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Initiating business opportunity creation in nascent markets

A practice-based, future-oriented explorative case study

Tapio Koivisto | Markku Mikkola | Ilari Kaarela



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VTT Technical Research Centre of Finland Ltd



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Preface

This study was conducted as part of the Future Industrial Services (FutIS) research program run by the Finnish Metals and Engineering Competence Cluster (Fimecc). The program promotes the adoption and expansion of service business in technology-based industrial firms. It investigates the future of industrial services in metal and engineering industry in three major topics: service business mindset, integrated service development, and efficient service operations. The program started 2010 and is due to end 2016. Altogether 19 companies and 9 research groups have participated to the program. The majority of the program funding is coming from Tekes – the Finnish Funding Agency for Innovation and the rest is funded by the participating companies and research institutes.

This study is based on the research collaboration between VTT Technical Research Centre of Finland Ltd and ABB Marine. The authors want to extend their sincere thanks to the participating personnel at ABB, especially Richard Windischhofer and Jan-Erik Räsänen, for generously sharing their deep knowledge and understanding of the business case. Also, we would like to thank our colleague Heidi Korhonen for her invaluable feedback and comments during the research process. Finally, we would like to express gratitude to our external reviewers, Dr. Suvi Nenonen and Dr. Kristian Möller, for their constructive critique and advice on improving the manuscript.

Espoo, 15 October 2015

Tapio Koivisto, Markku Mikkola and Ilari Kaarela

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Abstract

This study focuses on the improving and enhancing the sensemaking capability of the organisation. The starting point of the study is the assumption that the process of identifying and creating new business opportunities is typically an evolutionary process based on experiential learning, and trial and error. This implies that future-oriented sensemaking capabilities are constrained by past actions, decisions and experiences. However, companies with advanced sensemaking capability can anticipate the potential development path(s) of the field. This gives them a strategic advantage over more reactive companies.

The issue of developing the more complicated cognitive frameworks and improving the sensemaking capacity of an organisation is approached methodologically on the basis of collaborative management research. Methodologically we are focused on the question of how the sensemaking capacity of individual organisations can be supported and extended.

The empirical point of reference of the study lies in the business development process of the technology company ABB Marine. The company is developing new energy management solutions for the use of the marine industry. The researchers aimed to support the development work and decision-making on new offerings and business development both conceptually and methodologically, and to generate new knowledge of the creation of new markets and business opportunities at the fuzzy front end of innovation.

We focus in particular on the following: how proactive or future-oriented sensemaking can be extended by drawing on collaborative research processes and “engaged scholarship”. The task of future-oriented sensemaking is to construct intersubjective meanings, images and schemes in conversation where these meanings and interpretations create images of future orientation. The question of future-oriented sensemaking is approached conceptually and thematically on the basis of both entrepreneurship research and service-dominant logic as an issue of new business exploration and creation.

The practical outcome of the study includes the conceptual model and framework that links offered technological solutions and services to customers' needs and demands. Instead of trying to solve the problem of opportunity creation in a trial and error manner by offering technological solutions only, the opportunity creation is supported through the innovative combination of services and technological solutions.

Based on the research, it is possible to construct a heuristic model of how to facilitate business opportunity creation in nascent markets. Moreover, it is possible to construct a generic model/theory regarding the mechanisms which mediate the development of new market relationships. In addition, it is possible to clarify the view of why the dialogue and collaboration between research and practice is necessary and on what methodological grounds it is possible to produce both scientifically and practically relevant knowledge.

One of the main results of the study is that practically and scientifically relevant knowledge can be produced with the methods of practice-oriented intervention research. In fact, it is shown that this is a real opportunity, not just an intention or a normative idea. Through collaborative management research, it is possible to contribute to both scientific discussion and practical decision-making. In relation to practice and decision-making it is possible to produce conceptually relevant knowledge. The term conceptual relevance refers to the impact of scientific knowledge on framing and reframing the decision situation in practice.

1. Introduction

Most business decision-making does not take place under conditions of certainty (Alvarez & Barney 2005; Shackle 1972). In fact, uncertainty is the normal feature of entrepreneurship and entrepreneurial decision-making processes (Shackle 1972; see also Luhmann 2005). Shifts in consumer demand and preferences, unanticipated events in a firm's environment, poor understanding of cause-and-effect relationships in a firm's business activities, and information-processing limitations of human beings all make it impossible to know with certainty at the time they are made.

Uncertainties in decision-making may increase partly due the increasing pace of market turbulence and "hypercompetition" (Bogner & Barr 2000; D'Aveni 1994). Hypercompetitive contexts are characterised by rapid changes in environmental factors such as technology and regulations, relative ease of entry and exit by rival firms, and ambiguous consumer demands. In addition, the rationale behind action can be also in a perpetual state of change because organisations partly create their own environments by the way they interpret and act in a confusing world (March 1981; Weick 1979; Smircich & Stubbart 1985). In simple models of organisational change it is usually assumed that action is taken in response to the environment but that the environment is not affected by organisational action. As March (1981) notes, these assumptions are convenient, but organisations create their environments in part, and the resulting complications are significant. For example, organisations are frequently combined into an ecology of competition, in which the actions of one competitor become the environment of another. From the managerial perspective it is not just that the world is incompletely or inaccurately perceived, but also that actions taken as a result of beliefs about the environment, in fact, constitute the environment, as in self-fulfilling prophecies, for example (March 1981).

As Porac et al. (1989) note, competition between firms occurs at two interwoven levels, a material level and a cognitive level. Over time, developed experience and socially constructed beliefs and frameworks influence the actions of competing organisations. The beliefs and mental models of the competitive environment consist at the minimum of two types of beliefs; beliefs about the identity of the firm, its competitors, suppliers and customers, and causal beliefs about what it takes to

compete successfully within the environment that has been identified. Given the limits of rationality (March & Simon 1958; Schwenk 1984) and observation (Luhmann 2002a), not all cues are attended to and interpreted. Thus, the mental models of decision-makers are only partial representations of the context and the decision-making situation. Beliefs about the identity and character of competitors, suppliers and customers focus the limited attentional resources of decision-makers on some transactional partners and dimensions to the exclusion of others (Porac et al. 1989).

Bogner and Barr (2000) suggest that as industries move towards hypercompetition, the cognitive frameworks that managers and organisations had used to make sense of and act within their industry are significantly compromised. To act effectively under hypercompetitive and “hypercomplex” (Qvortrup 2003) circumstances, and to build new understandings of the environment, organisations must engage in “adaptive” sensemaking processes (Bogner & Barr 2000, 213). Managers and organisations in hypercompetitive environments must develop effective and more complicated (Bartunek et al. 1983) cognitive frameworks. The literature on sensemaking in organisations identifies three specific activities that are used to build frameworks at an intrafirm level in organisations facing changing environments. Bogner and Barr (*ibid.*) refer to these processes in toto as “adaptive sensemaking”. These activities include developing cognitive diversity, implementing rapid decision-making, and taking experimental actions.

This study focuses on the improving and enhancing the sensemaking capacity of the organisation (Werle & Seidl 2012; Neill et al. 2007; see also Sandberg & Targama 2007). As Möller (2010; see also Normann 2001) notes, companies with advanced sensemaking capability can anticipate the potential development path(s) of the field. This gives them a strategic advantage over more reactive companies.

The issue of developing the more complicated cognitive frameworks and improving the sensemaking capacity of an organisation is approached methodologically on the basis of collaborative management research (Shani et al. 2008). Methodologically we are focused on the question of how the sensemaking capacity of individual organisations can be supported, complicated and extended. In the literature, the process of extending the sensemaking capacity has also been described as “scaffolding” (Werle & Seidl 2012; Orlikowski 2006; Clark 1997). Scaffolding denotes a broad class of physical, cognitive and social augmentations that allow us to achieve some goal that would otherwise be beyond us.

The empirical point of reference of the study lies in the business development process of the technology company ABB Marine. The company is developing new energy management solutions for the use of the marine industry, and is thus differentiating its business of energy management systems (Energy Efficiency Management, EEM) from the process industry to the marine sector. The aim of these efforts has been the creation of new business opportunities and new markets or niches. The researchers aimed to support the development work and decision-making on new offerings and business development both conceptually and methodologically, and to generate new knowledge of the creation of new markets and

business opportunities at the fuzzy front end of innovation. The empirical material was collected over a one-year period from spring 2011 to spring 2012.

In this research we focus in particular on the following: how *proactive* (Gioia et al. 1994; Stigliani & Ravasi 2012) or *future-oriented* (Gephart et al. 2010) sense-making can be extended by drawing on collaborative research processes and “engaged scholarship” (Van de Ven & Johnson 2006). The task of future-oriented sensemaking is to construct intersubjective meanings, images and schemes in conversation where these meanings and interpretations create or project images of future orientation, objects and phenomena (Gephart et al. 2010). Following agentivity (Emirbayer & Mische 1998), future-oriented sensemaking uses past and present temporal orientations to provide contexts and histories for proposed projects and entities. Projectivity (Emirbayer & Mische 1998) is the imaginative generation of possible future trajectories of action where received structures are re-configured in relation to the future. It includes the ways people imagine, negotiate, communicate and make commitments that invent the future.

The question of future-oriented sensemaking is approached conceptually and thematically on the basis of both entrepreneurship research and service-dominant logic (Vargo & Lusch 2004, 2008b; Michel et al. 2008) as an issue of new business exploration and creation (Alvarez & Barney 2007; Alvarez et al. 2013). Service-dominant innovation drives value-in-use (Michel et al. 2008), which departs from the previous conceptualisation of value-in-exchange. According to this view, value is always jointly and reciprocally co-created. It results not from a series of one-way activities, but rather from interactions and communications among service providers and beneficiaries.

