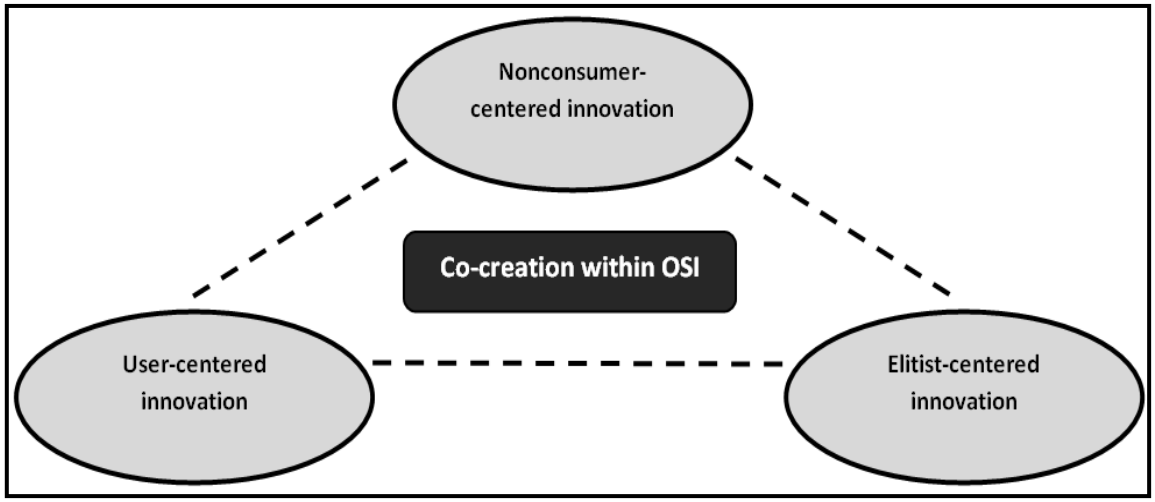
triangulation is often used to denote the combination of qualitative and quantitative techniques (Saunders, Lewis, & Thornhill, 2007), the term can also denote the use of multiple theories on a problem. This latter denotation is what will be utilized in the thesis, as the multiple meta-theoretical perspectives will be utilized to discuss the OSI framework.

This has been chosen, as multiple meta-theoretical perspectives can provide a holistic view on the inherent tension, and as OSI has a blind spot regarding the limitations of its own theoretical premises; ironically, this also means that Chesbrough's own medicine of Open Innovation is being prescribed to himself, as OSI is made porous and opened up to outside sources. Hence, OSI will be taken on an inter-paradigmatic journey, as propagated by Burrell and Morgan (1979).

Albeit reality is assumed to be a social construction by the interpretive paradigm (Burrell & Morgan, 1979) and the actors approach (Arbnor & Bjerke, 2009), the meta-theoretical perspectives are each perceived to be what the actors approach terms objectified reality, as they represent overlapping finite provinces of meaning shared by various leading literary actors.

The respective meta-theoretical perspectives will represent different lines of sight directed towards Chesbrough's (2011) theory. Hence, each meta-theoretical perspective will reveal a slightly different facet of the co-creation approach inherent in the OSI theory (Berg, 2004). Thus, by combining multiple meta-theoretical lines of sight, it is possible to obtain a substantive picture of the tension (Berg, 2004). The thesis' use of a meta-theoretical triangulation is illustrated below:

Figure 5: Meta-theoretical triangulation



Source: Author's own creation

2.5 Chapter conclusion

The purpose of this chapter has been to present, argue for and explain the logic and methodological approach of the thesis, which to a large extent have been predicated on the ultimate presumptions of the researcher and the posed problem (Arbnor & Bjerke, 2009). Hence, the chapter has sought to introduce the reader to the rationale behind the research project, which will constitute the roadmap that will shape how the research journey will progress from the initial research problem (and its interpretation) to the final conclusion (Arbnor & Bjerke, 2009). The table below illustrates the main points presented in this chapter:

Table 1: Summarized overview of the methodological elements

Philosophy of science	**Ontology:** Nominalism **Epistemology:** Anti-positivism **Human nature:** Voluntarism **Methodology:** Ideographic / Actors approach **Assumptions about the nature of society:** Sociology of regulation **Paradigm:** Interpretive
Approaches	Deductive reasoning
Strategies	Theoretical study
Choices	Multiple meta-theoretical perspectives: Theoretical triangulation

Source: Author's own creation

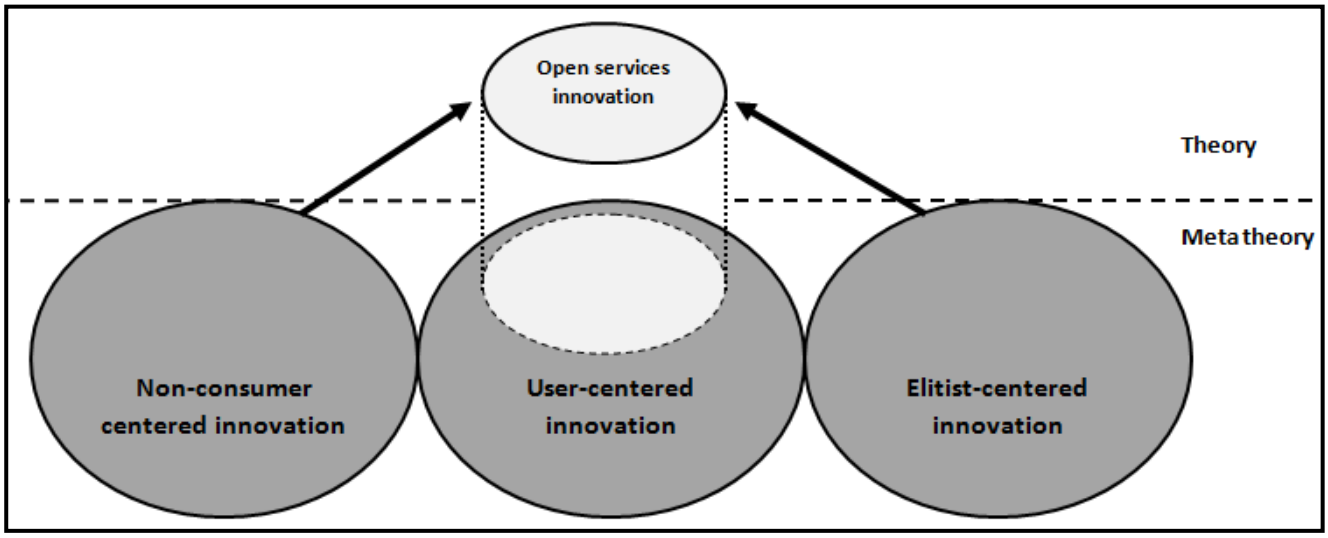
Having provided the rationale behind the thesis to the reader, the road has been paved for the coming chapters. The research journey will progress further in the next chapter, where the OSI framework and the 3 meta-theoretical innovation perspectives will be presented and discussed.

3. Theory review

> *"Using theory in a meticulous, rigorous fashion can shine a light where darkness once prevailed* […] *Using theory allows us to see the future more clearly and act more confidently to shape our destiny"* (Christensen, Anthony & Roth, 2004, p. xxxvi).

The above citation indicates that theory which explains the past and present (theory as sense-making) can likewise predict the future; as Christensen, Anthony and Roth (2004) state, *"The best way to make accurate sense of the present, and the best way to look into the future, is through the lens of theory"* (Christensen, Anthony & Roth, 2004, p. xxi). Thus, this type of reasoning is in alignment with Hempel's argument that explanation and prediction are structurally symmetric (Okasha, 2002). Albeit this author is a proponent of the predictive potential of theories, the interpretive paradigm of the author also emphasizes an ontology of multiple perceived realities, which stresses the necessity of including the polyvocality of multiple theoretical perspectives in order to answer the research question. This is supported by Kuhn's claim that there is no algorithm for theory choice in science (Okasha, 2002). Thus, the present chapter will first review Chesbrough's (2011) OSI framework with its inherent co-creation approach. Secondly, the chapter will identify and introduce 3 meta-theoretical innovation perspectives, which will later be utilized to analyze the co-creation approach of Chesbrough's (2011) theory in chapter 4. Figure 6 illustrates the relationships between these theoretical elements.

Figure 6: The Open services innovation theory and the 3 meta-theoretical innovation perspectives



Source: Author's own creation

3.1 Open Services Innovation

"Since the world is moving to a services economy, it is time to move innovation into the services context as well. The world is ready for Open Services Innovation" (Chesbrough, 2011, p. 28).

As it is evident in the above citation, the world has transitioned into a services economy, which is illustrated by the fact that 80 percent of economic activity in the United States and over 60 percent of economic activity in the top forty economies around the world are comprised of services (Chesbrough, 2011; Goffin & Mitchell, 2010; Hansen et al., 2005; Lyck, 2008; Wilson et al., 2008). Albeit the importance of services to advanced economies is indisputable, research of services innovation still lags significantly behind research into innovation in manufacturing companies (Chesbrough, 2011; Goffin & Mitchell, 2010), which is critical, as the idiosyncrasies of services necessitate a different approach to innovation (Goffin & Mitchell, 2010). Thus, the following section will review Chesbrough's (2011) theory of OSI, which seeks to meet the emerging necessity for illuminating how to successfully innovate in services and how companies can convert into a services business model in the new economic era.

Chesbrough (2011) argues that the rising imperative for the approach of OSI stems from the forces of commoditization and shortening product life cycles, which when combined, constitute what Chesbrough (2011) terms the commodity trap. The commodity trap illuminates the limited prospects and dangers in product-focused innovation for the advanced economies in the new economic era; Chesbrough (2011) states that due to the creeping forces of commoditization and shortening product life cycles, product-focused innovation becomes like a treacherous treadmill, where companies have to run faster and faster just to stay in place. Beyond individual companies, Chesbrough (2011) argues that the forces inherent in the commodity trap create a significant challenge to the economic prosperity for advanced Western economies. Consequently, the competitive challenge of the commodity trap forms the pillars of Chesbrough's (2011) argument for the necessity of OSI.

As products are becoming a smaller share of the economic pie and as knowledge-intensive services are becoming the engine of growth for the advanced economies, which is reflected in the amount of new jobs being created in the knowledge-intensive portion of the services sector in

addition to its positive growth forecasts, Chesbrough (2011) argues that innovation in services is the escape route from the commodity trap, and that it will be the trajectory to future prosperity for advanced companies and economies. In explaining how companies should embrace services innovation to obtain growth and escape the commodity trap, Chesbrough (2011) states:

> *"In order to grow again and compete effectively, businesses must change the way they approach innovation and growth. They first have to confront, and then transcend, the commodity trap. They have to stop thinking like product manufacturers and start thinking about business from a services perspective. Both companies that make products and those that deliver services must think about their business from an open services perspective to discover new ways to generate profitable growth"* (Chesbrough, 2011, p. 11).

In order to confront the commodity trap, Chesbrough (2011) has conceptualized the framework of OSI, which is made up of four foundational concepts that, when combined, provides a blueprint for how companies can compete in the new economic era (see box 1 for a practice example). The following will illuminate the essence of the OSI framework:

(1) Think of the business (whether a product or a service) as a service business: According to Chesbrough (2011) this will create and sustain differentiation in a commodity trap world. This resembles Vargo and Lusch's (2004) claim of a transition from an output orientation to a Service-dominant logic.

(2) Invite customers to co-create innovation with the business: This is the main focus of the thesis which is illustrated in the posed research question; Chesbrough (2011) argues that companies must think of their customers not as purchasers of goods, but as co-creating partners in an evolving relationship.

Box 1: Products vs. Services: Phones

The differing approaches of Motorola's Razr cell phone and Apple's iPhone illuminate Chesbrough's (2011) claim of the shortcomings of product innovation and the need for OSI: When Motorola introduced Razr in 2004, it was the slimmest cell phone on the market and more than 50 million units were sold. However, due to competitive imitation and a focus on product and functional innovation, Motorola's market position eroded. In contrast, Apple's iPhone is more than a device; it is a services platform attracting third-party applications. Thus, Apple created a product-service hybrid with the device acting as a multi-sided platform service, which is delivering more meaningful experiences (Chesbrough, 2011; Norton, 2011; Osterwalder & Pigneur, 2010).

(3) Use Open Innovation to accelerate and deepen services innovation: Besides making innovation less costly, less risky and faster (Chesbrough, 2003, 2006), Open Innovation can also turn the business into a platform for others to build on (Chesbrough, 2011). The notions of the relationships between Open Innovation, specialization and economies of scale and scope are grounded in Chesbrough's (2003, 2006) previous work on the Open Innovation paradigm.

(4) Transform the business model with Open Services Innovation: Chesbrough (2011) argues that business models are transformed by services innovation, as redefining the company as a service business will have implications for the business model, and as OSI necessitates that the business model is being opened up and will turn into a platform. This element has its origins in Chesbrough's previous work on business models (Chesbrough & Rosenbloom, 2002; Chesbrough, 2006); especially Chesbrough and Rosenbloom's (2002) work on the cognitive dimension of business models is perceived to be crucial in transitioning to services.

The combination of these four concepts constitutes the OSI framework, which Chesbrough (2011) states will provide the route to future prosperity:

> *"These concepts together provide the path away from the commodity trap. They point the way to how companies can prosper in a services-dominated economy, unlocking new sources of value for their customers and growth and profitability for themselves"* (Chesbrough, 2011, p. 111).

It can be argued that the synergetic potential of the OSI framework will only be unleashed when it is seen in its entirety, which is in alignment with the systems approach (Arbnor & Bjerke, 2009), as a system is perceived not merely to be the sum of its parts but also the relations *between* the parts. However, the thesis will focus on the co-creation element in the theory, as this can question the verisimilitude of the theory's promised prospects (Chesbrough, 2011).

The following pages will elaborate on the argument and framework of OSI, and will review the theory by including alternative theoretical works, with the purpose of gaining the contextual understanding of the framework, which is needed to answer the posed research question.

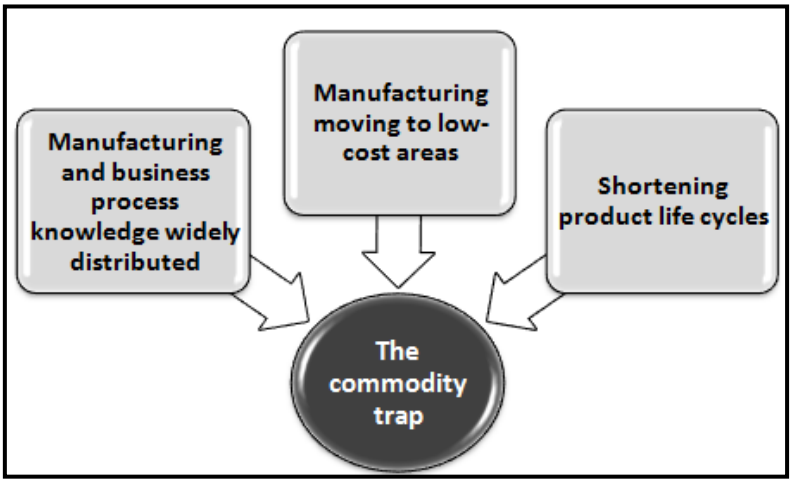
3.1.1 The commodity trap = the treacherous treadmill of product innovation

The concept of the commodity trap constitutes a central building block to Chesbrough's (2011) argument for the necessity of abandoning product innovation and instead pursuing OSI, as the commodity trap describes how product innovation becomes a never-ending treadmill of, *"ever more similar products coming at an ever-faster pace"* (Chesbrough, 2011, p.27).

Inspired by the work of D'Aveni (2010a), Chesbrough (2011) argues that it is getting increasingly difficult for product companies to compete and escape the forces of commoditization, as manufacturing spreads to low-cost regions and as standardized manufacturing and business process knowledge is becoming globally diffused, making differentiation difficult. Furthermore, it is argued that product life span is shortening as a result of the increasing flow of knowledge (spurred by the internet and enabled by technology) combined with customers' increasing demands for products which are customized to their needs (Chesbrough, 2011).

The combination of commoditization and shortening product life cycles create what Chesbrough (2011) terms a commodity trap, inspired by D'Aveni (2010a), which entails the limited prospects of product-focused innovation inherent in Western companies and economies. Chesbrough's (2011) conceptualization of which business realities constitute the commodity trap is illustrated below:

Figure 7: The business realities that create the commodity trap



Source: Author's own creation

In elaborating the above business realities, Chesbrough (2011) states that as codified manufacturing and business process knowledge is becoming widely distributed, it is getting harder

for companies to create and sustain differentiation. Processes such as Six Sigma, TQM and supply chain management are now widely available and well understood around the world, which has removed the differentiating capabilities of these methods and frameworks. Furthermore, as the manufacturing of products has spread to low-cost areas, the product world is facing pressures to sell on the basis of cost (Chesbrough, 2011). In continuation of this, PLCs have shortened which means that companies must continuously innovate to maintain their market share.

In explicating the dynamics of the commodity trap, Chesbrough (2011) argues that the continuous innovation which the commodity trap entails will become like a treacherous treadmill for product companies; companies that do not keep up risk falling off the treadmill, and companies running to catch up cannot sustain their innovation on the treadmill, as it has no end (Chesbrough, 2011).

In explaining the origin of his conceptualization of the commodity trap, Chesbrough (2011) states that his notions of the commodity trap and the evolvement of the OSI framework have been inspired by D'Aveni's (2010a) seminal research on commoditization; in particular his book entitled "Beating the Commodity Trap" (Norton, 2011). In the book, D'Aveni (2010a) utilizes the following conceptualization of commoditization, which provides the background knowledge needed to fully comprehend Chesbrough's (2011) conceptualization:

> "*Commoditization occurs when you have to constantly improve quality or other product benefits while decreasing prices to keep up with competitors. It also occurs if you have to lower product quality or other benefits to keep pace with falling prices."* (D'Aveni, 2010a, p. 2).

Moreover, Chesbrough's (2011) notion of the commodity trap is supported by several scholars: Macdivitt (2010) argues that commoditization, and thus margin erosion due to the transition to price-based competition, can impact companies despite having made significant innovation investments, and that a new mindset is needed to escape the commodity trap.

However, there are also scholars who oppose Chesbrough's (2011) conceptualization and simplistic causations of commoditization, which can illuminate the theory's reductionist tendencies: The literary streams which oppose Chesbrough's (2011) views on commoditization can be subdivided into the following 3 theoretical clusters:

(1) Managerial/company behavior → commoditization: Contrary to Chesbrough's (2011) focus on the exogenous causations of the commodity trap, several scholars focus on endogenous causes of commoditization in the advanced economies such as questionable managerial decisions epitomized in overshooting customers or mimetic behavior (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; D'Aveni, 2010b; Kim & Mauborgne, 2004, 2005, 2009; Liebermann & Asaba, 2006); Christensen, Anthony & Roth (2004) argue that, *"Overshooting is the driver behind commoditization"* (Christensen, Anthony & Roth, 2004, p. 12), as making the product/service too good results in companies being unable to *profitably* differentiate their offerings. Furthermore, D'Aveni (2010a) states that, *"most commodity traps are very much related to how managers act or do not act"* (D'Aveni, 2010a, p. x). Thus, this may likewise impact service companies.

(2) Discount business model innovation → mimetic incumbent response → commodity trap: Related to the above focus on endogenous causations of commoditization, several scholars also focus on business model innovations with low-cost/low-benefit offerings that lure incumbents into unsustainable mimetic behavior and price-based competition resulting in a commodity trap (Andersen & Poulfelt, 2006; D'Aveni, 2010a; Kumar, Scheer & Kotler, 2000; Markides, 1997, 2008; Osterwalder & Pigneur, 2010). This causation of commoditization - which stems from *within* the advanced economies - has been seen in the business model innovations of Wal-mart and Ryan air, and accentuates both the novel idea and its disruptive potential described in Schumpeter's notion of creative destruction (Goffin & Mitchell, 2010). This also constitutes a threat for services.

(3) Services = increasingly commoditized: Finally, some scholars argue that services and knowledge work are increasingly being commoditized, which shapes the contours of a transition from the services economy to a new economic era such as the conceptual age or the experience economy (Holmes, 2008; Pine & Gilmore, 1998; Pink, 2005). This questions Chesbrough's (2011) argument of the differentiating ability of services; Pine and Gilmore (1998) state, *"As services, like goods before them, increasingly become commoditized* […] *experiences have emerged as the next step in what we call the progression of economic value"* (Pine & Gilmore, 1998, p. 97).

Having reviewed Chesbrough's (2011) notions of the commodity trap in conjunction with related literature on commoditization, the following pages will review the framework of OSI.

3.1.2 Concept 1: Think of the business as a services business

The first subset of Chesbrough's (2011) OSI framework consists of framing the company (whether a product or a service) as a services business, which entails that the company should provide a complete customer experience. Chesbrough (2011) argues that the way employees think about their business will change when it is framed as a service; the relationships to customers, the construction of the business and the levers used to differentiate and create value change when they are seen through services lenses.

This argument is in alignment with Markides' (1997, 2008) proposition that innovation can stem from a redefinition of the business, as organizational behavior is conditioned by its *dominant mental models* – an interpretive concept that reoccurs in the literature; Markides' (1997, 2008) notions are partially inspired by Levitt (1960), and are arguably also in alignment with Chesbrough's previous work (Chesbrough & Rosenbloom, 2002; Chesbrough, 2006) which touched upon the importance of the cognitive dimension of business models, which in turn, was inspired by Prahalad and Bettis' (1986) concept of dominant logic, all of which resembling Magretta's (2002) notions of business models being *stories* that explain how enterprises work.

When defining services, Chesbrough (2011) states that in the official U.S. economic taxonomy, services refer to, *"a change in the condition of a person, or a good belonging to some economic entity, brought about as the result of the activity of some other economic entity, with the approval of the first person or economic entity"* (Chesbrough, 2011, p. 32). Chesbrough's (2011) interpretation of services within this definition is arguably closer to a mindset or dominant logic, which resembles, but is not identical to, Vargo and Lusch's (2004) Service-dominant logic.

In explicating the differing conceptualizations of product and services approaches, Chesbrough (2011) argues that the product approach is epitomized in Porter's (1985) classic value chain; where the manufacturing of the product is the focal point of interest and service does not appear until the end of the process and is often perceived as a cost center. In contrast, Chesbrough (2011) has conceptualized the Open services value chain to illustrate the alternative approach that a services framing can evoke, as services are perceived as a profit making activity used to differentiate the company; albeit the Open services value chain still contains inputs, processes and outputs, these elements no longer exclusively interact with internal support functions, but also have an ongoing

interaction with customers (customer co-creation) as well as with external sources of ideas, technologies and services (Open innovation) and attract third party support and investment (platform business model). In continuation of this, as the Open services value chain goes to market, it widens to incorporate the offerings of other parties (Chesbrough, 2011). Furthermore, a factor which is important in converting product-based business approaches to services-business is the concept of the utilization differential; Chesbrough (2011) argues that the ability of services providers to get more out of assets by their increased utilization relative to the utilization seen when customers own the product themselves, makes it possible for the services providers to convert the fixed costs of the asset into a smaller variable expense for the customer.

Chesbrough's (2011) proposition of the need for businesses (whether product or service) to define themselves as services businesses echoes current marketing thought, as Vargo and Lusch (2004) state that a new dominant logic for marketing is emerging; one in which the fundamental economic exchange is service provision rather than the exchange of goods (as the field inherited its original Goods-dominant logic from economics, based on Adam Smith's emphasis on operand resources). Chesbrough's (2011) proposition is furthermore in alignment with Wilson et al.'s (2008) notions of the fluid boundaries between products and services which are illustrated in the tangibility spectrum , as product manufacturers can create a product-services hybrid positioned in the middle of the tangibility spectrum and be considered a service; thus, products and services cannot always be categorized as an antagonistic dichotomy (Goffin & Mitchell, 2010). Some scholars even indicate that tangible goods can be perceived as a service in itself by proposing the notion of the *derived service* of a good (Levitt, 1960; Vargo & Lusch, 2004) or that products are experience enablers (Prahalad, 2004b); Vargo and Lusch's (2004) FP3 states that goods are distribution mechanisms for service provision. Hence, like Chesbrough (2011), they view service as a mental model transcending the tangible-intangible divide.

When relating Chesbrough's (2011) approach to service innovation with the existing schools of thought within services innovation (Droege, Hildebrand & Forcada, 2009), it is apparent that Chesbrough's (2011) focus on the idiosyncrasies of service innovation aligns with the "demarcation" research stream; but this focus can also be criticized from "the technologist perspective", "assimilation" and partially the "synthesis" research streams of services innovation.

3.1.3 Concept 2: Innovators must co-create with customers

The second subset of Chesbrough's (2011) OSI framework is founded on the changes emerging from a services framing, as this part entails co-creation with customers, which epitomizes how a services framing will trigger a perceptual transformation of the customers' role; Chesbrough (2011) argues that the active involvement of customers in the company's innovation activities can bring greater value to the customers and a greater competitive advantage for the company. As Chesbrough (2011) states of co-created innovations:

> *"Because they are based in part on tacit knowledge, they are hard to copy. Because you have included your customers directly in your innovation, these customers will have invested their own time and self-generated content, making them less likely to abandon you at a moment's notice should another company try to lure them away"* (Chesbrough, 2011, p. 27).

As previously noted, the importance of co-creation in OSI is evident in Chesbrough's (2011) Open services value chain, where the inputs, processes and outputs have an ongoing interaction with customers. In contrast, product businesses tend to think of customers as passive consumers placed at the end of the value chain (Chesbrough, 2011). Hence, the emergence of a services approach will conjunctively bring a changed perception of the role of customers; from passive purchasers of goods to active co-creating partners in an evolving symbiotic relationship. Furthermore, Chesbrough's (2011) conceptualization of co-creation is inspired by, and has parallels to, Cook's (2008) user contribution taxonomy, which entails a wide range of user inputs.

Inspired by the work of Polanyi (1966), Chesbrough's (2011) central argument for initiating co-creation with customers rests on the claim that much of the knowledge entailed in providing and buying experiences is tacit (tacit knowledge being knowledge gained from experience). Thus, tacit knowledge interferes with the ability of customers and suppliers to communicate with each other (Chesbrough, 2011). This necessitates an active involvement of customers in the company's innovation activities, and requires ways to manage and overcome tacit knowledge. As tacit knowledge is hard to convey, repeated interaction is crucial; especially as the accumulation of this tacit knowledge can lead to a competitive advantage (Chesbrough, 2011).

The changed perception of the role of the customer, from being a passive recipient of a good to being an active co-creator of a service or experience, has broad consensus in recent innovation and marketing literature (Gruner & Homburg, 2000; Howe, 2006; Prahalad, 2004b; Prahalad & Ramaswamy, 2004; Vargo & Lusch, 2004; Lusch & Nambisan, 2012; von Hippel, 2005); albeit the antecedent for this user-centered perspective was arguably the seminal work of Levitt (1960) – combined with a soaring academic interest in phenomenology and symbolic interactionism.

In continuation of this, Chesbrough's (2011) notions of co-creation also have certain conceptual similarities with Vargo and Lusch's (2004) proposition of the distinction between the role of the customer in respectively the Goods-dominant logic and the Service-dominant logic; in the Goods-dominant logic, customers are *operand* resources ("target"), in the Service-dominant logic, the customers are mainly *operant* resources (co-producers). Thus, this opens up for a dialogue between the RBV literature, the marketing literature, the services literature and the innovation literature, with co-creating customers acting as the unifying factor.

However, as co-creation is a neologism, the concept's contours are not yet clearly defined, with a resultant confused discourse surrounding the concept, as scholars fail to provide a clear definition of co-creation; whereas Vargo and Lusch's (2004) foundational premise 6 claims that customers are *always* co-producers and Prahalad and Ramaswamy (2004) speak of co-creation of value entailing co-created *experiences* which focus on value embedded in subjective experiences, Chesbrough's (2011) notions of co-creation tend to be of a more active character, epitomized in the ongoing customer interaction in the Open services value chain and his references to the Lead user methodology by von Hippel (2005) as well as crowdsourcing (Howe, 2006). In line with the common criticism of the literature stream on users in innovation (Bogers, Afuah & Bastian, 2010), Chesbrough (2011) does not provide any definition nor specific framework for co-creation.

One way to distinguish between the meanings of co-creation is provided by Humphreys and Grayson (2008): *Co-creation of use value* (where consumers co-create for themselves) and *co-creation of exchange value* (where the consumers' co-creations increase the value of the offering in the marketplace). Where Vargo and Lusch's (2004) and Prahalad and Ramaswamy's (2004) notions of co-creation belong to the former, Chesbrough's (2011) notions predominantly belong to the latter. This latter approach questions the ethics of blurring the producer/consumer dichotomy.

3.1.4 Concept 3: Use Open Innovation to accelerate services innovation

The third subset of the OSI framework entails the inclusion of Open Innovation to accelerate and deepen services innovation; this builds on Chesbrough's (2003, 2006) previous work on the Open Innovation paradigm, which has had a seminal impact on the innovation literature and practice (Goffin & Mitchell, 2010), and explicates the exhortation that successful innovation in today's environment requires being open. Albeit Chesbrough may have coined the term, Open Innovation has long been practiced by companies, as Goffin and Mitchell state, *"The term Open Innovation was popularized by Henry Chesbrough* […] *but the concept is as old as the hills"* (Goffin & Mitchell, 2010, p. 119), and Trott and Hartmann (2009) argue that OI represents little more than a repackaging of findings presented over the past forty years.

In brief, Open Innovation is a paradigm assuming that companies can and should utilize both internal and external ideas, as well as internal and external paths to market (Chesbrough, 2003, 2006, 2011). Thus, Open Innovation is defined as, *"the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively"* (Chesbrough, 2011, p. 69). Thus, in the Open Innovation paradigm firms commercialize internal and external ideas by deploying outside and in-house pathways to market; this makes the company/environment boundary porous, and gives the firm the possibility of enabling innovations to move easily between the two, which can bring synergistic effects between the exogenous and endogenous factors (Chesbrough, 2003, 2006, 2011). Hence, the Open Innovation paradigm is the antithesis of the vertically integrated model of closed innovation, which is the traditional innovation model with internal R&D and commercialization.

In Chesbrough's (2003, 2006) original work on Open Innovation, he states that the underpinnings of the closed innovation paradigm have been eroded due to the increasing number and mobility of knowledge workers, as well as the growing availability of private venture capital. Thus, at its root, Open Innovation is based on a landscape of abundant knowledge and an underlying assumption that not all smart people work for the company (Chesbrough, 2003, 2006). When applying the concept of Open Innovation to services, with the objective of turning the business into a platform for others to build upon, Chesbrough (2011) states:

> *"Open innovation in services requires us to leverage the power of specialization and the virtues of scope and scale.* […] *This greater participation can lead to the creation and growth of business ecosystems that create and deliver more value for the business"* (Chesbrough, 2011, p. 68).

Thus, companies can leverage Outside-In openness for Economies of Scope and exploit Inside-Out openness for Economies of scale (Chesbrough, 2011). It is important to note that Chesbrough (2011) does not only refer to the conventional definition of economies of scale, but also references the knowledge-based economies of scale to be of paramount importance within the realm of services, as more transactions or uses can bring accumulated knowledge about the customers which can result in a knowledge advantage, as it is seen at Amazon.

The concept of Open innovation has experienced increasing support within the innovation literature and practice (Davila, Epstein & Shelton, 2006; Goffin & Mitchell, 2010; Trott & Hartmann, 2009). This is epitomized in Osterwalder and Pigneur's (2010) description of Open innovation as a commonly seen pattern within business models. Moreover, the necessity of a shift from vertical to horizontal systems is in alignment with Castells et al's (2005) notions of the mode of organizing in the broader contextual transition to the new social structure of a network society.