Methodologically we utilise here certain specific ideas and principles of reflective inquiry (Schön 1983; Loughran 2010; Kilmann & Mitroff 1979). As Schön (1983, 40) says, in real-world practice problems do not present themselves to the practitioner as givens. They must be constructed from the material of problematic situations which are puzzling, troubling and uncertain. In order to convert a problematic situation to a problem, a practitioner must carry out a certain kind of work. He must make sense of an uncertain situation that initially makes no sense. From the perspective of technical rationality, professional practice is a process of problem solving. But with this emphasis on problem solving, we ignore problem setting. When we set the problem, we select what we will treat as the “things” of the situation, we set the boundaries of our attention to it, and we impose upon it a coherence which allows us to say what is missing and in what directions the situations can be changed. Problem setting is a process where we name the things to which we will attend and frame the context in which we will attend to them.

In the same vein, the role of an interventionist can be conceptualised first and foremost as a problem definer, and then as a specialist (problem solver) in some substantive or disciplinary area (Kilmann & Mitroff 1979). This places the interventionist in the role of primarily helping the organisation to be sure that whatever problems it senses, they are defined properly. Then various special approaches can be applied to solve or manage the defined problem, rather than solving the implicit or assumed, and perhaps the incorrect, problem (Kilmann & Mitroff 1979).

The concepts of framing and reframing are largely about how alternative perspectives are able to be developed through engaging in the process of reflection (Loughran 2010). Seeing the same event or issue from different perspectives is the essence of framing and reframing. As a mode of reflection it is enmeshed in the ability to distance oneself from the situation in order to look at it with different eyes. Framing and reframing is not about rationalising or justifying particular actions in the practice setting, but about seeing alternatives. By seeing alternative perspectives on situations, new possibilities for action emerge that lead to more informed understandings of the practice setting (Loughran 2010).

Furthermore we utilise Niklas Luhmann's functional method (Luhmann 1972; Knudsen 2011; Vos 2002) heuristically as a bridging and mediating method between research and practice (see also Werle & Seidl 2012). Central to functional analysis are problems and their solutions. Functional analysis is interested in comparisons that highlight alternative solutions and hitherto unrealised possibilities (Besio & Pronzini 2008). Specifically, it is a method of comparative research used in studying complex problems and solutions. Functional analysis stresses that there are always multiple solutions for one and the same problem. Various alternatives to solve a problem are called functional equivalents (Luhmann 1995; Vos 2002; Knudsen 2010). Different solutions can be compared on the basis of a specific reference problem (e.g. market creation) which they are able solve. Functional analysis means to construct and compare various functional equivalent solutions with each other on their merits. What is compared is not identities, markets, companies or the like, but solutions to problems.

The functional method can be characterised as a scheme of observation and communication, a scheme observing and communicating in the frames of problem and solution (Knudsen 2011). In the following we shall utilise the problem-solution scheme as a device for structuring this presentation.

Following this introductory chapter, we will present the theoretical perspectives and the overall problem of the study. The third chapter introduces the design of the study, concentrating on methodological choices and the empirical basis of the study. After that, we move on to a more detailed description of the opportunity and offering development. This fourth chapter follows the logic of functional analysis, and is thus divided into sections that each discusses a specific issue or problem arising from the data in the light of more specific literary references. The fifth chapter presents the practical outcome of the research, and the sixth concludes the paper by linking our findings to previous theoretical work.

The figure below (Figure 1) concretises the structure of the study and the way in which the problem-solution scheme is utilised in the study.

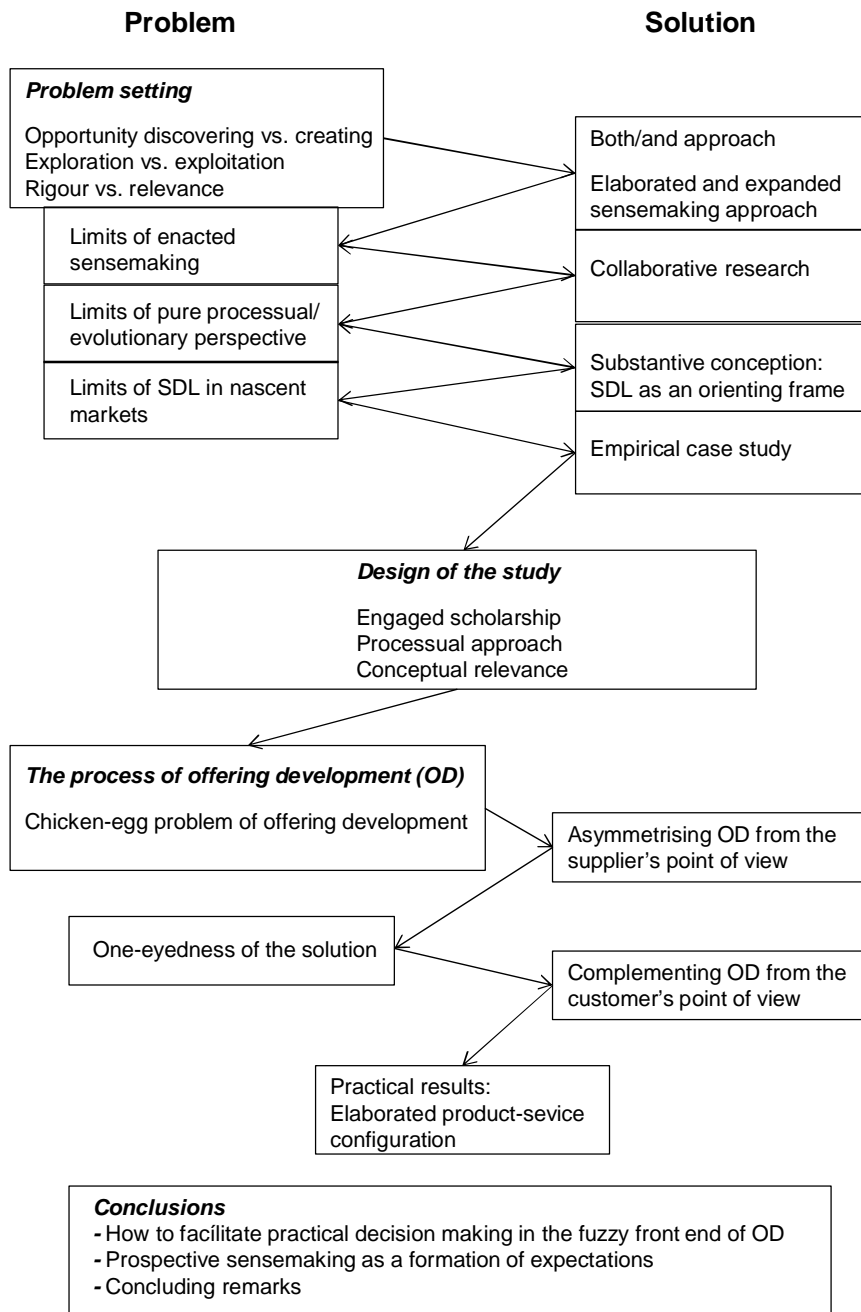


Figure 1. Structure of the study.

2. Problem setting

In previous literature, two broad theories on entrepreneurial opportunities can be differentiated (Berglund 2007; Alvarez & Barney 2007, 2010). The first endorses a realistic view where opportunities are seen as natural occurrences in the world that exist prior to being discovered by alert, skilful or fortunate entrepreneurs who have then taken actions to exploit them. The second perspective suggests that opportunities should be thought of in the context of entrepreneurs seeking to create their ventures in a world which fundamentally depends on entrepreneurial imagination and action for its development. In this view, opportunities are not discovered before exploitation but rather enacted in creative and social processes (Berglund 2007; Sarasvathy & Dew 2005; Wood & McKinley 2010).

The assumption that opportunities – like mountains – exist as objective phenomena just waiting to be discovered and exploited has important implications for entrepreneurial actions (Alvarez & Barney 2007). If opportunities exist as objective phenomena, then the task of an entrepreneur is to discover these opportunities, using whatever data collection techniques exist, and then to exploit them all as quickly as possible, before another entrepreneur discovers and exploits the opportunity. Suppose, instead, that these competitive imperfections in markets were created by the *actions* of entrepreneurs. In this case, the correct metaphor for entrepreneurship is not “mountain climbing”, but, rather, “mountain building”. Moreover, the assumption that opportunities are created rather than discovered may also have implications for entrepreneurial action. For example, rather than searching for a clear opportunity to be exploited, entrepreneurs creating opportunities might engage in an iterative learning process that could ultimately lead to the formation of an opportunity. In the former case, entrepreneurs would spend a great deal of time and energy developing a single, comprehensive and complete business plan. In the latter case, entrepreneurs may find that a business plan can only be written after an opportunity has been created, and that rigorous planning too early on in this process can, at best, be a waste of resources, and at worst, fundamentally misleading (Alvarez & Barney 2007).

Some researchers have sought to reconcile these seemingly opposing perspectives, often by subsuming them under larger theoretical frameworks. A reasonable middle ground position is that some opportunities are discovered whereas others are created (Short et al. 2010) or even that opportunities are both discovered and

created (Berglund 2007; Buenstorf 2007). Chiasson and Saunders (2005) argue that the recognition and formation of business opportunities are recursively implicated, and that recursiveness dissolves the dichotomy between structure and agency, thus showing how entrepreneurial action is both enabled and constrained by the selection, imitation and modification of business scripts by entrepreneurs.