Chesbrough's (2011) proposition of building an open platform resembles Lusch and Nambisan's (2012) framework of services innovation, which is grounded in the service-dominant logic, and entails the inclusion of **(1)** service ecosystems **(2)** service platforms **(3)** value co-creation; it also resembles Osterwalder and Pigneur's (2010) multi-sided platforms; a concept which entails the exponential growth in value relative to its number of users, known as the network effect, which may induce lock-in (Shapiro & Varian, 1999) and a keystone advantage (Iyer & Davenport, 2008).

However, the OI-model can be criticized for being inherently linear like the stage-gate model, which does not take account of innovation often being a cyclic process (Trott & Hartmann, 2009). Trott and Hartmann (2009) also criticize the concept of Open innovation, by stating that OI is "old wine in new bottles", as OI represents the rebranding of findings from the last forty years, and as they state that Chesbrough has created a false dichotomy by arguing that OI is the only alternative to the traditional model of closed innovation.

3.1.5 Concept 4: Transform the business model with services

The last subset of Chesbrough's (2011) framework entails the transformation of the business model, as **(1)** framing the company as a services business and moving towards service innovation **(2)** as well as accelerating service innovation by venturing into open innovation, both with the ultimate goal of becoming a services platform for others to build upon, will necessitate extensive alterations to the business model.

Chesbrough (2011) defines business models as, *"a way to create value for a business and then to capture at least some of that value for the organization"* (Chesbrough, 2011, p. 90). As such, it acts as a dominant logic (Prahalad, 2004b) that implicitly filters out ideas and behaviors that are not in accordance with the dominant logic (Chesbrough, 2011). Thus, once a business model becomes successful, it can develop a substantial inertia that can cause a company to miss out on innovation opportunities that conflict with the logic of the business model (Chesbrough, 2011). This inertia is an important challenge in transitioning to a services business model; to borrow a metaphor from Levitt (1960), service often receives a so-called "stepchild" treatment within product companies: It is recognized as something that needs to be taken care of, but it is not given dedicated attention.

Beyond overcoming this inertia, a transition to services necessitates a business model that deals with the tension between customization and standardization in services, and ideally, the transition to a platform business model that can bring economies of scope (Chesbrough, 2011). The open platform business model constitutes what Chesbrough (2011) considers the most valuable type of business model; as it provides a network effect (Shapiro & Varian, 1999), or as Chesbrough states, *"The embrace of your platform by others can create a virtuous cycle that reinforces your value and induces even more entrants to join"* (Chesbrough, 2011, p.106).

Chesbrough's (2011) proposition of the importance of business model innovation is in alignment with the soaring academic and managerial interest of business models, which emerged conjunctively with the rise of the internet (Chaffey, 2009; Goffin & Mitchell, 2010; Margretta, 2002; Osterwalder & Pigneur, 2010; Shafer, Smith & Linder, 2005), and the academic and managerial recognition that business model innovation is increasingly identified as the source of industry evolution (Davila, Epstein & Shelton, 2006; Markides, 1997, 2008; Osterwalder & Pigneur,

2010). However, it is important to note that the concept of business models has also been a subject of virulent criticism; particularly after the burst of the so-called dot-com bubble, which left the promises of the "new economy" in ruins (Hansen et al., 2005). One of the most vociferous opponents of the concept of business models is Porter (2001), stating that:

> *"The definition of a business model is murky at best. Most often, it seems to refer to a loose conception of how a company does business and generates revenue. Yet simply having a business model is an exceedingly low bar to set for building a company"* (Porter, 2001, p. 73).

Hence, Porter (2001) does not support the terminology of business models, which grew conjunctively with the dot-com bubble, as he states that strategy still constitutes the most sustainable trajectory to a competitive advantage, albeit Porter's notions of "activity system maps" are strikingly similar to the concept of business models (Seddon & Lewis, 2003). However, there exists a literary hydra within the cacophony of diverging theoretical voices speaking on the conceptual definitions of business models and the distinctions between strategy and business models (Margretta, 2002; Seddon & Lewis, 2003; Shafer, Smith & Linder, 2005); albeit Margretta (2002) is a proponent of the practical value of the concept of business models and its conceptual distinction to strategy, she admits that, *"'business models' and 'strategy' are among the most sloppily used terms in business; they are often stretched to mean everything – and end up meaning nothing"* (Margretta, 2002, p. 92).

Beyond the identity crisis of the concept of business models caused by the lack of a shared consensus on its definition, the polyvocality of the literature on the topic continues when looking at the diverging lists of components of business models mentioned by the various authors (Shafer, Smith & Linder, 2005).

Hence, this author would argue that the concept of business models, like Chesbrough's (2011) proposition, is a potentially valuable concept that can lead to a competitive advantage (especially within services, where patents are relatively less commonly used, and the business model may thus be one of the only sources of obtaining a competitive edge); however, if the concept is to live up to its competitive potential, a consensus on its definition, components and relationships between the components must be in place within the organization to form a dominant logic.

3.1.6 Chesbrough's paradigm and assumptions of customers in innovation

This section will touch upon Chesbrough's paradigm and meta-theoretical innovation perspective regarding the role of customers in innovation; as Bogers, Afuah and Bastian (2010) state, *"Since a theory is based on its assumptions, the basic assumptions that underpin a theoretical explanation also need to be well explained and grounded*" (Bogers, Afuah & Bastian, 2010, p. 866).

Firstly, some thoughts about Chesbrough's paradigm should be discussed: On the one hand, Chesbrough (2011) builds his argument of the need for OSI around a *causality-based account of explanation* involving the influence of *exogenous factors*; a type of reasoning often seen within the functionalist paradigm (Burrell & Morgan, 1979). On the other hand, Chesbrough (2011) speaks of the importance of the cognitive dimension of business models, how perceptions of the business change with its framing and the subjective customer experiences and thus the necessity of co-creation. These elements point towards the argument that Chesbrough is positioned within the interpretive paradigm. Thus, it is argued that Chesbrough may be positioned within *either* the interpretive paradigm *or* within critical realism (as he acknowledges subjectivity, but also touches upon the influence of external macro forces). However, it can be argued that Chesbrough's (2002, 2003, 2006, 2011) epistemological approaches mainly point towards the interpretive paradigm with its inherent roots in idealism.

Considering the thesis' posed research question, it is also essential to touch upon Chesbrough's assumptions regarding the role of customers in innovation: While Chesbrough's work on Open innovation opens up for the possibility of innovation originating from a variety of sources, the inherent customer co-creation perspective, albeit poorly defined and with vague guidance, positions OSI within the user-centered innovation perspective, as **(1)** Chesbrough (2011) focuses on active participation of customers within the realm of co-creation; thus, the customers are ascribed the role of operant resources (Vargo & Lusch, 2004), which makes them an important source of competitive advantage, when seen through the lenses of the Resource-based view (RBV) **(2)** Chesbrough (2011) also emphasizes the importance of observing customers' past behaviors to obtain tacit knowledge **(3)** thus, the customers' articulated needs, as well as their past behavior, *often* shape the limits and boundaries of the possibilities of the innovation activities.

3.2 Identifying meta-theoretical innovation perspectives

-*"Truth itself is relative to a paradigm"*- Thomas Kuhn (Okasha, 2002, p. 88).

The above citation is related to Kuhn's highly controversial philosophical theses that adopting a new paradigm involves a certain act of faith (Okasha, 2002); thus, when faced with competing paradigms, the researcher cannot make an objective comparison between them to determine which has most evidence, due to the incommensurability of paradigms and the theory-ladenness of data. However, the truth of the above citation is itself paradigm-relative (Okasha, 2002).

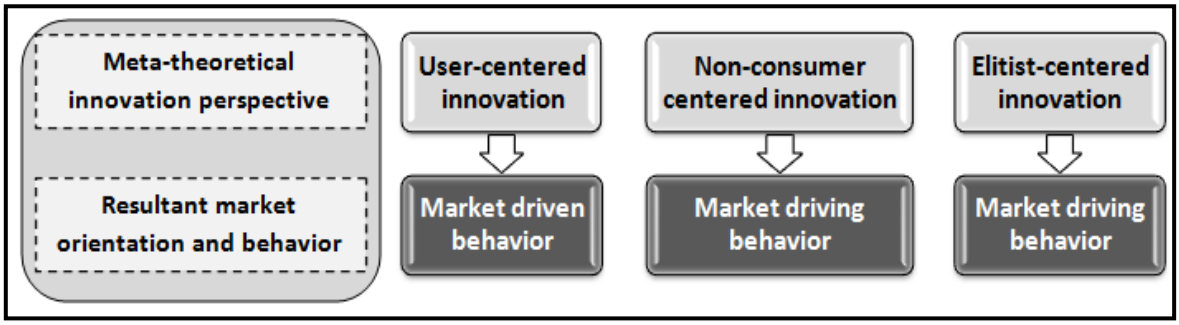
It can be argued that Kuhn's (1970) notions of paradigms - where theories coalesce around a commonality of shared principles, assumptions, values and norms - can also describe the various meta-theoretical stands within innovation regarding the role of customers. If such an interpretation of the stands in the field of innovation is accepted, it is apparent that the dominant paradigm is that of user-centered innovation (Verganti, 2009), entailing the beliefs that have become the dominant orthodoxy (Burrell & Morgan, 1979) in innovation.

However, it can be argued that important contrary voices can also be identified in the innovation literature, which can be categorized within two alternative meta-theoretical clusters; these clusters constitute innovation paradigms which this author has conceptualized as respectively nonconsumer-centered innovation and elitist-centered innovation. This is also in alignment with the claim that old paradigms survive alongside new ones in social sciences (Arbnor & Bjerke, 2009). Just as ultimate presumptions will predicate how a researcher will approach and interpret a problem (Arbnor & Bjerke, 2009; Saunders, Lewis & Thornhill, 2007), the meta-theoretical perspectives will also predicate a company's market behavior and their innovation results:

Kumar, Scheer and Kotler's (2000) distinction of market ***driven*** behavior, where companies focus on market sensing, competitor benchmarking and incremental innovation, and market ***driving*** behavior, where companies focus on shaping, expanding, creating and disrupting the market with forward sensing radical innovations, can illuminate the differing company behaviors which the various presumptions and their supportive theories may foster. It can be argued that market driven behavior might stem from an assumption of environmental determinism, where it is presumed that the market structure is given and that it conditions the actors' conduct; in contrast,

market driving behavior might stem from an assumption of voluntarism, which nurtures a reconstructionist view of strategy, where actors can change industry landscapes from *within* the system (Kim & Mauborgne, 2004, 2005, 2009). The relationships between the perspectives and the predominant behavior – as argued by their inherent theories - are illustrated below.

Figure 8: The relationship between the meta-theoretical innovation perspectives and company behavior



Source: Author's own creation

Hence, the argumentation for identifying and analyzing these three meta-theoretical innovation perspectives is twofold:

Firstly, since they have diverging views on the inclusion of users in innovation, together they can provide a holistic view on the implications of the co-creation approach inherent in the OSI theory. Thus, they can answer the posed research question with respect to the ontology of multiple perceived realities inherent in the interpretive paradigm of the author.

Secondly, if user-centered innovation is the dominant paradigm within the field of innovation (Verganti, 2009), then the exploration of new avenues is essential, as **the most innovative firms are the ones that question the orthodoxies of the dominant innovation paradigm** (Chesbrough, 2003, 2006, 2011; Kim & Mauborgne, 2004, 2005, 2009; Kumar, Scheer & Kotler, 2000; Markides, 1997, 2008; Prahalad, 2004b; Verganti, 2006, 2009, 2011). The truth of this necessity resonates with Chesbrough's famous exhortation, *"companies that don't innovate die."* (Chesbrough, 2006, p. xvii). Hence, innovation must also happen within the field of innovation itself (Verganti, 2009); if all companies innovate by following the same implicit assumptions, they may converge onto the same competitive trajectory, which innovation – by its very definition – should seek to prevent.

The following pages will introduce the 3 meta-theoretical perspectives, which will later be utilized to discuss co-creation in OSI. However, the review of the 3 perspectives will not be exhaustive.

3.2.1 User-centered innovation

The meta-theoretical perspective of user-centered innovation entails the work of scholars that collectively revolve around the tenet that innovation should be grounded in deep insights on users, and that users may thus be thought of as important operant resources for the company. Hence, user-centered innovation is often equated with market-pull innovation that, *"starts with an analysis of user needs and then searches for technologies that can better satisfy them, or updates product languages to respond to existing trends* […] *It aims not to question and redefine dominant meanings but rather to better understand and satisfy them"* (Verganti, 2009, p. 55 – 56).

A practice example of user-centered innovation is illuminated in box 2, where the company has taken an interactive approach in including customer insights in their innovation activities, as they co-create new initiatives and utilize crowdsourcing (Howe, 2006), which builds on the logic of "the wisdom of the crowds". This active involvement of customers is in alignment with Chesbrough's (2011) co-creation approach.

Box 2: Baresso invites their Facebook fans to innovate

The Danish coffee chain Baresso has recently started to include their 20,000+ Facebook fans in their product development: By utilizing crowdsourcing/crowdvoting, the fans have been able to vote for the taste of the "Iceblend of the summer". Furthermore, Baresso has opened a so-called "Coffee lab" on Facebook, where fans are encouraged to suggest improvements and new products. This trend has also been seen at Starbucks.

Hence, if the market is perceived as a playing field - where the rules of the game are stipulated by the dominant logic (Prahalad, 2004b) and mental models (Markides, 1997, 2008) of the market players, then the user-centered innovation perspective will predicate a market driven behavior (Kumar, Scheer & Kotler, 2000), where the "game" will be won by the market player that obtains the deepest user insights and who is the most capable of translating this knowledge into a superior innovation that best meets the customers' needs. Albeit there tend to be various conceptualizations of user-centered and user-driven innovation, the thesis will utilize the term of user-centered innovation to describe the meta-theoretical perspective. At the most abstract level, user-centered innovation will refer to innovation that occurs when companies get closer to users (Verganti, 2009); it entails a continuum from Levitt's (1960) customer orientation to Vargo and Lusch's (2004) and Prahalad and Ramaswamy's (2004) notions of co-creation to Howe's (2006) crowdsourcing and von Hippel's (1988, 1999, 2005) lead user methodology.

Assumptions of the meta-theoretical innovation perspective

The user-centered innovation perspective is built upon a set of shared assumptions constituting the foundational pillars of the perspective. They are as follows:

Market structure is given: Entailed in the action of basing the innovation activities on the existing customer base of the market is arguably the assumption that market structure is perceived as given (Kim & Mauborgne, 2005, 2009; Kumar, Scheer & Kotler, 2000). Albeit certain scholars within the perspective argue that market structure is *not* given but rather a mental construct, most notably Levitt (1960), who warned of the dangers in myopically defining markets by product category, most scholars within the perspective arguably adhere to the assumption that market structure is given, and this structure shapes the market players' conduct; market changes are thus perceived to be induced by exogenous factors such as technological breakthroughs (Howe, 2006; Kim & Mauborgne, 2005; Prahalad & Ramaswamy, 2004). Hence, the perspective traces back to a structuralist view (Kim & Mauborgne, 2005), with an assumption of determinism, possibly combined with the stand of regulation concerning the nature of society (Burell & Morgan, 1979); these assumptions may predicate a market driven behavior (Kumar, Scheer & Kotler, 2000) where markets are seen as forums for conversations and interactions (Prahalad & Ramaswamy, 2004).

Focus on users leads to more relevant and better market offerings: The principle of user-centered innovation also reflects the assumption that innovation which is rooted in user insights, the heterogeneity of user needs or is co-created with users will better satisfy the existing needs and will thus be perceived as being superior relative to alternative offerings on the marketplace (Chesbrough, 2011; Levitt, 1960; Prahalad & Ramaswamy, 2004; Vargo & Lusch, 2004; von Hippel, 1988, 2005; von Hippel et al., 1999). Thus, by listening to the voice of the market, the company can keep its offerings relevant (Levitt, 1960), in a landscape where the only constant is change.

Companies should fight for a greater share of the economic pie: Closely related to the two previous points is the assumption that companies should seek to obtain a greater share of the economic pie; if the market is perceived as given, then this assumption predicates a market driven behavior (Kumar, Scheer & Kotler, 2000), where innovation centers on the existing users in the market, as their insights are considered sources of competitive advantage in a predefined market.