Buenstorf (2007, emphasis added) argues that opportunities are almost invariably created by human activity, partly by activity outside the market sphere and partly by economic activity within markets. If an opportunity is created by an entrepreneur herself rather than by another agent, this creation may nonetheless be based on the discovery of a “higher-order opportunity” – an opportunity to create the opportunity. Thus, the evolutionary perspective suggests that no contradiction necessarily exists between the active creation of opportunities and their discovery as a “higher-order opportunity”. The evolutionary work on organisations suggest that the activities and development of existing organisations are themselves sources of new entrepreneurial opportunities (Buenstorf 2007). The entrepreneur’s *business conception* (Witt 1998), informed by her subjective perception or *framing* of an opportunity, conditions the decision on whether to pursue the opportunity and, if so, *how* to pursue it. This implies that the discovery and exploitation of opportunities are inextricably linked (Buenstorf 2007). Entrepreneurial business conceptions have important coordinative and motivating functions in a firm (Witt 1998; Buenstorf 2007). Successful entrepreneurs are able to share and communicate the business conception with their employees and stakeholders. A shared business conception provides meaning to the firm’s routines, thus facilitating the coordinated transfer and adaptation of routines within the firm.

In contrast to “pure” entrepreneurship research, we are focused in this study on how the discovery of an opportunity and the creation of an opportunity *can be linked* at the fuzzy front end of opportunity development on the basis of *collaborative management research*. Is it possible to resolve the exploration/exploitation – dilemma (March 1991) and improve the *ambidexterity* (Gibson & Birkinshaw 2004; Simsek et al. 2009; Lavie & Rosenkopf 2006) of an organisation through collaborative management research? How it is possible to support opportunity development (Dimov 2007) and especially business conception and framing at the fuzzy front end of innovation through collaborative management research? On what theoretical and methodological basis it is possible to support opportunity development and business conception and framing in a positive and constructive way at the fuzzy front end of innovation? How it is possible to create *practically relevant* and *future-oriented* knowledge on the basis of collaborative management at the fuzzy front end of opportunity development?

The problem is that it is generally assumed that the creation of future-oriented, practically relevant knowledge on the basis of rigorous research is an inaccessible, impossible or even incorrect mission (Argyris & Schön 1991; Kieser & Leiner 2012). For the competent consultant it is probably possible to contribute to the decision-making of a particular firm. But in this case there is no question of scientific knowledge and research. On the other hand, it is possible to produce scientific knowledge concerning the strategies or business models of the companies

(Mintzberg et al. 1998; Teece 2010). But this kind of knowledge and information does not necessarily contribute sufficiently to the future-oriented decision-making of a particular company. It is generally observed that management studies are typically *ex post* rationalisations of historic events (Tsoukas & Knudsen 2002). In addition, some researchers (Kieser & Leiner 2012) suggest that crucial assumptions of collaborative research do not hold, including the assumption that scientific and practical perspectives can be combined, and that a trade-off between rigour and relevance can be avoided.

In the following it is assumed that the apparent contradiction between discovery and creation, exploration and exploitation, and relevance and rigour is possible to overcome or transcend by utilising, elaborating and expanding the sensemaking perspective (Weick 1979; Gephart et al. 2010; Sandberg & Tsoukas 2014). Expanding the perspective in this context means that the processual and evolutionary perspective must be complemented by substantive conceptions. Conceptions are necessary for organising otherwise meaningless or ambiguous information into significant agendas and action plans (Witt 1998). Below we utilise a “Service-dominant logic” (Vargo & Lusch 2004) as a complementary conceptual framework.

In the following we assume that new business opportunities *usually* develop in an evolutionary way by a process of trial and error, learning-by-doing, and enacted sensemaking (Weick 1979; Weick 2001, 2003). The goal of the research presented here is not to analyse the evolution of business opportunities and markets as such, but instead to reveal possibilities of influencing this development consciously and systematically by cooperation between practitioners and researchers. At the centre of the study is the issue of productive cooperation between decision-makers and researchers (Splitter & Seidl 2011). How can the process of developing new business opportunities be improved, developed and accelerated collaboratively by linking practical experience and academic expertise together? How can the myopia that is often experienced when searching for new business opportunities (March & Levinthal 1993) be mitigated or even avoided when the issue is approached with a vibrant dialogue of scientific knowledge and practical experience? To what extent it is possible to use the service-dominant logic as an orienting framework for the development of new business opportunities in nascent markets (Santos & Eisenhardt 2009)?

2.1 Business opportunities and market relations as enacted

According to the traditional functionalist perspective (Burrell & Morgan 1979), the competitive success of a company in the market depends on its ability to adapt its solutions and activities to the demands set by its environment. The company itself, as well as its environment, are viewed as pre-existing structures or systems. It is up to the company to adapt to the restrictions and demands set by the forces of the pre-existing environment. If organisational structure is not adapted to its context, then opportunities are lost, costs rise, and the maintenance of the organisa-

tion is threatened (Child 1972, 8).¹ Management has the task of observing “objective” changes in the environment and adapting the structure, activities and strategy to fit the evolving demands of the environment. This view emphasises recognition of what *already exists*. Environmental analysis thus entails *discovery*, or finding things that are already somewhere waiting to be found. Strategy is defined as the fit between an organisation and its environment (Smircich & Stubbart 1985, 725).

According to the non-functionalist and constructionist perspective, a company, its business environment, and environment including customers and other stakeholders are built interactionally, in parallel, and co-evolutively (cf. Lewin & Volberda 1999; Normann 2001). Thus, a company can affect the development of its business environment in many ways (cf. Luksha 2008; Santos & Eisenhardt 2009; cf. Jaworski et al. 2000). It can have an impact on the creation of new customer relationships and markets by strategic choices (Child 1972). The reality of the enterprise is socially constructed and enacted (cf. Normann 2001, 286).

The determinist and objectivist view of the relationship of an organisation and its environment are closely linked to a traditional view of how reality and knowledge are constituted (Tsoukas 1998). A “representational” view construes an object of study as having its own intrinsic nature. Management research guided by this assumption has tended to view organisations as freestanding entities, having a single, given identity which emanates from the intrinsic properties organisations are supposed to have. In this way of thinking, it is difficult to relate organisations to their environments except externally. This means that the identity of an organisation as a distinctive collective entity is thought to be independent of the environment in which it is embedded. What such a conceptualisation excludes is the consideration of the organisational environment as a repository of meanings providing the key self-understanding by virtue of which important organisational practices are constituted (Tsoukas 1998, 797). According to the constructionist and enactment perspective, the relationship between business organisations and their environments is internal rather than external: the identity of organisations is derived not so much from some intrinsic organisational properties but from the place that organisations have in a historically developed social matrix of relations and intersubjective meanings. In short, organisations and their environments are mutually constituted (Tsoukas 1998).

The enactment perspective (Weick 1979; Smircich & Stubbart 1985) underlines the fact that organisation and environment are created together through the social interaction processes of key organisational participants. From an interpretative view, *separate objective environments simply do not exist* (Burrell & Morgan 1979). Organisations and environments are convenient labels for patterns of activity. What people refer to as their environment is generated by organised *actions* and accompanying intellectual efforts to *make sense out of these actions*. The

¹ According to Child (1997), the strategic contingencies perspective, the ecological approach and the institutional perspective are examples of the functional paradigm. All of these approaches regard environmental conditions as givens ultimately determining organisational characteristics. Put simply, they stress *environmental selection* rather than *selection of the environment*.

character of this produced environment depends on the particular theories and frameworks, patterns of attention, and affective dispositions that are supplied by the actor-observers (Smircich & Stubbart 1985).

Along with the enactment perspective, the theory of self-referential social systems (Luhmann 1995) is based on the assumption that each system has its own environment. As Vos (2002, 26) notes, this is a different conception to the system/environment distinction because within open systems theory, on which the paradigm of adaptation is based, systems and their environments are inclusive, while within self-referential systems theory they are exclusive (Figure 2).

The implication of this new conception of the system/environment distinction is that systems are no longer part of their environment (Vos, *ibid.*). Self-referential systems have their own environment and the unity of the distinction between system and environment is regarded as “world” or “world economy”.

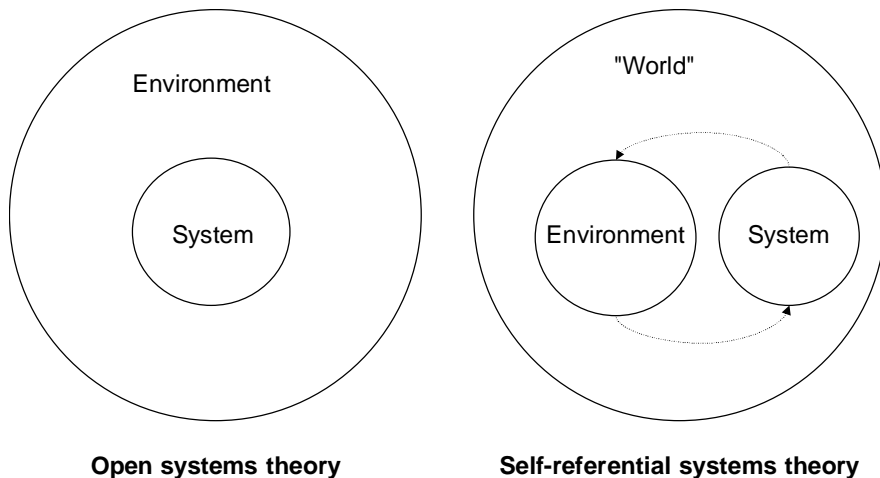


Figure 2. System/environment distinctions of OST and SST (Vos 2002, 26).

Enactment implies a combination of attention and action on the part of the organisational members. Processes of action and attention differentiate the organisation from the not-the-organisation (the environment). An enactment model implies that an environment which strategists can make sense of, for example, has been put there by strategists' patterns of action – not by perceiving the environment, but by a process of making the environment. In sum, managers and other organisation members create not only their organisation, but also their environment (Smircich & Stubbart 1985, 727).

From an interpretative view, the term [task-] environment refers only to a specific set of events and relationships noticed and made meaningful by a specific set of strategists. An interpretative and enactment perspective does not treat the environment as separate objective forces that impinge on an organisation. Instead, the environment refers to the ecological context of thought and action, which is not

independent of the observer-actors operations, practices, theories and experiences (Smircich & Stubbart 1985). Organisations may seem *ex post facto* well matched to their environment because they have modified that environment to make it more suitable (Tsoukas 1998; Granovetter 1992, 49). Organisations not only react but enact their environments (Daft & Weick 1984), and a particular enactment is crucially shaped by the process through which it occurs.

Concerning the definition of market boundaries, Brooks (1995) has distinguished two perspectives in the firm's environment that are prevalent in the management literature. The first is called the natural market approach. The natural market approach is associated with the structure-conduct-performance framework in industrial organisation (IO) economics. According to this perspective, markets can be defined formally as sets of customers served by sets of suppliers, where both sets are defined in terms of similarity of products and services and geographic location. In contrast, the enactment perspective refers to an approach based on action and attention, in which markets are enactments emerging from past interactions between each firm and its environment. This second approach attempts to determine the likely limits of a manager's attention to the competitive dimension of their firm's environment. The boundaries of markets defined in this way are idiosyncratic to each firm. In other words, companies, their core competencies, and their operating environment are unique and idiosyncratic (Brooks 1995; Knudsen 1995).

The term enactment suggests that the phenomenon being interpreted by the perceiver is also created by the perceiver (Lant 2002). For example, as Lant (*ibid.*) describes it, one's interpretations of the stock market valuation will influence one's investment actions and these investment actions in aggregate influence the market valuation. In other words, one's actions and interpretations influence one another recursively. One's interpretations of this valuation are also embedded in a history of one's own investment decisions. Thus, from an enactment perspective, the stock market valuation that one interprets is, in fact, different from the valuation as experienced by every other investor.

Through their actions and selective attention, organisations create the environments to which they respond (Weick 1979; Brooks 1995). The roots of this view can be tracked back to Dill's (1958) work on organisational environments,² to Levine's and White's exchange perspective, and the concept of organisational domain,³ and to Simon's (e.g. Simon 1961, 1982, 1991) notions of bounded rationality. Organisational actions are outcomes of decisions made by decision-makers at various hierarchical levels in the organisation. If the relationships between these actions and the market environment are to be understood, then mar-

² Dill (1958) distinguishes task environment, task and activities. That part of the total environment of management which is potentially relevant to goal setting and goal attainment can be denoted as the task environment. Task means a cognitive formulation consisting of a goal and usually constraints on behaviours appropriate for reaching the goal.

³ "In operational terms, organizational domain in the health field refers to the claims that an organization stakes out a field for itself in terms of 1) disease covered, 2) population served, and 3) services rendered" (Levine & White 1961, 597).

kets must be defined in terms of the focus of attention of organisational actors (Brooks 1995, 538).

In Weick's Enactment-Selection-Retention framework (Weick 1979), the information stimuli to which an organisation is exposed result from past strategic actions which bracket and construct the environment. This means that actions taken by the firm in the past serve to focus the attention of managers, and that their perception of the environment is built up to a large degree by their observation of the outcomes of past actions. In this sense, strategic actions are prods or experiments, which serve to provide information to managers about the conditions in which they operate (Brooks 1995, 538). This means that future actions, to the extent that they respond to environmental considerations, are taken in the context of the firm's enacted environment rather than in the context of any externally defined environment.⁴

In sum, the key to the enactment perspective is that the enacted environment is shaped by an interpretative process which includes a cycle of action, attention to the consequences of the action in the environment, adjustment of organisational beliefs about the environment, and action on the basis of those beliefs (Daft & Weick 1984; Weick 2003). Actions are the funnel through which managers in organisations learn about their environments (Brooks 1995, 539). Most of the time, doing business involves acting first and thinking (making sense, reflecting) later (Vos 2002).

According to the constructionist view, companies and organisations learn in a complex and equivocal context primarily by the process of learning-by-doing, trial and error, and by the principle of "in the beginning was the deed" (Anscombe & Von Wright 1969; Weick 1979; Vos 2002). On the other hand, sensemaking, rationalisation and legitimation take place retrospectively. In other words, people are able to understand what they have been doing only after they have done it (Weick 1995a; Sandberg & Tsoukas 2014). In addition, the accumulated experiences of organisational operations and actions are crystallised over time through interpretations of observed effects to implicit mental models, schemes and frames that direct the decision-making and choices of the organisation (Denzau & North 1994; Aoki 2007). Given bounded rationality and environmental complexity, organisational sensemaking tends to crystallise into cognitive frames that reduce ambiguity and facilitate decision-making (Santos & Eisenhardt 2005, 500). These frames of reference function as filters of information (Pralhad & Bettis 1986; Bettis & Prahalad 1995). On the one hand, they create cognitive coherence and guide subsequent actions. On the other hand, organisational attention is focused only on data and information deemed relevant by the dominant frames of reference (dominant logic). Other data and information are largely ignored. Relevant data and information are filtered by the dominant logic and by the analytic procedures managers use to aid strategy development (Bettis & Prahalad 1995, 7). Dominant logic (frames of reference) both enables and constrains the ability of the organisation to learn. In other words, it is a primary determinant of organisational intelligence (ibid. 8).

⁴ Empirical studies related to enactment view: (Porac et al. 1989, 2011).

2.2 Expanding the horizon of opportunities through collaborative research

The constraints and restrictions of learning-by-doing (trial and error) and through the processes of enactment-selection-retention come out particularly clearly in a complex and constantly changing environment (cf. Bogner & Barr 2000). First of all, this process is relatively slow, difficult and resource-demanding. This process of enactment, selection and retention generates new knowledge and understanding typically *ex post*, by reflecting activities and experiences after they have already happened. Secondly, this process is history- and path-dependent (Bogner & Barr 2000; Cohen & Levinthal 1990), local and myopic (March & Levinthal 1993). The process may strengthen views and patterns that are already known in the company, but might not increase knowledge of qualitatively new options that are available (Leonard-Barton 1992).

The path dependence of knowledge and learning means that existing knowledge, cognition and learning may inhibit the creation of new business opportunities (Berends et al. 2007). People and firms have a tendency to pigeonhole (Perrow 1970), that is, to keep on doing the same thing in situations where it is not effective anymore. Working for years within a certain logic of operation may make managers “blind” to other possibilities and constrain innovative thought. This is strengthened by the close association of knowledge with identity. Organisational members create their identities on the basis of what they know how to do well. Furthermore, since learning is enabled by prior knowledge (Cohen & Levinthal 1990: absorptive capacity), there is an inclination to learn more in areas one is already familiar with. If this is not countered, people get trapped in existing learning trajectories and fail to learn in new areas (March & Levinthal 1993). As a result, core competencies may turn into core rigidities (Leonard-Barton 1992).

However, as Brennan (2006) notes, firms are not simply passive victims of their environments, but strive to alter competitive market conditions in their favour. The designing of conscious activities by a market actor to alter the current market in its favour elevates the central research avenue: how can a market actor influence the market configuration (Storbacka & Nenonen 2011, 246). A market actor hoping to influence a market configuration can be labelled a “focal actor”. A focal actor hoping to influence market practices in a market configuration can do this by working on its mental and business models. Mental models relate to how the focal actor sees (itself and) the relevant market, and they gain visible form as they are translated into different value-creating practices in the business model. Market practices are the results of the interaction between individual market actors’ business model elements (Storbacka & Nenonen 2011).

The question remains: how and with which preconditions – if at all – is it possible for a company to shape markets and market configurations in a purposeful way (cf. Luksha 2008) in directions that favour its own business conditions and opportunities? The path-dependent logics of operation and mental models may be among the key factors that restrict the development of novel solutions of a company. Senge (1990; Slater & Narver 1995) differentiates between adaptive and gen-

erative learning. Adaptive learning occurs within a set of recognised and unrecognised constraints that reflects the organisation's assumptions about its environment and itself. Generative learning occurs when the organisation is willing to question long-held assumptions about its mission, customers, capabilities or strategy. It requires the development of a new way of looking at the world based on an understanding of the systems and relationships that link key issues and events (Slater & Narver 1995; Senge 1990).

Besides a company's own history, another key factor that restricts the development of novel and innovative solutions can be that identifying and developing new business opportunities requires a sufficient understanding of dynamically developing complex systems (Roth & Senge 1996). In principle, the difficulty of decision-making increases when either dynamic complexity or behavioural complexity increases. Taken together, the dimensions of dynamic and behavioural complexity describe a whole problem space (Roth & Senge 1996). When both dynamic and behavioural complexity are high, the challenges can be overwhelming.

Behavioural complexity characterises the extent to which there is diversity in the aspirations, mental models and values of decision-makers (Roth & Senge 1996). High behavioural complexity is characterised by deep conflict in assumptions, beliefs and perspectives. Under conditions of high behavioural complexity, it is difficult to get people to agree on what should be done because they see the world differently, and because they have different preferences and goals. On the other hand, when behavioural complexity is low, people share underlying values from which they can develop common perspectives and alignment in their actions.

Dynamic complexity characterises the extent to which the relationship between cause and resulting effects are distant in time and space. Large complex organisations are examples of high dynamic complexity. In situations of high dynamic complexity, the causes of problems cannot readily be determined by first-hand experience, and few, if any, of the actors in the system may have a sound understanding of the causes of the problems. When dynamic complexity is high, management interventions tend, at best, to improve matters in the short term, but often lead to more problems in the long term. Even worse, many of the most pressing problems people face are actually the unintended consequences of past "solutions". Low dynamic complexity occurs in situations where it is easier to link actions with outcomes. When a supervisor, for example, working with an operations analyst, implements changes in the order in which tasks are performed on a production line, it is generally possible to directly observe the impact of those changes on production rates (Roth & Senge 1996).