Divergences within the meta-theoretical innovation perspective

Albeit the user-centered innovation perspective is logically based upon similarities between the various scholars, there also exist divergences within the perspective and between the various scholars. As previously noted, the term "user-centered innovation" has been utilized to denote various approaches; whereas Verganti (2009) mainly utilizes the term to denote market-pull innovation encompassing innovation that stem from traditional market research and observation, von Hippel (2005) often utilizes the term to denote users innovating for themselves; albeit his lead user methodology is led by the company and focused on lead users (von Hippel, 1999). This thesis utilizes a definition of user-centered innovation - *market-pull innovation that occurs when companies initiate innovation activities from user insight and/or involvement* (Verganti, 2009) - that entails all of the above approaches and places them on a continuum ranging from passive to active user involvement (from customer orientation/market research/observation to crowdsourcing, co-creation and the lead user methodology).

Moreover, the contours of the neologism of co-creation have not yet been clearly defined, which highlights the internal tensions of the denotation of co-creation. This emphasizes a gap in the literature of user innovation consisting of a lack of frameworks (Bogers, Afuah & Bastian, 2010) and of clear definitions of co-creation, from a deconstructionist view; box 3 exposes this internal tension of the meaning of co-creation (Humphreys & Grayson, 2008).

Box 3: co-creation of *exchange value* vs. co-creation of *use value*

Building on Marx's distinction between 'exchange value' and 'use value', Humphreys & Grayson (2008) distinguish between two types of co-creation: Whereas box 2 showed *co-creation of **exchange value***, a co-created innovation that increases the relative worth for, and success of, the company in the marketplace, *co-creation of **use value*** is when the consumer expends labor for his or her own benefit and use; such as a user customizing a playlist of songs on the digital music service Spotify.

Important points in relation to the co-creation approach in OSI

The perspective states that the underlying logic of user-centered innovation is to obtain deep user insight and/or to co-create innovations, in order to develop offerings that better satisfy the users' needs. However, there is a lack of consensus in the literature regarding frameworks for and the definitions of co-creation. Moreover, von Hippel (1988) argues that most users – but not lead users - are unable to provide novel concepts, as they are constrained by their present experiences.

3.2.2 Nonconsumer-centered innovation

The meta-theoretical perspective of nonconsumer-centered innovation entails the work of scholars that collectively revolve around the notion that the locus of innovation should be that of focusing on people who are *not* presently consuming the products or services of a given industry.

These nonconsumers are often left on the sidelines of the present market, where they can watch the incumbents playing the *existing* game of the industry, fighting over a greater share of the *existing* customers within the *existing* market (Christensen, Anthony & Roth, 2004; Kim & Mauborgne, 2005; Markides, 1997, 2006, 2008). Thus, the nonconsumers are spectators – rather than players - positioned outside of the industry's playing field; the boundaries of which have been predicated by the innovation blinders of the companies' dominant logic, mental models (Prahalad, 2004b; Markides, 1997, 2008) or by the paradigm of user-centered innovation (Verganti, 2009).

Within this meta-theoretical innovation perspective, nonconsumers are regarded as an untapped wellspring of innovation and competitive advantage that can lead to the expansion and disruption of existing markets (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; Danneels, 2004; Markides, 1997, 2006, 2008), or to the creation of new markets (Christensen, Anthony & Roth, 2004; Kim & Mauborgne, 2004, 2005). Box 4 shows a practice example of innovation and market expansion that stem from focusing on nonconsumers. This mini-case illuminates the concept of nonconsumer-centered innovation and the implications of focusing on users.

The main representatives of the nonconsumer-centered innovation perspective are Clayton Christensen (Christensen, Anthony & Roth, 2004), Markides (1997, 2006, 2008) and Kim and Mauborgne (2004, 2005). Albeit their literary works highlight the importance of nonconsumers, this constitutes only a subset of their seminal theories that entail more intricate webs of elements within them, which are beyond the scope of the thesis.

Box 4: Gaming and nonconsumers

A seismic shift – or what has been termed a "casual revolution" (Juul, 2009) – is emerging within the video game industry, as developers are increasingly developing games to what used to be non-players of video games (Juul, 2009). Ironically, by focusing on nonconsumers, the developers are reconnecting with a once lost market, as the first games were produced for a broad audience such as "Pac-man". However, developers soon started to focus on the specialized and most demanding users, which "overshot" and alienated the mass market, by complicating the games (Juul, 2009); an audience that the developers are now targeting again, by developing less complex and more intuitive games. By mainly utilizing smartphones as a platform, this reorientation has led to the soaring popularity of simple game apps such as "Angry Birds", "Wordfeud" and "DrawSomething".

Assumptions of the meta-theoretical innovation perspective

The nonconsumer-centered perspective is built upon a set of shared assumptions constituting the foundational pillars of the perspective. They are as follows:

Markets should be reconstructed: Entailed in the principle of reaching out to nonconsumers is the assumption that companies should disrupt and expand the existing market or create a new market; all of which can be categorized as market driving behavior (Kumar, Scheer & Kotler, 2000). For instance, Markides states that, *"The trick is not to play the game better than the competition but to develop and play an altogether different game"* (Markides, 1997, p. 9), Christensen, Anthony and Roth (2004) emphasize the opportunities of new-market disruptions emerging from nonconsumers, and Kim and Mauborgne (2004, 2005, 2009) propagate that companies should create blue oceans of uncontested market space. As previously discussed, this may stem from the perspective of voluntarism on human nature, as opposed to determinism, combined with an emphasis on radical change regarding the nature of society (Burrell & Morgan, 1979).

Focus on existing customers leads to "more of the same": The principle of reaching out to nonconsumers also reflects the assumption that market research centered on existing customers leads to overshooting the mass of the market and incremental innovation; Kim and Mauborgne state that, *"customers can scarcely imagine how to create uncontested market space. Their insight also tends toward the familiar 'offer me more for less'"* (Kim & Mauborgne, 2005, p. 27). This is in alignment with Christensen, Anthony and Roth's (2004) notions of the prospects of focusing on undershot customers – for whom the product or service is not good enough – which will lead to up-market sustaining innovations that make good products and services better, but in turn, also overshoots the mass of the market. Hence, the approach may alienate major parts of the market.

Companies should increase the economic pie: Closely related to the two previous issues is the assumption that the objective should be to increase the size of the market rather than to compete for a greater share of the existing market; Markides (2006) states that to qualify as an innovation, a new business model must, *"enlarge the existing economic pie"* (Markides, 2006, p. 20). This is also emphasized in Kim and Mauborgne's (2004, 2005, 2009) call for companies to escape the red oceans and instead create blue oceans of uncontested market space.

Divergences within the meta-theoretical innovation perspective

Albeit the nonconsumer-centered innovation perspective is logically based upon similarities between the various scholars, there also exist divergences within the perspective and between the various scholars; some scholars focus on nonconsumer-centered innovation from a specific perspective such as social innovation or social entrepreneurship (see box 5).

Although the focus on nonconsumers is acknowledged to belong within the realm of disruptive innovation (Markides, 2006), whether or not this should be called blue ocean strategy (Kim & Mauborgne, 2005), strategic innovation or business model innovation (Markides, 1997, 2006, 2008) or disruptive technologies or new-market disruptive innovations (Christensen, Anthony & Roth, 2004) is widely debated within the innovation literature (Markides, 2006); Markides states that, *"Christensen's (1997) original theory focused on disruptive technologies. Over time, the same theory has been used to explain all kinds of disruptive innovation. This is a mistake"* (Markides, 2006, p. 19). Hence, Markides (2006) advocates for a distinction between disruptive technological, business model and radical product innovations, as they produce different kinds of markets and have different managerial implications; albeit they follow a similar process.

Box 5: Nonconsumers + social innovation = BOP?

Prahalad's (2004a) notions of the untapped market for growth within the bottom of the pyramid (BOP) – referring to the 4 billion people living on or below 2 dollars a day – also constitute a certain type of nonconsumer-centered innovation. Albeit the individual purchasing power of the BOP is low, their collective income constitutes a substantial business and innovation opportunity. However, to tap the potential of this market, managers need to overcome the power of their existing dominant logic (Prahalad, 2004a, 2004b); by following this trajectory, GE has designed healthcare products for the emerging markets that have been innovative enough to also conquer the advanced markets; thus, GE has disrupted itself with these innovations that stem from the BOP (Immelt, Govindarajan & Trimble, 2009).

Important points in relation to the co-creation approach in OSI

Having reviewed the meta-theoretical perspective of nonconsumer-centered innovation, the following should be emphasized: The perspective's claim that focusing on existing and undershot customers may lead to overshooting the mass of the market is essential, as overshooting drives commoditization (Christensen, Anthony & Roth, 2004). Hence, the perspective also states that focusing on existing customers leads to sustaining and incremental innovation.

3.2.3 Elitist-centered innovation

The meta-theoretical perspective of elitist-centered innovation revolves around the notion that the locus of innovation should be that of immersing the company into the relevant elite circles of *forward looking key interpreters* from the world of technology and cultural production such as scholars, sociologists and designers (Pisano & Verganti, 2008). These elite circles can be thought of as collective research laboratories and discussion forums. According to Verganti (2009), the privileged relationships will become an engine of radical innovation that competitors can seldom replicate. The objective of this process is to identify radically new *meanings* of products and services - which change the reasons for consumption - and thus change the rules of competition.

Hence, involving the forward looking key interpreters can result in radical proposals of a possible future, as the interpreters have the dual role of **(1)** sharing their unique insights to the research project within the elite circle **(2)** and utilizing their seductive power to diffuse the new meaning to the market, as they are shapers of the cultural and technological contexts (Verganti, 2006, 2009, 2011). Thus, the interactions with the interpreters are rooted in the threefold process of listening to, interpreting and addressing the interpreters (Verganti, 2006, 2009). Box 6 shows practice examples of the meta-theoretical innovation perspective.

Box 6: The elitist-centered innovation of El Bulli and NOMA

The restaurants of El Bulli and NOMA have been acclaimed for their innovative abilities in pushing the thresholds of *haute cuisine*, and for redefining what a dining experience can be. However, both restaurants have been immersed in elite circles of key interpreters who have shared common research interests; the creative team at El Bulli was divided into 3 research groups that visited other key interpreters of food and equipment (Norton et al., 2009), and NOMA is a part of Nordic Food Lab, which explores Nordic cuisine and disseminates these results. In addition, NOMA's recent innovation of serving living ants was inspired by a chef and key interpreter from the Amazon region (Flarup, 2012).

The meta-theoretical perspective is rooted in Verganti's (2006, 2009, 2011) seminal research on design-driven innovation, where "design-driven innovations" should be understood in its etymological origin of radically redefining the *meaning* of a product or service, rather than merely the conventional notion of design as form or styling (Verganti, 2009). However, the thesis will utilize the term of elitist-centered innovation – rather than design-driven innovation – as the focus is not Verganti's research per se, but is rather the assumptions of the relationship between innovation and elite thinkers, on which it is built (Pisano & Verganti, 2008).

Assumptions of the meta-theoretical innovation perspective

The elitist-centered perspective is built upon a set of assumptions constituting the foundational pillars of the perspective. They are as follows:

Markets should be reconstructed: Based on the principle of relying on the privileged relationships with forward looking key interpreters is the assumption that markets should be disrupted or created, as these desired developmental trajectories are being fueled by the innovative insights of the elite circles (Verganti, 2006, 2009, 2011). Hence, the conduct advocated by the perspective can be termed as market driving behavior (Kumar, Scheer & Kotler, 2000); Verganti (2009) states that companies should change the rules of competition and - with the help from the elite circles of key interpreters - create meanings that, "*are so distinct from those that dominate the market that they might take people by surprise, but they are so inevitable that they convert people and make them passionate"* (Verganti, 2009, p. viii). The perspective's assumption of the ability of market actors to endogenously change their environment is in alignment with voluntarism, due to the inherent perception of an autonomous and free-willed human nature, in combination with the stand of radical change regarding the nature of society (Burrell & Morgan, 1979).

Focus on existing customers leads to "more of the same": The principle of elitist-centered innovation also reflects the assumption that innovation that stems from insights on existing customers tend to be incremental, and will additionally hinder radical innovations, as traditional market-pull methods of user-centered innovation will typically echo and reinforce what customers are already familiar with in the marketplace (Verganti, 2009, 2011). As Verganti states, *"radical innovation assumes a different context and user approach than those of products already on the market* […] *many accounts of radical innovation in meaning reveal that companies would never had released them to market if they had relied on market tests"* (Verganti, 2009, p. 49). Within elitist-centered innovation, the firm proposes a breakthrough vision to the prospective customers, who they view as an "audience" (Hansen & Skibsted, 2011; Verganti, 2006, 2009, 2011).

Companies should transform the economic pie: The perspective states that the economic pie should be *transformed* by disrupting an existing market or creating a new market (Verganti, 2009).

Divergences within the meta-theoretical innovation perspective

Albeit the meta-theoretical perspective of elitist-centered innovation is not user centered, and it explicitly warns against utilizing users as a true north for innovation activities, if radical innovation is pursued, there are exceptions to this rule; Verganti (2009) states that so-called lead users can sometimes be considered key interpreters, as they perform research themselves and they, *"anticipate new cultural patterns and explore new ways of giving meaning to things"* (Verganti, 2009, p. 132).

Furthermore, Verganti (2009) acknowledges that the process of elitist-centered innovation, or what he terms design-driven innovation, may sometimes lead to unfortunate results (see box 7). However, Verganti (2009) also states that this is caused by companies allowing themselves to be locked into an obsolete network of interpreters that focus on past sociocultural patterns rather than anticipate future changes.

Box 7: -B&O- When elitist-centered innovation goes wrong

Bang & Olufsen is a company which has experienced challenges due to their reliance on obsolete key interpreters in a rapidly changing product landscape: The advent of digital media technologies meant that products needed to encompass more than merely physical form and function; the necessity of products extending towards the virtual space has therefore posed a challenge for B&O, as they have largely relied upon their traditional design interpreters such as David Lewis (Austin & Beyersdorfer, 2007).

Whereas the collaboration with elite circles arguably resembles open innovation, Verganti states that, *"firms that pursue this approach do not source thousands of ideas from hordes of anonymous inventors, as touted by popular models of open innovation. Rather, they carefully search, select, and attract the most promising interpreters and work jointly with them. Collaboration is closed and not open"* (Verganti, 2009, p. 14). However, this author would argue that the restricted access rather indicates that elitist-centered innovation is a *variant* of open innovation, as the firm still opens up its innovation activities to outside sources, which makes the firm boundary porous.

Important points in relation to the co-creation approach in OSI

Having reviewed the meta-theoretical perspective of elitist-centered innovation, the following should be emphasized: The perspective's claim that the market-pull methods of user-centered innovation will often result in customers echoing and reinforcing existing needs is essential, as it emphasizes that these methods predominantly lead to incremental, and not radical, innovation.

3.2.4 Comparing the meta-theoretical innovation perspectives

The previous pages have illuminated some of the differences between the 3 meta-theoretical innovation perspectives; most notably, the differing perceptions of the locus of innovation, the innovation process, the perceptions of the market, and the differing views of the users' role in innovation as well as the implications of focusing on and including users in innovation.

Furthermore, both nonconsumer-centered and elitist-centered innovation emphasize the potentials of radical innovation (Kim & Mauborgne, 2004, 2005, 2009; Verganti, 2006, 2009, 2011), which is natural, as they both have inherently more risk than the predominantly incremental innovations that stem from the user-centered perspective (Kim & Mauborgne, 2005). Hence, when evaluating the promised future scenarios of the various perspectives, it must be remembered that the increased risk may substantially influence the promised prospects of the differing approaches, when they are discounted back to the present context of managerial decision making.

However, the perspectives also show certain similarities: First and foremost, they all recognize the necessity of innovation. Secondly, they all emphasize the need for *both* incremental and radical innovation, albeit they predominantly focus on one of the innovation types. Thirdly, the perspectives are all in alignment with the underlying logic of open innovation (Chesbrough, 2003, 2006, 2011), as they all touch upon innovation originating from or being inspired by sources outside of the company walls. Finally, there seems to be a consensus on the claim that user-centered innovation *predominantly* leads to incremental and sustaining innovation (Christensen & Raynor, 2003; Christensen et al., 2004; Kumar, Scheer & Kotler, 2000; Kim & Mauborgne, 2005; Verganti, 2009; von Hippel, 1988).

Table 2 compares central elements of the meta-theoretical perspectives. The table explicates the various elements of the perspectives, such as their diverging and common assumptions, and the methodological backgrounds of the scholars.

Table 2: Comparing the meta-theoretical innovation perspectives

	User-centered innovation:	**Nonconsumer-centered innovation:**	**Elitist-centered innovation:**
How innovation should be carried out according to the meta-theoretical innovation perspective:	Users should be the main sources of insights. Thus, innovation processes should start from observation of or interaction with mainstream or lead users. Furthermore, innovation can be a process of co-creation and co-development with mainstream or lead users. Von Hippel (1988, 2005) argues that lead users should be utilized, if breakthrough innovations are pursued.	Companies should focus on nonconsumers, who are often an untapped wellspring of innovation. This can lead to radical innovation in the form of market expansion, market creation and the disruption of existing markets. Focusing on nonconsumers can also help identify threats from new-market disruptive innovations. Hence, the perspective highlights how a focus on nonconsumers can change the rules of the industry.	Companies in pursuance of radical innovations should develop privileged relationships with a network of key interpreters who are involved in relevant forward looking research. This can provide companies with insights that may lead to the creation of radical innovations that are beyond the customers' envisioned spectrum of possibilities (Verganti, 2006, 2009, 2011).
Assumptions of the meta-theoretical innovation perspective:	**(1)** Market structure is given. **(2)** Focus on users leads to more relevant and better market offerings. **(3)** Companies should fight for a greater share of the economic pie.	**(1)** Markets should be reconstructed. **(2)** Focus on existing customers leads to "more of the same". **(3)** Companies should increase the economic pie.	**(1)** Markets should be reconstructed. **(2)** Focus on existing customers leads to "more of the same". **(3)** Companies should transform the economic pie.
Main behavior and market orientation:	**Market driven**	**Market driving**	
Focus of the market and innovation research:	**Market sensing** – *what does the market want?* (Kumar, Scheer & Kotler, 2000)	**Forward sensing –** *how can the market evolve?* (Kumar, Scheer & Kotler, 2000)	
Perception of the "S-curve" of product and service development	**Move up the S-curve:** Improve existing performance features.	**Jump to the next S-curve:** The company's innovation processes should be detached from past successes and transition to features not presently utilized.	

	User-centered innovation:	Nonconsumer-centered innovation:	Elitist-centered innovation:
Main methods of the meta-theoretical innovation perspective:	All of the methods utilize the users and their needs as a starting point: - Traditional market research - Observation - Empathic design - Co-creation - Crowdsourcing - Lead user methodology	Similar to many of the methods entailed in the user-centered innovation perspective (Goffin & Mitchell, 2010). However, the methods are targeted towards nonconsumers and not existing customers such as undershot customers.	Companies must identify and develop privileged relationships with forward looking key interpreters. A 3-step process is suggested: - Listen to the interpreters - Interpret - Address the interpreters
How the meta-theoretical perspective perceives the co-creation approach of OSI?	The innovation paradigm mainly agrees with the proactive customer and user-centered approach of OSI, as markets are seen as forums for dialogue (Prahalad & Ramaswamy, 2004) and customers are perceived as operant resources (Vargo & Lusch, 2004). However, von Hippel (1988) argues that mainstream users, lead users excluded, are unable to provide novel concepts, as they are constrained by their present experiences (von Hippel, 1988).	The innovation paradigm is critical towards user-centered innovation: It is argued that asking or involving undershot customers will lead to sustaining innovation by continuously improving existing performance measures. This has the potential of overshooting the mass of the market, by making the product or service 'too good'. This opens up for disruptive innovations and turns the overshot product into a commodity (Christensen, Anthony & Roth, 2004).	The innovation paradigm is critical towards conventional user-centered methods, if companies pursue radical innovation: User-centered methods do not question existing needs, but reinforce them instead (Verganti, 2009, 2011). Thus, user-centered innovation predominantly leads to incremental changes, but not radical innovation, as the existing needs and experiences of the market are reinforced rather than questioned (Verganti, 2009, 2011).
What is the methodological background of the various scholars within the perspective?	**Case-studies:** Chesbrough (2011), Howe (2006), Levitt (1960), Prahalad & Ramaswamy (2004), von Hippel et al. (1999). **Literature review/Theoretical study:** Vargo & Lusch (2004). **Quantitative studies:** von Hippel (1988, 2005).	**Case-studies:** Christensen, Anthony & Roth (2004) Kim & Mauborgne (2004, 2005, 2009), Markides (1997, 2006, 2008). **Theoretical study:** Danneels (2004).	**Longitudinal case-studies:** Verganti (2006, 2009, 2011). **Ordinary case-studies:** Hansen & Skibsted, (2011), Pisano & Verganti (2008).

	User-centered innovation:	Nonconsumer-centered innovation:	Elitist-centered innovation:
Similarities between the various meta-theoretical perspectives:	**(1)** Innovation is necessary for survival. **(2)** Both radical and incremental innovation is needed within companies. **(3)** The perspectives are all in alignment with the logic of Open innovation. **(4)** All of the perspectives state that user-centered innovation predominantly leads to incremental and sustaining innovation.		
Scholars who support the meta-theoretical innovation perspective:	Chesbrough (2011), Howe (2006), Levitt, T. (1960), Prahalad & Ramaswamy (2004), Vargo & Lusch (2004), von Hippel (1988, 2005), von Hippel et al. (1999).	Christensen & Raynor (2003), Christensen et al. (2004), Danneels (2004), Kim & Mauborgne (2004, 2005, 2009), Markides (1997, 2006, 2008).	Hansen & Skibsted, (2011), Verganti (2006, 2009, 2011), Pisano & Verganti (2008).

Source: Author's own creation

3.3 Chapter conclusion

The intention of this chapter has been to review, discuss and explain to the reader the theories and meta-theoretical perspectives of the thesis. The thesis' core framework of OSI has been presented and discussed in conjunction with theories and literature streams that respectively support, disagree with or further explain the components of Chesbrough's (2011) theory and argument. Furthermore, the three meta-theoretical innovation perspectives were reviewed. This information should provide the reader with the necessary understanding of the framework and the relevant meta-theoretical stands, which will be utilized to analyze the co-creation approach in OSI. The following chapter will apply these meta-theoretical perspectives to the OSI theory, in a meta-theoretical triangulation.

4. Analysis: Meta-theoretical triangulation of Open services innovation

> *"To paraphrase just one principle of Open Innovation (not all the smart people in our field work for us): not all good ideas in innovation originate from Harvard Business School and the Haas School of Business"* (Trott & Hartmann, 2009, p. 731-732).

The above citation not only illustrates a subtle criticism of Chesbrough, it also illustrates the logic underpinning the structure and approach of the present chapter; in order to obtain the most extensive and valid foundation for an analysis of the disadvantages and potential contradiction stemming from Chesbrough's (2011) co-creation approach in OSI, it is necessary to analyze it by "opening up" for an inclusion of alternative viewpoints of scholars from various meta-theoretical perspectives. Hence, the analytical approach of triangulation permits the most extensive, holistic and symbiotic basis to answer the posed research question.

As the above citation also indicates, this approach is ironically in alignment with the logic of Chesbrough's (2003, 2006, 2011) own argument of his self-proclaimed paradigm-shift from closed to open innovation: If open innovation is based on a landscape of abundant knowledge which has eroded the closed innovation paradigm (Chesbrough, 2003, 2006, 2011), then the scholarly boundaries of the OSI theory must also be made porous, like Chesbrough (2003, 2006, 2011) advocates for company boundaries, or else Chesbrough's (2003, 2006, 2011) own argument of the necessity of opening up the process of innovation risks being contradictory. In other words, if the premise of open innovation is accepted as being valid, it must also apply for the academic field of innovation, including Chesbrough's own theories.

Hence, the present chapter will analyze the disadvantages of the inherent co-creation approach of OSI, and the subsequent potential contradictions they might pose to Chesbrough's (2011) theory of OSI, by analyzing the approach and its implications from the three meta-theoretical innovation perspectives. Thus, Chesbrough's (2011) use of co-creation will be analyzed with a meta-theoretical triangulation, which is in alignment with the same spirit of openness that is illustrated in the exhortation of open innovation (Chesbrough, 2003, 2006, 2011). How the co-creation trajectory is evaluated by the perspectives partially depends on whether the scholars have structuralist or reconstructionist views (Kim & Mauborgne, 2004, 2005, 2009).

4.1 User-centered innovation versus Open services innovation

The intent of the first of three analyses is to investigate the inherent disadvantages and potential contradictions of the co-creation approach of OSI, from the meta-theoretical perspective of user-centered innovation: First, the analysis will illuminate what the perspective perceives as advantages and disadvantages of the co-creation approach of OSI. Secondly, this knowledge will be utilized to analyze how the perspective's identified disadvantages may lead to potential contradictions and internal tensions in Chesbrough's (2011) argument.

4.1.1 Disadvantages of the co-creation approach of Open services innovation

As the analysis will emphasize, the perspective can identify both advantages and disadvantages of the co-creation approach inherent in OSI; hence, when focusing on the disadvantages, it is argued that the perspective can identify disadvantages which are constituted by a predisposition of the approach towards incremental and sustaining innovation (von Hippel, 1988), ethical concerns regarding the blurring of the consumer/producer divide (Humphreys & Grayson, 2008), a lack of a precise definition of co-creation (Humphreys & Grayson, 2008; Prahalad & Ramaswamy, 2004; Vargo & Lusch, 2004) and a lack of a specific framework for the process of co-creation (Bogers, Afuah & Bastian, 2010). These disadvantages will be elaborated upon in the following sections.

Chesbrough (2011) states that innovation within services necessitates co-creation with customers. Chesbrough's (2011) argumentation for this claim is twofold: Firstly, co-creation will provide the customers with superior and relevant innovations which they will value and reward; hence, investing their time and energy in co-creation also makes customers less prone to abandon the company in a commodity trap world. Secondly, co-creation is argued to be necessary to access the tacit knowledge which is entailed in providing services and experiences (Chesbrough, 2011).

As Chesbrough's (2011) co-creation element of OSI arguably places the theory itself within the realm of the user-centered innovation perspective, it is logical that scholars within this innovation paradigm predominantly agree with Chesbrough (2011): The importance of collaborating with users and customers when developing innovations within products and services has been emphasized by the perspective for many years (Bogers, Afuah and Bastian, 2010; Howe, 2006; Prahalad and Ramaswamy, 2004; von Hippel, 1988, 2005). For instance, Vargo & Lusch (2004)

argue that from a service-centered view, the consumer is always a co-producer of value; hence, Vargo and Lusch (2004) acknowledge the advantages, if not the necessity, of viewing consumers as operant resources within the realm of a service-dominant logic. Prahalad and Ramaswamy (2004) also acknowledge the necessity of co-creation, as markets have become venues for proactive customer involvement. Chesbrough's (2011) arguments for co-creation are furthermore in alignment with the trend of the democratization of innovation described by von Hippel (2005), Howe's (2006) argument of crowdsourcing, as well as Levitt's (1960) argument of customer orientation. Whereas the importance of collaborating with customers in innovation has long been recognized, Chesbrough's (2003, 2006, 2011) literary work advocating a paradigm shift towards open forms of innovation has arguably played an important role in this developmental trajectory.

Albeit the meta-theoretical perspective generally supports the co-creation approach of OSI, several disadvantages of the approach can also be identified from the user-centered innovation perspective; von Hippel (1988) argues that mainstream users, but not lead users, are unable to provide breakthrough innovations, as they are constrained by their present experiences. As he states, *"Users steeped in the present are, thus, unlikely to generate novel product concepts that conflict with the familiar"* (von Hippel, 1988, p. 102). This argument would mean that the co-creation approach of OSI - from von Hippel's (1988) point of view - could be constrained to the familiar; leading to incremental and sustaining innovations. Being locked-in to incremental and sustaining innovations may be a disadvantage for two reasons: First, they may intensify the commodity trap (Chesbrough, 2011; D'Aveni, 2010a) and the innovation race (Verganti, 2009). Secondly, in rapidly changing industries, incremental innovations based on mainstream users' current usage are often rendered obsolete by the time they are developed (von Hippel, 1988).

Whereas von Hippel (1988) argues that lead users are the solution for the problem of typical users being constrained to the familiar context of use, Christensen et al. (2004) argue that a focus on the most demanding customers will lead to up-market sustaining innovations that overshoot the needs of the mainstream market: As lead users have needs ahead of the market, von Hippel (1988) argues that lead users are familiar with conditions that lie in the future which makes them able to provide data on needs related to future conditions. By deducing von Hippel's (1988) argument to the co-creation approach of OSI, it can be argued that breakthrough innovations *may*

occur, if lead users are utilized in OSI. This is based on the assumption that the needs of the lead users will be diffused to the mainstream market (von Hippel, 1988, 1999, 2005); an assumption questioned by Christensen et al. (2004), as they argue that a focus on undershot customers leads to overshooting the mass market. Hence, focusing on lead users may not be a sustainable solution for co-creation in OSI, as a focus on lead users may alienate the low-end and mainstream market, and open up for disruptive innovations from entrant firms (Christensen, Anthony & Roth, 2004).

Another identified disadvantage of the co-creation approach in OSI is the ethical dimension of turning the customers into operant resources: Humphreys and Grayson (2008) argue that when the customers produce exchange value for companies, which is perceived to be the predominant type of co-creation within OSI, it represents a fundamental change in exchange roles; hence, it might be perceived as exploitation twice over, as the customers help create, innovate and produce the services and products, which are then sold back to them at a profit (Humphreys & Grayson, 2008). However, Chesbrough (2011) describes co-creation as synergistic, as he argues that it simultaneously brings greater value to the customers and a greater competitive advantage for the companies.

The meta-theoretical perspective of user-centered innovation can also identify the disadvantage of a lack of a precise definition of co-creation within OSI: Whereas Vargo and Lusch (2004) state that consumers are always co-producers of value, Prahalad and Ramaswamy (2004) presuppose a proactive approach, albeit their notion of the concept is mostly related to use and not exchange value (Humphreys and Grayson, 2008). Following this literary confusion, Chesbrough (2011) provides inconsistent examples of co-creation, and fails to precisely define co-creation in OSI.

Finally, OSI arguably lacks a specific and clear framework for the approach of co-creation; Bogers, Afuah and Bastian (2010) have pointed out this general shortcoming of the literature stream on user-centered innovation, and have made a call for theoretical frameworks for innovation with users. OSI is symptomatic of this literary gap, as Chesbrough (2011) does not rely upon a concrete framework for co-creation, but merely stresses the importance of customers in services. Chesbrough (2011) also provides inconsistent examples of co-creation, such as co-creation of use value, and predominantly, co-creation of exchange value (Humphreys and Grayson, 2008); this contributes to the confusion surrounding the preferred modus operandi of co-creation within OSI.

4.1.2 Identifying the potential contradiction originating from the disadvantages

It can be argued that some of the disadvantages of the inherent co-creation approach of OSI, which were identified by the meta-theoretical perspective, may also initiate developments that contradict Chesbrough's (2011) argument of the objective of OSI. Hence, when focusing on the potential contradictions, it is argued that the predisposition of the co-creation approach of OSI towards the familiar and current usage (von Hippel, 1988), which may lead to incremental and sustaining innovations, may also exacerbate the commodity trap instead of escaping it; this contradicts Chesbrough's (2011) argument of the objective of OSI. The potential contradictory tensions of co-creation within OSI will be further explicated and argued for below.