Decision-makers have great difficulty learning from experience in the face of dynamic complexity (Roth & Senge 1996). In experimental studies, decision-makers take actions which are ineffective and their effectiveness does not improve with repeated experimental trials, because people's cognitive maps are much simpler than the real-life systems they encounter (Diehl & Sterman 1995). Where the world is dynamic, evolving and interconnected, we tend to make decisions using mental models that are static, narrow and reductionist (Sterman 2006).

Organisations are faced with *tame problems* when problems of low dynamic complexity combine with low behavioural complexity (Rittel & Webber 1973; Roth & Senge 1996). Tame problems can be solved using conventional analytical methods involving data collection and static analysis that do not require the consideration of delay, multiple feedback and non-linear relationships. Tame problems can be solved in isolation. They are traditionally broken down into parts which can be solved independently by different groups of people. Solutions to different parts of larger problems can then be integrated into an overall solution, because there are no significant dynamic interconnections between the parts, and different actors share common values and goals.

Wicked problems are those where behavioural complexity is high, where complex underlying social realities are inescapable, and where different groups of key decision-makers hold different assumptions, values and beliefs which are in opposition to one another (Rittel & Webber 1973; King 1993; Roth & Senge 1996). There is “the loss of orientation” (Geertz 1973) that arises in the absence of an overriding social theory, world view or ethic. When there is no shared worldview or ethic, people see the situation from different perspectives and plan strategies for what could and should be done based on different mental models. Moreover, these different mental models remain in the background and are typically “undiscussable”.

Messes (Ackoff 1974) arise when dynamic complexity is high. What complicates organisational decision-making is that behavioural complexity and dynamic complexity coexist and interact in what can be termed “wicked messes”. The fact that problems cannot be solved in isolation from one another makes it difficult to deal with people’s differing assumptions and values. Systems of interlinked problems interact with the misunderstandings, divergent assumptions and polarised beliefs of different groups. Improving communication and trust among different camps is not enough. People are still likely to focus on symptoms rather than the deeper causes and will pursue low-leverage changes.

The territory of wicked messes is crucial for three reasons (Roth & Senge 1996). First, dynamic and behavioural complexity characterise the most vexing social problems, both within organisations and within society. Examples include environmental problems and the gradual decline of a corporation’s vitality and competitiveness. Second, such problems largely go unrecognised. There is a tendency to treat these problems as if they had either purely technical or purely behavioural solutions. In other words, there is a tendency to presuppose that the key is simply to gather the right data and analyse it correctly, or to get people communicating more effectively. Lastly, theories, tools and methods for addressing such problems are largely underdeveloped.

Van de Ven and Johnson (2006) define *engaged scholarship* as a collaborative form of inquiry in which academics and practitioners leverage their different perspectives and competencies to coproduce knowledge about a complex problem or phenomenon that exists under conditions of uncertainty found in the world.

Research focuses on the question *how the creation of new business opportunities can be improved, developed and expanded through the conscious and sys-*

tematic collaboration between practitioners and researchers. How and under which preconditions can the efficiency and impact of such processes be improved by practice-oriented research and practically relevant scientific knowledge? How can the processes of exploration, invention and creation of new business opportunities be shortened and accelerated (Roth & Senge 1996) by combining a practical and scientific point of view? Is it possible to mitigate or avoid the myopia related to coming up with new business opportunities (March & Levinthal 1993) by yielding research and scientific knowledge?

Evolutionary and processual perspectives (Weick 1979; Hernes 2008) are directed at explaining the way things emerge and change over time. As Witt (1998, 162) notes, in dealing with the role of cognition, they tend to reflect on its “procedural” rather than “substantive” aspects. In other words they tend to reflect on the role of “routines” rather than that of “conceptions”. This ignores the fact that conceptions are necessary for organising otherwise meaningless or ambiguous information into significant agendas and action plans. The use of growing knowledge and experience, technological change and commercial reorganisation all require imagining what to achieve and how to do it (Witt 1998; see also Loasby 2001; Shackle 1972, 1979). Expanding the sensemaking perspective means that the processual and evolutionary perspective must be complemented by substantive imaginations and conceptions. In addition, it can be said that business opportunities are not pre-existing, but have to be socially constructed. The challenge, in terms of creating value, is not one of evaluating and diagnosing features of the external circumstance, but of making potential solutions to a certain problem *relevant to others* (Korsgaard 2011).

In the following it is assumed that a service-dominant logic (Vargo & Lusch 2004, 2008b; Michel et al. 2008) can be utilised at least to some extent as a conceptual device and an orienting frame for new business opportunity development. Service-dominant innovation drives value-in-use (Michel et al. 2008), which departs from the previous conceptualisation of value-in-exchange. According to this view, value is always jointly and reciprocally co-created. It results not from a series of one-way activities, but rather from interactions and communications among service providers and beneficiaries.

2.3 SDL and its applicability in nascent markets

According to Vargo and Lusch (Vargo & Lusch 2004; Lusch et al. 2007), effective competition through service has to do with the entire organisation viewing and approaching both itself and the market with the service-dominant logic (SDL). It is a logic that is grounded in a commitment to collaborate in processes with customers, partners and employees. It is a logic or perspective that recognises the firm and its exchange partners who are engaged in the co-creation of value through reciprocal service provision.

Goods-dominant logic views the unit of output (goods, products) as the central components of exchange. Modern economic thought embraced objects (matter,

goods) as having innate properties (utility) (Lusch et al. 2007). SDL superordinates service (the process of providing benefit) to products. Traditional logic views goods (tangible output embedded with value) as the primary focus of exchange, and “services” as either a restricted type of intangible good or an add-on that enhances the value of a good (goods-dominant logic) (Vargo & Lusch 2008a). The second logic considers “service” (singular) – a process of doing something for another party – in its own right, and identifies service as the primary focus exchange activity (service-dominant logic). In SDL, goods continue to play an important, service-delivery role.

SDL has been the subject of great conceptual debate over the past years. However, as Lamberti and Paladino (2013) notes, we are now clearly at a crossroads where *application is required* to cement its *practical relevance* to the organisation and its performance. Despite a large number of studies that have analysed the conceptual foundations of SDL, research on the applicability and utility of SDL for management practice is almost negligible (Lamberti & Paladino 2013).

One aim of the article is to enrich, deepen and complicate (cf. Bartunek et al. 1983; Dehler et al. 2001) the debate on service-dominant logic (SDL). The article focuses on the question of the practical relevance and usefulness of SDL in corporate decision-making and business development (cf. Kowalkowski 2010; Karpen et al. 2012). The question of practical relevance is approached from the point of view of a traditional manufacturing company aiming at emerging, nascent markets (Santos & Eisenhardt 2009) with a new kind of energy management solutions. The question is approached from the social-constructionist point of view (cf. Whitley 1992; Penalzoa & Venkatesh 2006; Edvardsson et al. 2011).

From the perspective of this study, the main foundational premises (FP) of SDL are the following (Vargo & Lusch 2004, 2008b; Ballantyne et al. 2011):

- FP1: Service is the fundamental basis of exchange
- FP6: The customer is always a co-creator of value
- FP7: An enterprise can initiate or participate in developing value propositions as reciprocal promises of value, but beneficiaries will always determine what is of value in their own terms (Ballantyne et al. 2011)
- FP8: A service-centred view is inherently customer-oriented and relational
- FP10: Value is always uniquely and phenomenologically determined by the beneficiary.

The idea and concept of service-dominant logic has been developed mainly within marketing research. In addition, the debate has been at a very abstract level without concrete empirical connections to the operation and decision-making in traditional, goods-offering technology companies – and without connection to the dominant logic of their decision-making and operation (cf. Prahalad & Bettis 1986; Bettis & Prahalad 1995). The dominant logic is the prevailing wisdom within the company about how the world works, and how the firm competes in this world to make money (Chesbrough 2003). This logic helps to reduce ambiguity and make sense of complex choices faced by firms, and helps new employees learn how the

firm operates. As the term implies, the logic dominates alternative forms of logic that take a different view of the world. People within firms do not re-evaluate their logical approach every time new information comes in. On the contrary, they search for ways to apply the dominant logic in order to interpret the new data. The shared assumptions behind the dominant logic will also help to disseminate the meaning of the new information to others. Although dominant logic is useful and beneficial in coordinating the actions and decisions in a variety of situations, it comes at a cost. The learnt business model constrains other choices, removing certain possibilities from serious consideration. Over time, the business becomes more entrenched in its current model, and the firm is not able to recognise the information that may point the way to a different and perhaps better model (Chesbrough 2003).

As discussed above, the debate on SDL has taken place without regard to the competencies, dominant logics and constraints of traditional technology companies. In addition to that, the discussion has been based on the assumption that markets are predefined and exist (cf. Sarasvathy 2001).⁵ The question is, how can SDL be applied, if at all, in a situation where the customers, their needs and overall markets are just in the process of becoming (Tsoukas & Chia 2002; Clegg et al. 2005)? How can the SDL approach be applied in a context where a company is just entering emerging and developing nascent markets and fields? Nascent markets are business environments in an early stage of formation, often appearing in emerging organisational fields (Santos & Eisenhardt 2009; Möller & Svahn 2009). Nascent markets are characterised by an *undefined or fleeting industry structure*, *unclear or absent product definitions*, and a *lack of dominant logic to guide actions*. Nascent markets constitute unstructured settings with extreme ambiguity. Ambiguity can be defined as a lack of clarity about the meaning and implications of particular events or situations. Ambiguity arises from unknown cause-effect relations and lack of recurrent, institutionalised patterns of relations and actions (Aldrich & Fiol 1994).