First and foremost, if the co-creation element of OSI is predisposed towards incremental and sustaining innovation (von Hippel, 1988), this may open up for a potential contradiction of Chesbrough's (2011) argument: As previously noted, von Hippel (1988) argues that innovation created with and centered on mainstream users tend to be constrained to and echo the familiar and current usage, which often results in incremental and sustaining innovations along the current performance metrics of the industry. This trajectory of improvements of current features leads to a state that resembles Chesbrough's (2011) notion of the "innovation treadmill" - where companies run faster and faster, just to stay in place - which is the metaphor that describes the characteristics of the commodity trap (Chesbrough, 2011; D'Aveni, 2010a). Hence, as OSI entails co-creation, the use of mainstream users may lead to the same innovation treadmill of incremental and sustaining innovation (von Hippel, 1988) that Chesbrough (2011) warns against in his notions of the commodity trap. Thus, the contradiction consists of co-creation potentially exacerbating the problem from which it seeks to escape; that of the commodity trap.

While von Hippel (1988) argues that the solution for this problem would be to co-create with lead users, Christensen, Anthony and Roth (2004) question the usefulness of involving the most demanding customers, as they argue that it will lead to overshooting and commoditization. Contrary to von Hippel's (1988, 1999, 2005) assumption that the needs of the lead users will be diffused to the mainstream market, Christensen, Anthony and Roth (2004) argue that focusing on undershot customers will lead to up-market sustaining innovations that overshoot the mass market and lead to commoditization. Hence, if von Hippel's (1988, 1999, 2005) lead user

methodology were to be applied within OSI, it may still lead back to, and exacerbate, the commodity trap, as overshooting drives commoditization (Christensen, Anthony & Roth, 2004; D'Aveni, 2010a). Thus, co-creation would still open up for an internal tension within OSI, in the form of a tension between the implications of co-creation and the objective and promises of OSI.

4.1.3 Summarizing disadvantages and contradiction identified by the perspective

The previous pages have analyzed the disadvantages and subsequent potential contradiction of the co-creation element of OSI, as identified by the meta-theoretical perspective of user-centered innovation. Table 3 summarizes the findings which have been brought to surface by the analysis.

Table 3: The disadvantages and potential contradiction of the co-creation approach of Open services innovation

Disadvantages of the co-creation approach within Open services innovation:	- Mainstream users may be predisposed to the familiar (von Hippel, 1988) resulting in incremental and sustaining innovations. These innovations may intensify the commodity trap (Chesbrough, 2011) and innovation race, as well as become obsolete before they are developed (von Hippel, 1988). - There might be ethical issues related to blurring the consumer/producer divide (Humphreys & Grayson, 2008). - OSI, like the co-creation literature in general, lacks a precise definition of co-creation (Humphreys & Grayson, 2008; Prahalad & Ramaswamy, 2004; Vargo & Lusch, 2004), which makes its operationalization difficult. - OSI lacks a specific framework for co-creation, in line with most literature on user innovation (Bogers, Afuah & Bastian, 2010).
Potential contradiction that stem from some of the above disadvantages:	- If co-creation with mainstream users is predisposed to incremental and sustaining innovations (von Hippel, 1988), then the co-creation approach of OSI may constitute a trajectory towards the commodity trap of ever more similar products coming at an ever faster pace. In other words, co-creation may aggravate the problem of the commodity trap (D'Aveni, 2010a), which OSI *should* be the remedy for (Chesbrough, 2011).

Source: Author's own creation

4.2 Nonconsumer-centered innovation versus Open services innovation

Like the previous analysis, the intent of the following pages is to analyze and evaluate the inherent co-creation approach of OSI, but this time from the meta-theoretical perspective of nonconsumer-centered innovation. The analysis will firstly illuminate what the scholars of the meta-theoretical perspective perceive as disadvantages of the co-creation approach of OSI. Secondly, this knowledge will be utilized to analyze how the perspective's identified disadvantages may lead to potential contradictions in Chesbrough's (2011) argument of the objective of OSI.

4.2.1 Disadvantages of the co-creation approach of Open services innovation

It is argued that the meta-theoretical perspective can identify disadvantages which are constituted by a predisposition of OSI to co-create with undershot customers, which may lead to up-market sustaining innovations that overshoot the mass market and lead to commoditization (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; Danneels, 2004). In other words, the activities focus on the existing and most demanding customers of the market (Kim & Mauborgne, 2004, 2005, 2009) and follow the existing rules of the industry (Markides, 1997, 2006, 2008); this may result in incremental and sustaining innovations that lead to a trajectory of overshooting that drives commoditization and eroding profit margins. The logic and evidence supporting the argument of the disadvantages mentioned above will be elaborated in the following sections.

The first building block of the argument above is constituted by the claim that the co-creation element of OSI will primarily attract undershot customers: Albeit Chesbrough (2011) does not explicitly specify the characteristics of the customers who should be included in co-creation, it can be argued that co-creation will often attract the most demanding customers for whom the service is not good enough; thus, the customers involved in co-creation may resemble Christensen et al.'s (2004) notions of undershot customers, who are frustrated with the present limitations of the product or service, and therefore display willingness to pay more for enhancements on the dimensions most important to them. Hence, incumbents often miss the boat on disruptive innovations, as they are customer-compelled and "held captive" by their current undershot customers, for whom the present performance is not good enough (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; Danneels, 2004).

The second building block of the argument above is constituted by the claim that the co-creation element of OSI will primarily lead to sustaining and incremental innovations: Chesbrough (2011) states that co-creation will give customers, *"more of what they really want"* (Chesbrough, 2011, p 4.). Put differently, the inclusion of undershot customers tend to result in sustaining innovations, as their needs often drive the improvement of the performance metrics along which firms *currently* compete (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; Danneels, 2004). The predisposition of co-creation towards sustaining innovation is likewise emphasized by Kim and Mauborgne (2005), who state, *"what customers typically want 'more' of are those product and service features that the industry currently offers"* (Kim & Mauborgne, 2005, p. 27).

Furthermore, as the data on and involvement of existing customers of the market are obtainable to most competitors of the industry, relying on these activities support the claim that co-creation may lead to incremental and sustaining innovation, as well as a convergence of market offerings: If the market boundaries are perceived to be given - as assumed by the structuralist view of strategy - market players tend to base their innovation activities on insights from the same customer base, which may lead to a convergence of value curves (Kim & Mauborgne, 2004, 2005, 2009). This is also the underlying logic for why the perspective states that innovation can stem from focusing on nonconsumers (Christensen, Anthony & Roth, 2004; Kim & Mauborgne, 2004, 2005, 2009; Markides, 1997, 2006, 2008). However, Chesbrough (2011) states that the key to differentiation through co-creation is that the company gains unique access to the customers' tacit knowledge.

The third building block of the argument above is constituted by the claim that the co-creation element of OSI will often result in overshooting the mass market, which leads to commoditization (Christensen, Anthony & Roth, 2004): If co-creation tends to attract undershot consumers who demand sustaining innovations that improve the performance metrics along which firms currently compete, there is a strong probability that these up-market sustaining innovations will overshoot the consumers at the low-end of the market (Christensen, Anthony & Roth, 2004). Hence, it is argued that, *"companies innovate faster than customers' lives change"* (Christensen, Anthony & Roth, 2004, p. 12). This latter point is essential, as overshooting drives and fuels commoditization (Christensen, Anthony & Roth, 2004). Hence, a finer segmentation and a greater customization of offerings predicate the risk of creating too-small target markets (Kim & Mauborgne, 2005).

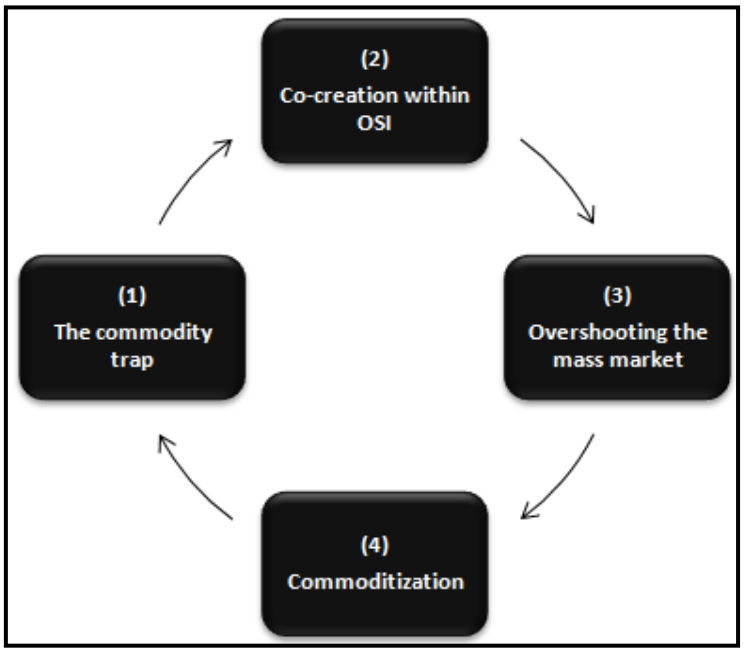
4.2.2 Identifying the potential contradiction originating from the disadvantages

It is argued that the previously identified disadvantages of co-creation within OSI, consisting of a predisposition to incremental and sustaining innovations that overshoot the mainstream market and lead to commoditization (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003), may pose the potential contradiction of exacerbating the commodity trap, instead of escaping it (D'Aveni, 2010a). Thus, the potential contradictory tension of co-creation within OSI, as identified by the meta-theoretical perspective, will be further explicated and argued for below.

Like the previous meta-theoretical perspective, nonconsumer-centered innovation also indicates that the co-creation element of OSI may aggravate the problem of the commodity trap, which constitutes a potential contradiction of Chesbrough's (2011) argument: If the co-creation approach inherent in OSI primarily attracts undershot customers that demand sustaining innovations that improve the performance metrics along which the industry currently competes - innovations that overshoot the mass market - then the approach may aggravate the commodity trap (D'Aveni, 2010a), as the meta-theoretical perspective argues that, *"Overshooting is the driver behind commoditization"* (Christensen, Anthony & Roth, 2004, p. 12). Hence, the contradiction consists of OSI potentially aggravating the problem from which it seeks to escape, due to the identified disadvantages of co-creation.

Hence, the dynamics of the identified potential contradiction of the co-creation element inherent in OSI may have the explanatory characteristics of a so-called vicious circle: Chesbrough (2011) describes the commodity trap as a treadmill of continuous sustaining innovations; the company runs faster and faster but remains in the same place, which is why Chesbrough (2011) states that, *"Innovating in services is the escape route from the commodity trap"* (Chesbrough, 2011, p. 3). However, pursuing OSI necessitates co-creation with customers, which tends to lead to sustaining innovations that overshoot the mass of the market and result in commoditization (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; Danneels, 2004). Hence, by pursuing OSI, its inherent co-creation approach may aggravate the commodity trap. This can turn into a vicious circle, if the company continues to seek the escape of the commodity trap by pursuing the approach of even more customer co-creation within the realm of OSI. The potential contradiction is illustrated in the vicious circle of co-creation in figure 9.

Figure 9: The potential vicious circle of co-creation within OSI



Source: Author's own creation

4.2.3 Summarizing disadvantages and contradiction identified by the perspective

The previous pages have analyzed the disadvantages and subsequent potential contradiction of the co-creation element of OSI, as identified by the meta-theoretical perspective of Nonconsumer-centered innovation. The findings are summarized in table 4.

Table 4: The disadvantages and potential contradiction of the co-creation approach of Open services innovation

Disadvantages of the co-creation approach within Open services innovation:	As co-creation may be predisposed to involve undershot customers, co-creation can result in up-market sustaining innovations that improve the performance metrics along which the industry *currently* competes (Christensen, Anthony & Roth, 2004). This may overshoot the mainstream and low-end of the market, which may lead to commoditization (Christensen, Anthony & Roth, 2004).
Potential contradiction that stems from the above disadvantages:	Co-creation may aggravate the problem of the commodity trap, which OSI *should* be the remedy for (Chesbrough, 2011; D'Aveni, 2010a). Hence, the potential contradiction can be framed as a vicious circle or negative reinforcing loop, which stems from co-creation within OSI.

Source: Author's own creation

4.3 Elitist-centered innovation versus Open services innovation

In continuation of the analytical approach of the present chapter hitherto, the intent of the final part of the triangulation is likewise to investigate the disadvantages and potential contradictions of the co-creation element inherent in OSI; hence, the disadvantages and potential contradictions of the co-creation approach of OSI will be identified from the meta-theoretical perspective of elitist-centered innovation.

4.3.1 Disadvantages of the co-creation approach of Open services innovation

It is argued that the meta-theoretical perspective can identify disadvantages which are centered on the recurring critique that user-centered/market-pull innovation, as represented in the co-creation element of OSI (Chesbrough, 2011), reinforces existing needs rather than questions them (Verganti, 2006, 2009, 2011); therefore, the disadvantages identified by the perspective pertain to the claimed inability of users to suggest and bring about radical innovations, as users tend to be steeped in the realm of a current context of use and the comfort of familiarity that breed incremental innovations. This is a disadvantage, as it increases the pace of the innovation race by contracting the lifetime of the offerings and by intensifying the competition (Verganti, 2009).

Thus, the argument of the disadvantages incorporates multiple facets from the meta-theoretical perspective, which will be elaborated upon and supported below. Hence, the following sections will take the reader through the evidence and logic of the above argument, which will further explicate the identified disadvantages of the co-creation approach of OSI.

In order to comprehend the above argument, it is essential to first emphasize the differing market approaches within respectively elitist-centered innovation and OSI: Whereas co-creation within OSI represents market-pull innovation (Chesbrough, 2011), Verganti (2009, 2011) antagonistically opposes this approach, and instead praises the radical innovations that can stem from *pushing* innovation into the market, by making radical proposals that entail breakthrough visions.

In continuation of this, it is important to note the perceptual difference of the customer's role within respectively OSI and elitist-centered innovation: Whereas Chesbrough (2011) argues that, *"When you think of your business as a service (whether you are making a product or providing a*

service), you think of your customers differently. Their role in the innovation process changes" (Chesbrough, 2011, p. 54), and he normatively advocates for the conceptual role of customers as operant resources in innovation, elitist-centered innovation takes the opposite stand; Verganti (2009) argues that consumers should be perceived as an audience, or operand resources, as radical innovations do not come from getting closer to users. Radical innovations are rather searched for a priori and *shape* the users, according to Verganti (2006, 2009, 2011).

Thus, elitist-centered innovation attributes co-creation with the inability to identify, produce and introduce radical innovations to the market (Hansen & Skibsted, 2011): Verganti (2009, 2011) argues that market pull methods, as seen in OSI (Chesbrough, 2011), provide powerful approaches to understand the current context of use, which may produce incremental changes; however, radical innovations necessitate stepping back from the users and taking a broader perspective on the context within which the users live (Verganti, 2009). Hence, the creation of radical innovations based on an *envisioned* context of life necessitates that firms immerse themselves in elite circles of forward looking key interpreters (Pisano & Verganti, 2008; Verganti, 2006, 2009, 2011).