The adoption of SDL in the operation and decision-making of a company is practically possible only after the concept of SDL and its impacts and opportunities are envisioned and understood. This may be challenging to a company operating in a traditional goods-dominant logic (GDL). The modes of thinking and operating in a company develop evolutionarily and path-dependently (Garud & Karnoe 2001; Sydow et al. 2009; Schienstock 2007) through learning-by-doing (enactment). In practice, this implies that the learning and adoption capabilities of companies are limited (Cohen & Levinthal 1990), which in turn implies that new logics (e.g. SDL) are impossible to “import” as such to the traditional company’s decision-making (Seidl 2007). The company has to unlearn (Starbuck 1996; Tsang & Zahra 2008) from a traditional goods- and technology-based mode of operation and re-orientate itself towards a service-centric mindset. This learning and transformation process requires time.

⁵ As Sarasvathy (2001) notes, the starting point of mainstream economics and management theories is the *assumed existence* of central artefacts and contexts of business within which management decisions take place. In other words, none of these decisions involves the *creation* of artefacts such as firms, markets and economies.

3. Design of the study

In this chapter, the design of the study is introduced. First, we describe the nature and character of the study. Second, we present the methodological solutions of the study. Then, the empirical base and the collection of material are discussed.

As a whole this study can be characterised as an *assumption-challenging* and “path-setting” approach in contrast to “gap-spotting” approach (Alvesson & Sandberg 2011; Sandberg & Alvesson 2011; Alvesson & Sandberg 2013). As Alvesson and Sandberg (2013) note, it is meaningful to actively cultivate a more critical and path-setting scholarly orientation to research. One crucial step is to engage in debates and reflections of what the purposes of research are and how more innovative and influential methodologies and theories can be produced. In order to cultivate a more path-setting scholarly attitude, it makes sense to use and develop alternative methodologies for developing theories with a focus on breaking away from the reproduction of established frameworks (Alvesson & Sandberg 2013). The main features of a “gap-spotting” versus path-(up)setting scholarship mode can be described as follows (ibid.).

Table 1. The main features of a gap-spotting versus a path-(up)setting scholarship mode (Alvesson & Sandberg 2013, 148).

<i>Basic features</i>	<i>Gap-spotting mode</i>	<i>Path-(up)setting scholarship mode</i>
Main focus in theory development	Consensus-seeking; theory development through incremental additions to existing literature, and ignorant about own prejudices	Consensus-challenging; theory development by challenging assumptions underlying existing literature, and strong awareness of own prejudices
Scope	Researchers often pigeonhole themselves (and subject matters) into a narrowly confined and well-mastered area	Researchers often span across areas and theoretical frameworks in their search for new insights

Research outcome	Additive and incremental theories – often dull and formulaic	Frame-bending theories – often seen as interesting and influential, sometimes controversial
Publication outlets	Journals in designated journal lists	Journals, books, book chapters, conference proceedings

The aim of the study is to contribute to the theorising (Weick 1989, 1995b; Feldman & Orlikowski 2011) and theorising strategies (Langley 1999) in management research. As Alvesson and Sandberg (2013, 140) argue, management research should focus more on the production of more innovative and influential ideas and theories that can make a significant difference to both theory and organisational practice. The majority of contemporary management research relies on a form of gap-spotting and gap-filling as their overall research logic. An alternative to this is to formulate research questions by challenging some dominant assumptions in existing research (Alvesson & Sandberg 2013, 144; 2011; Alvesson & Kärreman 2007; cf. Davis 1971). Gap-spotting means that the assumptions underlying existing literature for the most part remain unchallenged. In other words, gap-spotting tends to underproblematise existing literature and therefore reinforces rather than challenges already influential theories (Alvesson & Sandberg 2011). An alternative way of problematisation can be seen as an endeavour to understand how and to what extent it might be possible to think differently, instead of what is already known. Problematisation aims at questioning the assumptions underlying existing theory in order to be able to formulate more informed and novel research questions (Sandberg & Alvesson 2011, 32).

The study aims first and foremost to challenge the assumption that the creation of future-oriented, practically relevant knowledge on the basis of rigorous research is an inaccessible, impossible or even incorrect mission (Kieser & Leiner 2012 as a clearest example). In addition, the study aims to challenge the assumption (Kieser & Leiner 2012) that crucial premises of collaborative research do not hold, including the premise that scientific and practical perspectives can be combined, and that a trade-off between rigour and relevance can be avoided.

3.1 Methodology

The empirical case study research was carried out by applying the principles of engaged scholarship (Van de Ven & Johnson 2006; Van de Ven 2007). Engaged scholarship can be defined as a collaborative form of inquiry in which academics and practitioners leverage their different perspectives and competencies so as to coproduce knowledge about a complex problem or phenomenon that exists under conditions of uncertainty found in the world. The method of engaged scholarship is based on the concept of arbitrage – a strategy of exploiting differences in the kinds of knowledge that scholars and practitioners can contribute to a problem of interest (Van de Ven & Johnson 2006). Engaged scholarship can be defined as a

participative form of research for obtaining the different perspectives of key stakeholders (researchers, users, clients, sponsors and practitioners) in studying complex problems. By involving others and leveraging their different kinds of knowledge, engaged scholarship can produce knowledge that is more penetrating and insightful than when scholars or practitioners work on the problems alone (Van de Ven 2007). In the absence of unambiguous foundational truth in the management and organisation research, the only sensible way forward can be conscious pluralism. Researchers construct models that represent or map intended aspects of the world and compare them with rival plausible alternative models. Research knowledge advances through a comparison of the relative contributions and perspectives provided by different models (Van de Ven & Johnson 2006).

Van de Ven (2007, 145-) also distinguishes between variance and process models of research. A research model is an instrument for linking theory with data in terms of function, representation and learning. The variance type of research is interested in “what” questions: what are the antecedents or consequences of the issue? Processual research is interested in “how” questions: how does the issue emerge, develop, grow and/or terminate over time? These “what” and “how” questions represent a fork in the road for designing and conducting social research. These two research questions require different methodologies that are based on fundamentally different assumptions and epistemologies.

“What” questions entail a variance model or outcome-driven explanation of the input factors (independent variables) that statistically explain variations in some outcome criteria (dependent variables) (Van de Ven 2007, 145). “How” questions require a process model or event-driven explanation of the temporal order and sequence in which a discrete set of events occur based on a story or historical narrative (*ibid.*). In terms of causality, “what” questions require evidence of covariation, temporal precedence, and absence of spurious associations between the independent and dependent variables. “How” questions require narratives explaining an observed sequence of events in terms of a plot or an underlying generative mechanism that has the power to cause events to happen in the real world, and the particular circumstances or contingencies that occur when these mechanisms operate. Process studies are fundamental for gaining an appreciation of dynamic social life, and developing and testing theories of how social entities adapt, change and evolve over time (Van de Ven 2007). The study presented here is processual in nature, and focuses on “how” questions. In particular, we wish to explore how to accelerate the learning of the company related to the identification and development of new business opportunities in nascent markets.

The aim of the research is to produce practically and scientifically relevant knowledge (Argyris 1970; cf. Van de Ven & Johnson 2006; Pettigrew 2001; Corley & Gioia 2011). The two key notions arising from adopting a practice view of knowledge are (Corley & Gioia 2011): a) that knowledge should be treated as a process, and b) that the production of knowledge should be treated as a recursive dialogue between theorists and reflective practitioners. Practice-orientation implies that research focuses on the management of the future (Corley & Gioia 2011; Tsoukas & Shepherd 2004). Corley and Gioia (*ibid.*) use the term theoretical pres-

science. Prescience involves anticipating and influencing the type of managerial knowledge needed to deal with coming organisational concerns. Theoretical prescience can be defined as the process of discerning what we need to (and can) know and influencing the intellectual framing of what we need to (and can) know to enlighten both academic and reflective practitioner domains (cf. Corley & Gioia 2011, 23). Prescience involves not only sensitivity towards developing trends but acting to influence those trends via prospective sensemaking and sensegiving (Corley & Gioia 2011, 24). Prescience encourages scholars to become not only early sensemakers but also early sensegivers – that is, not only to see the coming wave but to attempt to shape the conceptual conversation by influencing the premises on which conversation is predicated (Corley & Gioia 2011, 28).

Generally, any kind of knowledge would be considered relevant to managerial practice, to the extent that it makes some kind of difference to decision-making, whatever that difference might be. Hence, the term relevance as such does not imply a particular kind of difference. However, if we take decision-making as a main point of reference, we can distinguish different forms of practical relevance according to the three different phases of decision-making: definition of the decision situation, selection of one of the alternatives, and enforcement or legitimation of the selected alternative (Nicolai & Seidl 2010). (i) First, knowledge affects how we perceive or construct a decision situation. To the extent that scientific knowledge or research modifies our understanding of decision situations, it possesses what one could call conceptual relevance. (ii) Second, knowledge can influence what courses of action we select within particular decision situations. In that respect, one can speak of instrumental relevance. (iii) Finally, knowledge might be used to legitimate or enforce a chosen course of action. When this is the case, one can speak of legitimitative relevance (Astley & Zammuto 1992; Nicolai & Seidl 2010; van der Meer-Kooistra & Vosselman 2012). In relation to practice and practical decision-making, the study at hand aims at conceptually relevant knowledge. The term conceptual relevance refers to the impact of scientific knowledge on framing and reframing the decision situation in practice.

Nicolai and Seidl (2010; van der Meer-Kooistra & Vosselman 2012) differentiate three forms of conceptual relevance: linguistic constructs, uncovering contingencies, and uncovering causal relationships. Linguistic constructs have the potential to change the way we think and communicate about the practical domain and thus about decision situations. For example, by using metaphors (Morgan 1986; Tsoukas 1991) authors provoke a certain understanding of the decision situation. Metaphors create shared vocabularies and associations. They create a context of understanding. Uncovering or exploring contingencies is related to the discovery of new or alternative courses of action. This form of relevance influences the way in which decision situations are perceived – without determining any particular course of action. Uncovering or exploring causal relationships is related to hitherto unnoticed causal relationships. The uncovering of such relationships may provide practitioners with a better understanding of the decision situation, without spelling out what to do in response to them.

However, it is worth noting that alternative solutions and causal relationships can be approached from the external perspective and/or from the internal perspective. On the other hand, alternative solutions and causal relationships can be approached (deductively) from the theoretical perspective and/or (inductively) from the empirical perspective. In this study we try to approach the question of business opportunity creation and the question of shaping markets from the inside and the outside (Evered & Louis 1981; cf. Vos 2002; Winograd & Flores 1988; Tsoukas & Mylonopoulos 2004). In addition, we approach alternative solutions through “inductive top-down theorizing” (Shepherd & Sutcliffe 2011) in order to inform practical decision-making and to contribute to the theoretical discussion (Eikeland & Nicolini 2011).

Evered and Louis (1981; see also Gioia & Chittipeddi 1991; Gherardi 2009; Van de Ven 2007) differentiate two research approaches: inquiry from the outside and inquiry from the inside (from within). Inquiry from the inside and inquiry from the outside can both serve research purposes, but in different ways and with different effects. Inquiry from the outside is characterised by the researcher’s detachment from the organisational setting under study. In contrast, inquiry from the inside carries with it the assumption that the researcher can best come to understand the reality of an organisation by being there: by becoming immersed in the stream of events and activities, and by becoming part of the phenomena of study (Evered & Louis 1981, 388-389.). The aim of inquiry from the outside is to develop understanding of classes of organisational phenomena, rather than to focus on particular instances in particular settings. Inquiry from the inside, in contrast, is directed towards the historically unique situation, and the full reality of the whole here and now. The situationally relevant results of inside research can serve both practical and theoretical purposes. They can provide guides for action in the immediate situation and inputs in developing hypotheses to guide inquiry from the outside (Evered & Louis 1981, 390). As Evered and Louis (1981) note, there are several similar dichotomies presented in the literature: thick/thin descriptions, logic-in-use/reconstructed logic, knowing how/knowing that, endogenous/exogenous perspective, etc.

Many authors (Evered & Louis 1981; Van de Ven 2007) have emphasised the complementary nature of knowledge gained from the inside and the outside. For example, research from the inside provides a concrete grounding of the research problem in a particular situation, while research from the outside provides empirical evidence of the boundary conditions of the problem. Both kinds of knowledge are needed to ground a research problem up close and from afar. In particular, it is worth noting that linking the different kinds of knowledge produced by research from the inside and the outside may be critical to bridging theory and practice (Van de Ven 2007, 270).

In the following, inquiry from the inside and from the outside are used as complementary perspectives concerning the question of “how the create order out of chaos” (Prigogine & Stengers 1985) and especially concerning the question of how it is possible to create productive new communicative connections (Luhmann 1995) – that is to say new business relationships – with heterogeneous autono-

mous actors in nascent markets. Concerning the prospective sensemaking, inquiry from the inside and inquiry from the outside both provide an opportunity to support perspective-making and perspective-taking (Boland & Tenkasi 1995). Boland and Tenkasi (1995) refer to communication that strengthens the unique knowledge of a community as perspective-making, and communication that improves its ability to take the (lack of) knowledge of other communities into account as perspective-taking.

The aim of management research is to develop more interesting and imaginative hypotheses (Shepherd & Sutcliffe 2011; Alvesson & Sandberg 2013). But, as Shepherd and Sutcliffe (2011) note, this assignment is more easily said than done. Some advocate that theorists should start with generalisations (imagined worlds) and determine if these generalisations apply to specific instances, whereas others advocate that they start with empirical observations of specific instances (the fallen apple) and seek to establish generalisations about the phenomenon under investigation. These processes of organisational or management inquiry are often described as top-down deduction or bottom-up induction, respectively (Shepherd & Sutcliffe 2011).

In the deductive top-down approach, the theorist typically discovers a problem in the literature – anomaly, tension, opposition or contradiction among different perspectives and explanations of the same phenomena – and then sets out to create a theoretical solution to that problem in the form of hypotheses. These hypotheses can then be tested by collecting and analysing data from the phenomenon of interest (Shepherd & Sutcliffe 2011). The inductive bottom-up approach begins at the intersection of a theorist's "general wonderment" and raw data. Theorists pursuing studies using a classic bottom-up approach often take a position of "unknowing", which gives openness and life to the concept or idea such that a theory can emerge from the data. Theory emerges through the process of coding data, classifying it into concepts, and then making the connections between these concepts clear. The emerging theory is then compared with existing theories published in the literature to determine its contribution (Shepherd & Sutcliffe 2011).

Each model of theorising is purported to be limited as a method for generating new organisational or management theories. As a result, scholars have proposed that theorising is enhanced by combining inductive approaches with deductive ones, or vice versa (Shepherd & Sutcliffe 2011). Shepherd and Sutcliffe (2011) propose an inductive top-down model of theorising that combines aspects of deductive, inductive and abductive approaches to theorising. They ground their model in a coherence framework and a pragmatism perspective. The model is top-down in that it is informed by the former research and by the existing literature, but it is inductive in that it begins with the empirical material and data from which a theory is built. Inductive top-down theorising relies on the data and empirical observations themselves to speak to the theorist – through the formation of gists – to focus attention so as to detect tensions, contradictions, blind spots and disorder instead of order. Gists are gestalt-like, holistic representations of the data and require approaching the literature with few preconceived notions (see more details Shepherd & Sutcliffe 2011).

As mentioned previously, we approach the question of business opportunity creation and of shaping markets from the inside (perspective-making perspective) and from the outside (perspective-taking perspective). In addition, we approach alternative solutions through inductive top-down theorising (Shepherd & Sutcliffe 2011) in order to inform practical decision-making and to contribute to the theoretical discussion (Eikeland & Nicolini 2011). Figure 3 below illustrates the methodological solutions of the study.

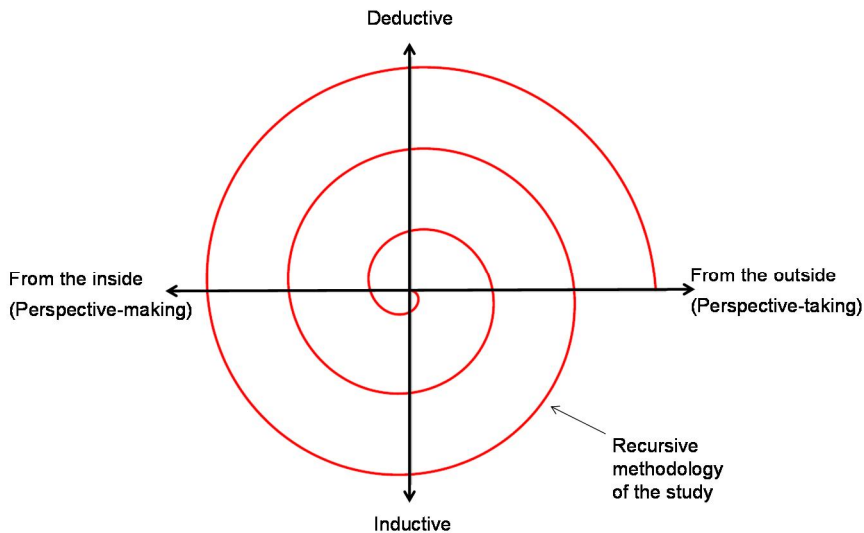


Figure 3. Recursive methodology of the study.

3.2 Case study and empirical material

The empirical point of reference of the study lies in the business development process of a technology company ABB Marine. The company is differentiating its energy management systems business (Energy Efficiency Management, EEM) from a process industry to the marine sector. In this business development process the company can partly utilise prior experience and competencies generated in its process industry serving business unit. The company, its offerings and potential markets are considered more specifically in the case description chapter.

The field research for this study was realised during a one-year period from spring 2011 to spring 2012. The researchers had monthly meetings with key personnel responsible for developing the studied offering in the energy efficiency area. Also, a number of customer interviews were conducted, and the researchers were also allowed to passively participate in weekly teleconferences the company

had with a customer while piloting the system. Five of the interviews were conducted with ABB Marine personnel, and three with ABB Marine customers or partners. Although a large number of people from different organisations were interviewed or otherwise spoken to during data collection, the most frequent contacts were with representatives of ABB Marine. The people that were most closely involved in the meetings and interviews had been assigned to the organisational roles of business manager and business development manager. They had a high degree of freedom in developing the features of the service offering in energy management and energy efficiency in the area of marine solutions.

The empirical material contains memos and notes made by four researchers from a total of 25 distinct events. Most of these sessions were discussions on current issues in service development on energy efficiency solutions with ABB Marine representatives. However, eight semi-structured interviews with company representatives, customers and partners were conducted. Notes from customer teleconferences were also taken. Two to four researchers were present in each event. In addition, various brochures, technical specifications and other material on the proposed solution, as well as publicly available sources on the company, the technological platform, and suggested service components were studied. Analysis was conducted among the researchers during and after the data collection period. Preliminary findings and other thoughts were frequently discussed with company representatives so as to validate, refine or reject them. To piece together the events on a timeline, a chronological log file of all the events (including researcher meetings) was created.