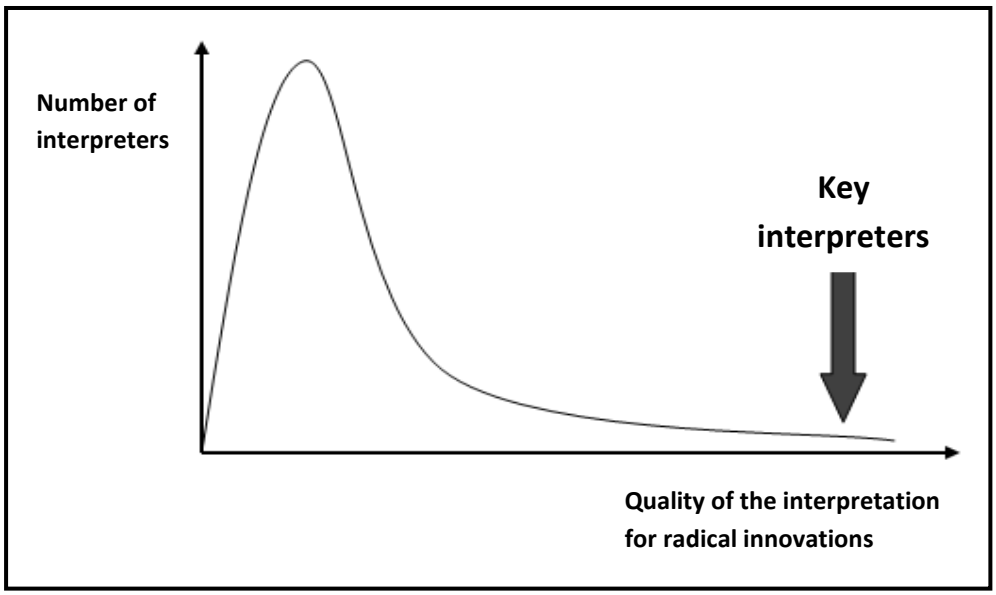
Consequently, the perspective perceives the reliance on users within OSI as a disadvantage. This is rooted in the belief that chasing users will reinforce current needs and lead to incremental innovations (Verganti, 2009, 2011); in contrast, radical innovations assume different user approaches and different contexts (Verganti, 2009). Radical innovations developed without users are seen in Nintendo's creation of the breakthrough game console Wii, Apple's performance within technology and design, as well as Swatch's imaginative exploitation of the quartz technology (Verganti, 2009, 2011). The examples show that radical innovation often flourishes when companies step back from current dominant needs of users and envision new scenarios.

Elitist-centered innovation views the inclination of market pull methods towards incremental innovation as a disadvantage, as it increases the pace of the innovation race (Verganti, 2009). Verganti's (2009) call for companies to escape the innovation race of contracting product life cycles is, ironically, in line with Chesbrough's call (2011) to escape the innovation treadmill of the commodity trap. Unlike Chesbrough's (2011) description of the innovation treadmill of the commodity trap, Verganti (2009) does not perceive PLCs as exogenous and their contraction as inescapable; Verganti (2009) claims PLCs depend, for better or worse, on innovation strategies.

Albeit Verganti (2009, p. 132) admits that lead users may *sometimes* have the abilities to act as key interpreters and propose radical innovations, as advocated by von Hippel (1988, 1999, 2005), Verganti (2006, 2009, 2011) also argues that this is seldom seen, which is why his propagated approach is not user-centered; hence, it is argued that lead users are not a sustainable solution for the problem of co-creation within OSI (Chesbrough, 2011). The explicated version of Verganti's (2009) argument is that the number of interpreters who have the ability to contribute effectively to, and who can envision new possibilities for, radical innovations is small. As it is illustrated in figure 10, the distribution of the quality of their interpretations related to radical innovations is skewed, with the forward looking key interpreters positioned at the extreme of the long tail (Verganti, 2009). Hence, it is statistically rare that lead users have the sufficient insights to provide the necessary proposals of envisioned possibilities that can result in radical innovations.

The figure also illustrates why Verganti (2009) does not perceive crowdsourcing (Howe, 2006) and the concept of "the wisdom of the crowd" as beneficial for radical innovations. As he states, *"open and crowded techniques work when several contributors can provide fair-enough quality* […] *But when the world of interpreters is skewed, competition is based on close, privileged relationships with key interpreters rather than on numerous ideas"* (Verganti, 2009, p. 146). Hence, Verganti (2009) criticizes the common practice of open innovation and the co-creation approach of OSI.

Figure 10: The skewed distribution of key interpreters



Source: Author's own creation inspired by Verganti (2009)

4.3.2 Identifying the potential contradiction originating from the disadvantages

In line with the analyses from the two previous perspectives, the present analysis will investigate how the disadvantages identified by elitist-centered innovation may pose a potential contradiction to Chesbrough's (2011) argument. With evidence grounded in the previously identified disadvantages, it is argued that elitist-centered innovation will claim that the co-creation element of OSI may aggravate the commodity trap (D'Aveni, 2010a; Verganti, 2009); the problem which OSI should be the remedy for. Hence, the potential contradictory tension of co-creation within OSI, as identified by the meta-theoretical perspective, will be further explicated and argued for below.

If it is accepted that co-creation within OSI will predominantly reinforce existing needs and lead to incremental innovation (Verganti, 2009, 2011), then co-creation may aggravate the commodity trap (D'Aveni, 2010a); regardless of it being a product or services firm. Verganti (2009) states that incremental innovations accelerate the pace of the innovation race; a race characterizing a reality where, *"product life cycles are shortening and that companies must substitute for their products at an increasing pace"* (Verganti, 2009, p. 98). According to Verganti (2009), this innovation race is caused by companies' innovation strategies; with popular incremental approaches accelerating substitutions. It is worth noticing that Verganti's (2009) notion of the innovation race echoes Chesbrough's (2011) and D'Aveni's (2010a) innovation treadmill of the commodity trap.

Hence, the potential contradiction consists of co-creation aggravating the commodity trap instead of escaping it: If the arguments of Verganti (2009) are extrapolated to the co-creation approach of OSI (Chesbrough, 2011), then co-creation may in fact exacerbate the commodity trap (D'Aveni, 2010a). This is based on the assumptions that co-creation will reinforce existing needs and contract life cycles (Verganti, 2009). Hence, the prediction from elitist-centered innovation resembles Chesbrough's (2011) notions of the treadmill of, *"ever more similar products coming at an ever-faster pace"* (Chesbrough, 2011, p.27) inherent in the commodity trap (D'Aveni, 2010a).

Thus, the explanatory characteristics of the potential contradiction resemble those of the vicious circle or negative reinforcing loop of co-creation, which was illustrated in the previous perspective. This vicious circle is not only caused by the tendency of co-creation to reinforce existing needs, but also by co-creation's tendency to accelerate contracting product life cycles (Verganti, 2009).

On a side note, it can be argued that Verganti's (2006, 2009, 2011) claim of the innovative potential of key interpreters is, ironically, exemplified by OSI: OSI is a radical innovation itself, as it redefines the conventional approach to innovation. However, OSI originates, not from co-creation, but from Chesbrough (2011), who is arguably a forward looking key interpreter of innovation.

4.3.3 Summarizing disadvantages and contradiction identified by the perspective

The previous pages have analyzed the disadvantages and subsequent potential contradiction of the co-creation element of OSI, as identified by the meta-theoretical perspective of elitist-centered innovation. The findings are summarized in table 5.

Table 5: The disadvantages and potential contradiction of the co-creation approach of Open services innovation

Disadvantages of the co-creation approach within Open services innovation:	The disadvantages identified by the perspective pertain to the claimed inability of users to suggest and bring about radical innovations, as users tend to be steeped in the realm of a current context of use and the comfort of familiarity that breed incremental innovations which reinforce existing needs (Verganti, 2009, 2011). Incremental innovations may thus intensify the innovation race (Verganti, 2009), which is similar to Chesbrough's (2011) commodity trap. In other words, market-pull innovation, as represented in the co-creation element of OSI (Chesbrough, 2011), reinforces and echoes existing needs rather than questions them (Verganti, 2009). Radical innovations must thus be searched for *a priori* and not *a posteriori* (Verganti, 2006, 2009, 2011).
Potential contradiction that stems from the above disadvantages:	The potential contradiction consists of the risk that the inherent co-creation element of OSI may reinforce and exacerbate the commodity trap (D'Aveni, 2010a). This is contradictory to Chesbrough's (2011) argument, as OSI *should* be the trajectory away from the commodity trap. The logic is as follows: Verganti (2009) argues that market pull innovation, such as co-creation, breeds incremental changes based on the existing context of use, and that these incremental innovations also accelerate the pace of the innovation race. Hence, incremental innovations that reinforce existing needs and contract PLCs (Verganti, 2009) can result in the commodity trap of, *"ever more similar products coming at an ever-faster pace"* (Chesbrough, 2011, p.27).

Source: Author's own creation

4.4 Synthesis of the findings from the meta-theoretical triangulation

The previous analyses have dealt with the exploration of the disadvantages and potential contradiction of co-creation within OSI, from various meta-theoretical perspectives; consequently, Chesbrough's (2011) theory have been analyzed by taking it on an inter-paradigmatic journey, as advocated by Burrell and Morgan (1979). The remainder of the present chapter will synthesize and reflect upon the key findings from the analytical journey; hence, this will constitute the arrival point of the inter-paradigmatic journey (Burrell & Morgan, 1979), where the key findings from the various intermediary landings within the respective meta-theoretical innovation perspectives will be summed up, reflected upon and compared.

Mirroring OSI in the three meta-theoretical perspectives, which observe OSI from all angles like a theoretical panopticon, has provided the foundation for an extensive understanding of the framework. This has exposed the disadvantages and potential contradictions of OSI. Thus, the triangulation has provided a basis to evaluate the OSI-theory with its inherent co-creation approach; in other words, following the logic of "opening up" the boundaries of the framework to outside sources of innovation (Chesbrough, 2003, 2006, 2011) has permitted a holistic, 360° understanding of the disadvantages and contradiction of the co-creation approach of OSI.

Albeit several disadvantages have been identified within the triangulation, the most essential findings pertain to co-creation's predisposition towards incremental and sustaining innovation, as well as the subsequent potential contradiction of co-creation exacerbating the commodity trap. These findings are perceived essential, as they constitute a recurring theme within all of the 3 meta-theoretical perspectives, and as the potential contradiction poses an existential threat to the raison d'être of the theory; a gap between the implications of co-creation and the promises of OSI.

Hence, the potential contradiction which has been revealed by all three perspectives portrays a tension resembling the swings of a pendulum: In order to escape the commodity trap, a company will make the transition from the innovation treadmill of product innovation to the approach of OSI (Chesbrough, 2011). However, the pendulum reaches its apex and swings back at an accelerated pace, as the co-creation element of OSI will echo the familiar context of use (Kim & Mauborgne, 2005; Verganti, 2009; von Hippel, 1988), which may accelerate the commodity trap

by creating incremental and sustaining innovations (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; Kim & Mauborgne, 2005) that conjunctively contract the product life cycles (Verganti, 2009). In other words, the pendulum swings back, at an accelerated pace, to the initial innovation treadmill of the commodity trap of, *"ever more similar products coming at an ever-faster pace"* (Chesbrough, 2011, p.27). Hence, when seeking to see beyond the current dominant orthodoxy of the industry, and pursue the next practice instead of best practice, it is, *"not about 'extrapolating the past' but rather 'folding the future in'"* (Prahalad, 2004b, p. 176).

The key findings of the triangulation are illustrated in table 6. The findings contribute to the innovation and services debates, by illuminating how customer co-creation may deviate from the dominant positive assumptions that prevail in most studies and literary discussions on the subject.

Table 6: The key findings of the meta-theoretical triangulation

Meta-theoretical perspective	Main disadvantages of co-creation	Potential contradictions in OSI
User-centered innovation	Mainstream users are unlikely to generate novel concepts that conflict with the familiar context of use, which leads to incremental and sustaining innovations	Incremental and sustaining innovations stemming from co-creation may exacerbate the commodity trap, instead of being the remedy for it
Nonconsumer-centered innovation	Co-creation may lead to up-market sustaining innovations that overshoot the mass market and lead to commoditization	Instead of being the remedy for the commodity trap, co-creation may aggravate it, in a negative reinforcing loop
Elitist-centered innovation	Users are often unable to suggest or bring about radical innovations, as they are steeped in a current context of use. Hence, this creates incremental changes	The incremental innovations caused by co-creation reinforce existing needs and shorten PLCs, which exacerbate the commodity trap, instead of escaping it

Source: Author's own creation

4.5 Chapter conclusion

The intention of this chapter has been to analyze and evaluate the disadvantages and potential contradictions of the co-creation approach of OSI. Hence, the intention of the chapter has also been to explain to the reader the underlying arguments of the stands. By combining several lines of sight within a meta-theoretical triangulation, the author has sought to strengthen the findings of the analysis and obtain a more complete array of theoretical arguments. The findings indicate that co-creation may create a gap between the promises and realities of OSI. The following chapter will take the reader through a discussion of the key findings.

5. Discussion

> *"How You Innovate Determines What You Innovate"* (Davila, Epstein & Shelton, 2006, p. 1).

The above citation illustrates an essential exhortation that highlights some of the arguments put forth in the preceding and present chapter; this fundamental tenet of innovation indicates that the results of innovation are not a lottery, but are rather a result of *how* the company innovates (Davila, Epstein & Shelton, 2006). Hence, it is argued that, *"it is nonsensical to ask for more or better innovation without first looking at how the company innovates"* (Davila, Epstein & Shelton, 2006, p. 9). Thus, the focus of the thesis has been on the innovation approach of OSI.

The potential contradiction that the co-creation element poses to Chesbrough's (2011) argument of the objective of OSI was identified in the analysis, in the preceding chapter; consequently, it is also argued that the contradiction is symptomatic for *how* innovation is carried out in OSI with its inherent co-creation approach. Albeit OSI opens up for innovation originating from a variety of sources, as the firm boundary is made porous and the company is turned into an open platform, Chesbrough (2011) also indicates that the customer experience ultimately sets the boundaries for the limits of the envisioned possibilities of innovation, as discussed in chapter 3 and 4.

If the claim of the initial citation is accepted, then it can be argued that the potential contradiction which co-creation poses to OSI can also be overcome by adjusting the innovation approach within OSI. This is not only supported by the argument that innovation processes are an element of innovation that constitutes a key driver of success (Davila, Epstein & Shelton, 2006), it is also supported by Chesbrough's (2002, 2003, 2006, 2011) own literary work, which itself revolves around the tenet that success depends on *how* innovation is done; by innovating the practice of the field of innovation itself, or in other words, by meta-innovating (Chesbrough, 2006, 2011).

The present chapter is a reflection upon the findings from the analysis and the relevant implications thereof. The goal is to explicate the findings to the reader, as well as to propose a solution that can overcome the potential contradiction that co-creation can pose to OSI. The chapter begins with a reflection upon the prospects of co-creation within OSI, by highlighting the advantages and disadvantages of co-creation. This is followed by the author's argument of a proposed solution to overcome the potential contradiction which co-creation poses to OSI.

5.1 Co-created innovation = an oxymoron?

The key findings of the analysis can provocatively articulate the question of whether or not co-created innovation is in fact an oxymoron: The concept of oxymoron denotes the combination of contradictory terms. As chapter 4 revealed, all three perspectives indicate that mainstream customers often echo and reinforce existing needs, as they are steeped in the current context of usage (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; Verganti, 2006, 2009, 2011; von Hippel, 1988). This may predominantly result in "more of the same", in the form of sustaining and incremental innovation (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; D'Aveni, 2010a; Kim & Mauborgne, 2004, 2005; Verganti, 2006, 2009, 2011).

Although reinforcing the existing features of the marketplace may seem antithetical to the purpose of innovation, this author argues that co-created innovation is not an oxymoron per se, but rather a predominantly minor innovation which entails both advantages and disadvantages; in order to obtain a balanced innovation portfolio, the incremental and sustaining innovations that may stem from co-creation are necessary but insufficient (Davila, Epstein & Shelton, 2006; Verganti, 2009). They protect against competitive corrosion, but cannot provide the tectonic industry changes and long term success that radical and disruptive innovations can. Thus, they are beneficial as an ingredient in the recipe for a balanced innovation portfolio, but they cannot be the sole ingredient. The claim that the incremental and sustaining innovations that stem from co-creation are necessary, but in themselves insufficient, is based upon the logic of Chesbrough's (2011) own assumptions of the commodity trap; Chesbrough (2011) assumes that the commodity trap should be escaped, which explicates why sustaining innovations are necessary to keep up with the innovation treadmill of the commodity trap, but are insufficient to escape it.

5.1.1 What co-creation CAN do within OSI

The findings show that all three meta-theoretical perspectives point toward the claim that the co-creation approach of OSI may predominantly lead to incremental and sustaining innovations (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; Kim & Mauborgne, 2004, 2005; Verganti, 2006, 2009, 2011; von Hippel, 1988). This indicates that co-creation is a powerful method for obtaining the necessary, but insufficient, incremental and sustaining innovations.

5.1.2 What co-creation CANNOT do within OSI

The findings also show that there is broad consensus among the meta-theoretical perspectives that the co-creation approach of OSI may be unable to provide radical and disruptive innovations (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; Verganti, 2006, 2009, 2011; von Hippel, 1988). This indicates that co-creation within the realm of OSI may be unable to lead companies out of the commodity trap, which itself is characterized by incremental and sustaining innovations coming at a faster pace (Chesbrough, 2011; D'Aveni, 2010a, 2010b). However, there is a disagreement on whether or not lead users can provide breakthrough concepts, as propagated by von Hippel (1988, 1999, 2005), but questioned by Clayton Christensen (Christensen, Anthony & Roth, 2004), and acknowledged as possible, but deemed to be improbable, by Verganti (2009).

The following section will build on these insights, by suggesting a new meta-theoretical innovation perspective, which will be utilized as the foundation to make the necessary adjustments to OSI, in order to solve the potential contradiction originating from co-creation.

5.2 First step to a solution: Combining the 3 meta-theoretical perspectives

In order to propose a solution for the potential contradiction which co-creation poses to OSI, the foundational basis for the forthcoming theoretical adjustments must first be developed, by proposing a new meta-theoretical perspective that can overcome the potential contradiction which co-creation poses to OSI. This claim is rooted in and supported by Bogers, Afuah and Bastian's (2010) argument that basic assumptions that underpin theoretical explanations and adjustments need to be well explained and grounded, as a theory is based on its assumptions. This is particularly relevant, as it is often not clear what the underlying basic assumptions are in the theoretical explanations and studies on user innovation (Bogers, Afuah & Bastian, 2010).

It is argued that the potential contradiction of OSI may be overcome, by adjusting the theory according to a new meta-theoretical hybrid perspective created by the combination of the three perspectives dealt with in chapter 3 and 4. The preceding analysis indicated that co-creation in OSI would predominantly provide incremental and sustaining innovation (Christensen, Anthony & Roth, 2004; Kim & Mauborgne, 2004, 2005; Verganti, 2006, 2009, 2011; von Hippel, 1988), which is necessary, but is in itself deemed inconsistent with the OSI objective of escaping the innovation

treadmill of the commodity trap (Chesbrough, 2011). The symbiotic combination of the perspectives could provide the necessary multitude of innovation approaches to simultaneously obtain the radical and disruptive innovations needed to escape the commodity trap (Christensen, Anthony & Roth, 2004; D'Aveni, 2010a; Hansen & Skibsted, 2011; Kim & Mauborgne, 2004, 2005; Verganti, 2006, 2009, 2011), while maintaining co-creation within services (Chesbrough, 2011) which fuels the needed incremental and sustaining innovations (Davila, Epstein & Shelton, 2006).

The approaches may also complement, and logically follow, each other (Kumar, Scheer & Kotler, 2000), as, "*A firm cannot be disruptive without being sustaining. Once a firm establishes its disruptive foothold, subsequent innovations move it up along its own improvement trajectory"* (Christensen, Anthony & Roth, 2004, p. 47-48).

Hence, the meta-theoretical hybrid perspective could provide a synergetic solution for the contradiction of OSI, as nonconsumer-centered and elitist-centered innovation would cultivate the radical and disruptive innovations needed to make tectonic changes in an industry, which may provide the escape route from the commodity trap or prevent its exacerbation (Chesbrough, 2011; Christensen, Anthony & Roth, 2004; D'Aveni, 2010a; Hansen & Skibsted, 2011; Kim & Mauborgne, 2004, 2005, 2009; Verganti, 2006, 2009, 2011), and user-centered innovation would support the necessary, but insufficient, incremental and sustaining innovations that stem from co-creation (Christensen, Anthony & Roth, 2004; Hansen & Skibsted, 2011; von Hippel, 1988).

While the ability of the meta-theoretical hybrid to solve the potential contradiction of OSI is based upon the differing logics of user-centered, nonconsumer-centered and elitist-centered innovation, the advocated combination of the perspectives is made possible by their commonalities. As illustrated in table 2 in chapter 3, the inter-perspective commonalities are based upon:

(1) The common assumption that innovation is necessary for survival.

(2) The common assumption that both incremental and radical innovations are needed.

(3) They all follow the logic of Open innovation.

(4) They all claim user-centered methods predominantly lead to incremental and sustaining innovations.

Inspired by the contingency argument that there is no one right way to innovate (Davila, Epstein & Shelton, 2006), the combined meta-theoretical hybrid perspective will be termed situation-centered innovation, as the specific situation that the company faces will determine the appropriate innovation approach.

Box 8: How Apple and Google juggle multiple innovation approaches

Apple and Google are often acknowledged for their innovative capabilities. Both companies also utilize a multitude of innovation approaches depending on the situation; Apple's personal computer was an example of an innovation targeted nonconsumers, but Apple mostly relies on key interpreters such as designer Jonathan Ive (Verganti, 2006, 2009). Most of Google's radical innovations are ascribed to the so-called 20% rule, describing how employees, who are key interpreters, are free to utilize 20% of their time on pet projects (Girard, 2009). The remaining time is focused on more incremental projects and on co-creation with users through beta versions (Iyer & Davenport, 2008).

Albeit the new hybrid perspective of situation-centered innovation is challenging to implement, it is argued that it is possible: The concept of balancing multiple dominant logics, innovation processes and business models within a single organization has long been criticized (Davila, Epstein & Shelton, 2006; Markides, 2008). Although the combination of multiple perspectives might be a source of conflict, the cost of keeping them separate is the failure to exploit synergies between them (Markides, 2008; Osterwalder & Pigneur, 2010); as it has already been described, disruptive innovation requires sustaining innovation in order to move up-market (Christensen, Anthony & Roth, 2004), supporting the argument of not only possible co-existence but also cooperation. Box 8 illustrates how multiple innovation perspectives may be combined.

5.2.1 Second step to a solution: Adjusting OSI with the new hybrid perspective

Whereas the preceding section drew the contours of and introduced the blueprint for the foundational pillars of the proposed solution, the present section will build upon these underlying assumptions of the newly created situation-centered innovation perspective, by adjusting OSI according to this new hybrid meta-perspective; theoretical adjustments which arguably constitute a plausible solution for overcoming the potential contradiction which co-creation poses to OSI.

As the hybrid perspective of situation-centered innovation emphasizes the multiple perceived realities of the various scholars, the perspective is arguably also in alignment with the author's own interpretive paradigm and ideographic methodology (Burrell & Morgan, 1979) related to the actors approach (Arbnor & Bjerke, 2009). The diverse theoretical polyphony will be represented in

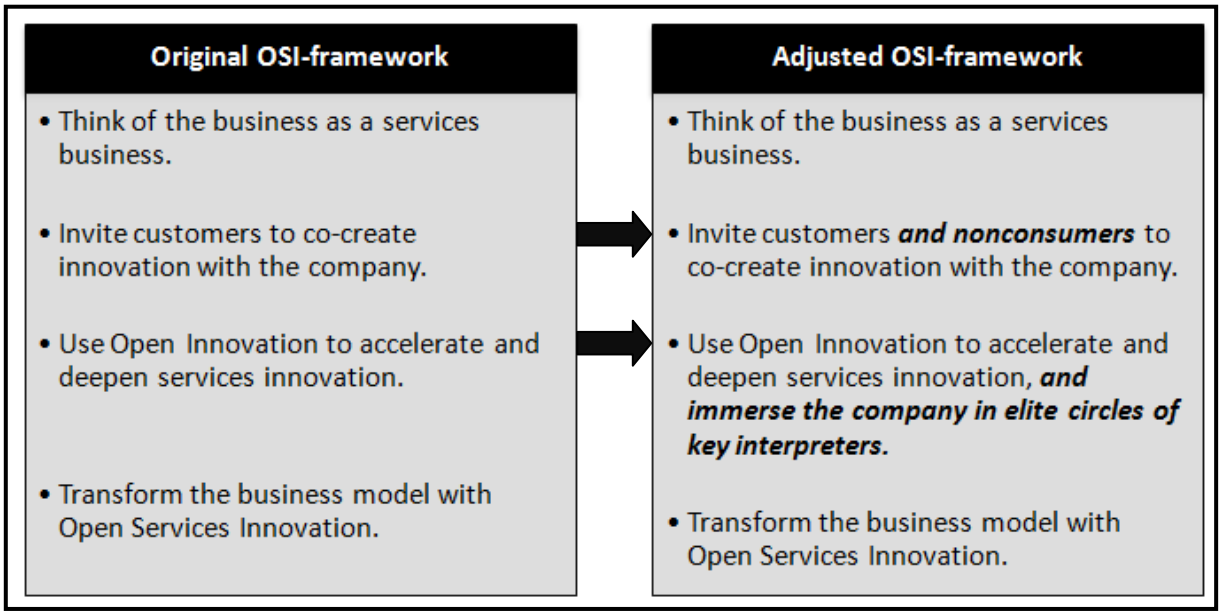
the following adjustments to Chesbrough's (2011) core framework of OSI. The adjustments of OSI, which are rooted in the realm of the newly created hybrid perspective of situation-centered innovation, can be summarized in the two additions of:

(1) Including nonconsumers in co-creation.

(2) Immersing the company in the relevant elite circles of key interpreters to supplement traditional open innovation practices.

The inclusion of nonconsumers is in alignment with the nonconsumer-centered perspective, and can breed the disruptive and radical innovations needed to escape the commodity trap (Christensen, Anthony & Roth, 2004; Christensen & Raynor, 2003; D'Aveni, 2010a; Kim & Mauborgne, 2004, 2005, 2009; Markides, 1997, 2006, 2008). The adjustment of immersing the company in elite circles of key interpreters is in alignment with elitist-centered innovation, and can create the innovation engine that drives the radical innovations needed to escape the commodity trap (D'Aveni, 2010a; Hansen & Skibsted, 2011; Pisano & Verganti, 2008; Verganti, 2006, 2009, 2011). These adjustments will ideally be complimented by the sustaining and incremental innovations stemming from co-creation within OSI (Chesbrough, 2011), and can provide a balanced innovation portfolio. The adjustments are summarized in figure 11.

Figure 11: The adjustments of OSI from the hybrid perspective of situation-centered innovation



Source: Author's own creation

While the above adjustments may overcome the potential contradiction of OSI, they can also permit OSI to take advantage of the commodity trap, by utilizing the dynamics of the trap to make disruptive innovations created for the BOP: As seen in box 5 in chapter 3, a certain type of nonconsumer-centered innovation stems from the bottom of the pyramid in emerging economies (Prahalad, 2004a). By co-creating with these nonconsumers, reverse innovation can be utilized to develop "good enough" low-cost/low-benefit services that may also disrupt companies in the advanced economies (Christensen, Anthony & Roth, 2004; Immelt, Govindarajan & Trimble, 2009). As Chesbrough states, *"We are now seeing reverse innovation, where new products are being created in developing economies and exported to the advanced economies"* (Chesbrough, 2011, p. 201), and as he further predicts, *"Indigenous innovators who are arising in the emerging economies may one day challenge service innovators in the developed world* […] *the innovators in the emerging economies may be positioned to disrupt their rivals"* (Chesbrough, 2011, p. 170).

A focus on BOP-nonconsumers may also necessitate that the company immerses itself in relevant elite circles of key interpreters of the developing economies, as propagated by elitist-centered innovation (Pisano & Verganti, 2008; Verganti, 2006, 2009, 2011). Once the disruptive foothold has been established in the BOP, and nonconsumers turn into consumers, subsequent innovations will be sustaining relative to the initial market position of the disruptor, but they will be felt as highly disruptive for incumbents in advanced economies (Christensen, Anthony & Roth, 2004).

5.3 Chapter conclusion

The intention of this chapter has been to reflect upon the meaning of the findings from the preceding chapter. The possibilities and limitations of co-creation within OSI were discussed, as well as the question of the possibly oxymoronic nature of the concept of co-created innovation. A possible solution to the contradiction that co-creation poses to OSI was introduced and argued for; the solution states that the various meta-perspectives should be combined; however, they need to do more than merely co-exist; they need to cooperate to obtain synergy. This information should support the reader's understanding of the findings, and of the potential solution to the contradiction of co-creation in OSI. The following chapter is the final part of the thesis. This part concludes the research journey; it seeks to answer the initial research question, and it introduces the reader to potentially future research streams.

6. Conclusion

"We can therefore define research as something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge" (Saunders, Lewis & Thornhill, 2007, p. 5).

As highlighted in the above citation, the raison d'être of research is constituted by the purpose of systematically obtaining and creating new knowledge. Hence, the present chapter will conclude the research journey by answering the research question, and thus, summarizing the knowledge created by the thesis. The research question which the thesis has pursued is:

How can the potential contradiction that customer co-creation poses to Open Services Innovation be overcome?

The basis for the proposed solution is based upon the meta-theoretical triangulation, which provided a substantive picture of the potential contradiction, and on the premise that innovation output is a result of *how* innovation is carried out, as explicated in chapter 4 and 5. Thus, it is argued that the potential contradiction of OSI can be overcome, by making adjustments to the framework of OSI, which are rooted in the new meta-theoretical hybrid perspective of situation-centered innovation; a hybrid perspective that combines the differing meta-theoretical lenses introduced within the thesis. The combination should permit the creation of a balanced innovation portfolio which can be the remedy for exacerbating the commodity trap, and thus, also solve the potential contradiction of OSI. The proposed solution is constituted by two progressive steps:

Step 1) Combining the 3 meta-theoretical innovation perspectives: The new perspective forms the foundation of assumptions for integrating the differing, but synergetic, innovation approaches.

Step 2) Adjusting OSI with the new hybrid perspective: The adjustments entail co-creation with nonconsumers as well as the immersion of the company in elite circles of forward looking key interpreters; both of the adjustments are argued to fuel disruptive and radical innovations.

Why should the above steps overcome the potential contradiction? The adjustments accentuate radical and disruptive innovations, which can provide the escape from the commodity trap and symbiotically complement the necessary, but insufficient, sustaining and incremental innovations from co-creation that, in isolation, fuel the potential contradiction of OSI. If the above steps are combined with the concept of the BOP (Prahalad, 2004a), western firms may even utilize the underlying dynamics of the commodity trap to their own advantage, as explicated in chapter 5.

6.1 Limitations and methodological reflections

Albeit the findings of the thesis have arguably provided a meaningful contribution to the current debate on co-creation in the innovation literature, certain limitations must also be highlighted:

Whereas the choice of a theoretical study was deliberately chosen due to a gap in research (Bogers, Afuah & Bastian, 2010) and because the young age of OSI limits the number of cases that are able to empirically provide an answer to the research question, the choice of a theoretical study also emphasizes a limitation regarding its limited generalizability. Albeit the aim was to make a theoretical generalization, the polyphony in the literature likewise supports the notion that anomalies may exist, where co-creation may have less dire consequences than argued for in the thesis, or cases of industries where the proposed solution may be deemed unlikely to work. Hence, as theory is highly context specific within social sciences, it is debatable whether a theoretical contribution can be "exported" or extrapolated to other settings without problems.

The present thesis is grounded in the author's interpretive paradigm (Burrell & Morgan, 1979), and this paradigmatic foundation was complemented by the actors approach (Arbnor & Bjerke, 2009). The two entwined elements allowed the researcher to pursue a deep understanding of the problem, built on a deep understanding of the egological spheres of the actors (Arbnor & Bjerke, 2009). While the author may have been able to utilize the other methodological approaches (Arbnor & Bjerke, 2009), the analytical approach is inconsistent with the author's paradigm, and the systems approach would view OSI as a system and fail to isolate co-creation as a part of OSI.

6.2 Future research directions

Whereas the researcher has sought to extend the thresholds of the literature streams within service and innovation, there are still many areas that remain unexplored or that may benefit from additional research: As a logical implication of the thesis, a possibly fruitful research direction would be to empirically replicate the findings of the research project, in order to test the verisimilitude of the core argument. Thus, the search for anomalies of the findings and proposed solution is also welcomed, as this can refine the explanatory argument and the proposed solution. Another research direction is the effect co-creation in OSI may have on widening gap 3 of the gaps model of service quality, which would detract from the users' satisfaction (Wilson et al., 2008).

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