4. The process of offering development – reflective reconstruction and extension

On the case company and technological platform of offering

The case company ABB Marine is a multinational corporation operating mainly in the areas of power technology and industrial automation. ABB Marine has operations in around 100 countries and employs 124,000 people. The main businesses of ABB Marine are Power Products, Power Systems, Discrete Automation and Motion, Low Voltage Products, and Process Automation. The Process Automation business area has a strong foothold in the marine industry, and they are currently in the process of broadening their offering to include a widening set of various service solutions.

The empirical material for this study was collected from a development project on a variety of service solutions enabled by a sophisticated energy management system for use in the marine industry. The company calls this system and the attached services and solutions EEM Advisory Suite. At the very core of the offering is the technological solution. The solution enables real time measurement of a number of variables on a vessel. These variables can be viewed not only in the engine room but also on the bridge, as well as on onshore fleet management facilities. As data is produced in real time, the system provides the crew with instant feedback on their own actions.

The EEM product portfolio consists of on-board modules for energy monitoring and optimisation, and office tools for fleet-wide data analysis (Ignatius et al. 2012). The EEM suite aims to look at the vessel as a whole instead of providing separate decision support tools for different problem areas (Figure 4).

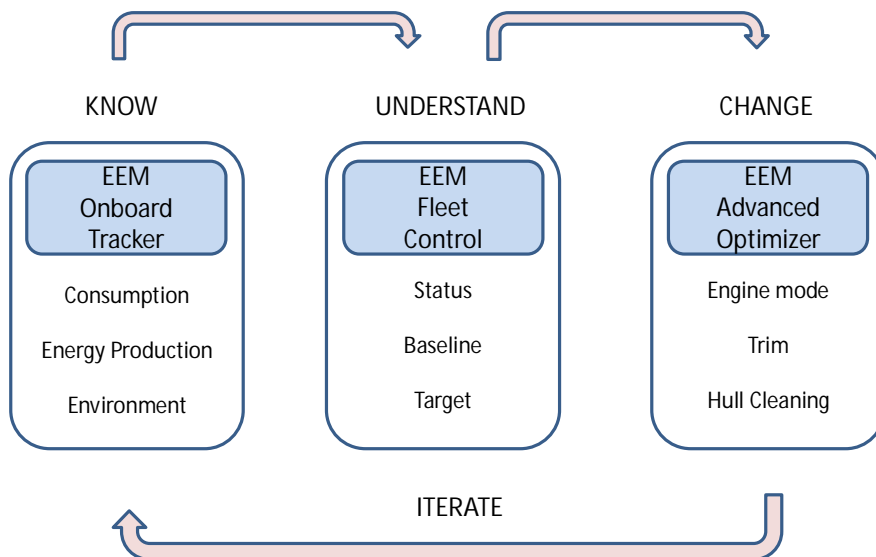


Figure 4. EEM product portfolio (Ignatius et al. 2012).

More importantly, the technological solution enables a platform on which to build a large set of various service offerings. An extensive set of complementary services brings about new issues of complexity. This complexity arises from combining a variety of services to meet the needs of each customer, the fragmented nature of large global companies, the complexity of the marine industry, and regulatory issues. For example, in the marine industry, as ownership structures and management of operations are inherently complex, it is not particularly clear who should make the necessary investments in the technological platform and take responsibility for training the crew to utilise the new solutions effectively. The actual beneficiary of the savings in fuel consumption is most often not the employer of the crew or the owner of the vessel.

Although environmental awareness is so visibly on the rise, entering the market with offerings that directly promote sustainability and environmental issues is far from straightforward. Instead, sustainability and greenness is seen as interesting but not commercially feasible. Thus, companies keep an eye out for sustainable solutions, but are not ready to take the necessary steps to implement them. This is true in consumer markets, but especially in industries that do not market their offerings directly to consumers. In industries that only offer products and services to other businesses, the value of sustainability is not clear unless it directly leads to economic efficiency via material or energy savings. Greenness, as such, brings little value to most business customers.

4.1 The chicken-egg problem of offering and market definition

In strategy and business research it is typically assumed that either products, services, customer solutions or markets and customers already exist or are otherwise predetermined (Vos 2002). In the studied case situation both the offering and the markets were still largely undetermined, resulting in numerous uncertainties that have been somewhat neglected in previous research. The starting point was the chicken-and-egg problem of offering and customers: both the concrete content of the offering – specific products and services – and markets and customers needed to be defined and specified simultaneously. For the specification of both offering and markets there were, of course, multiple interdependent alternative solutions.

- On one hand, there are many possible ways to configure products and services into solutions.
- On the other hand, there are multiple potential customers or even customer segments (e.g. cargo shipping, cruise lining, oil and LNG shipping) to approach.
- Additionally, it became evident that potential customers and users include a large number of very different and only loosely linked actors (e.g. charters, ship operators, ship crew, etc.). Integrated, sophisticated energy management systems do not necessarily hold the interest of any of these actors. All of the potential users are highly accustomed to utilising traditional means of managing energy consumption (including slowing down ship speed). They lack a precise view and knowledge of more sophisticated, integrated and systemic EEM solutions. The attention of potential users is usually focused on local issues that demand immediate attention. All in all, this group of stakeholders was fairly vague and in a sense chaotic. Due to this, recognising suitable or most potential buyers or actors to negotiate with was extremely difficult.

4.2 Early phases of EEM offering development

In the first meetings of the researchers and company representatives in October 2011, the cooperation was outlined and discussions of the conceptualisation and possible contents of the service offering were initiated. According to the very first sketches of the offering contents, the service offering should consist of a technological EEM platform and a number of services closely linked to either this platform or its implementation. The business area was divided into two distinct segments. The first was currently operating ships, to which the new solution and related services could be retrofitted. The second was ships that were being built. At this point, the contents of the customer offering for both segments were seen in a fairly narrow and technologically-oriented way. The services that were offered in addi-

tion to the technological platform were mostly intended to educate and facilitate customers in the implementation and utilisation of the technological platform solution. It was implicitly assumed that both customer segments were fairly well informed of available energy management options and that their energy management practices were already relatively advanced and systematic.

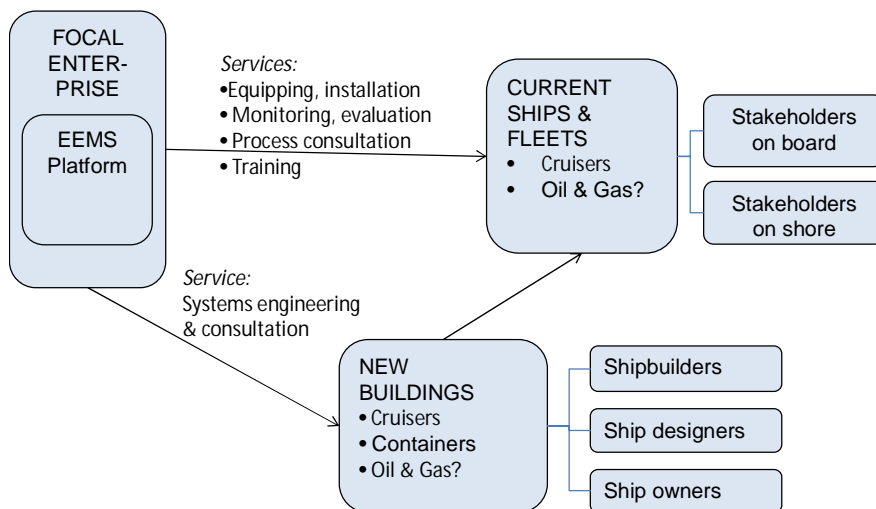


Figure 5. First outline concerning the content of offering.

After initial outlining of the offering, the question of how to verify the benefits of implementing the EEM system (which was still under development) arose in the discussions between company representatives and researchers. The company representatives were concerned about the speed of proceeding with the customer relationship initiation. It was expected of the researchers to contribute to the verification of the benefits of the EEM system.

For the evaluation and verification of the benefits, several alternative solutions were outlined: a qualitative description of the potential benefit factors resulting from utilising EEM in operation both at ship and fleet levels, published research-based rough estimates of potential energy savings (Chalmers: design 10–50%, operation 10–50%, combined 25–75%) and an idea of estimating savings by developing and using a multilevel learning curve model.

Introducing and developing these different solutions brought up more and more unsolved questions and suspicions. From the researcher's point of view, a priori verification and speculative calculation of the semi-finished EEM system's benefits started to lose its relevance as a meaningful approach, including that it was not aligned with service-dominant logic approach. It was not only an unfeasible approach but also shifted the attention in the wrong direction, i.e. away from specific customers with their specific needs and how the company could engage itself in

potential customers' value-creating processes and business operations. The researchers began to have a stronger perception that the need for benefit estimation and calculation in advance arose from the traditional goods-dominant logic-based thinking and assumptions (cf. Edvardsson et al. 2011).

According to the goods-dominant logic, value is created by the provider and is communicated in the marketplace through the exchange of goods and money. From this perspective, the roles of producers and consumers are distinct, with value creation being understood as an intrinsic aspect of the role of the provider (Vargo & Lusch 2008b). In practice this implies that it is possible for the producer to define and specify the value of the solution a priori, regardless of the use case. In contrast, according to SDL, value is co-created during interactions between providers and beneficiaries through the integration of resources and the application of competencies (Vargo et al. 2008).

This observation strengthened the insight that instead of contemplating the general and objectifiable benefits a priori, it is more useful to approach the question of creating new business opportunities by emphasising the ideas of entrepreneurship, imagination (Shackle 1979; Witt 1998; Augier & Kreiner 2000; Loasby 2001) and, most importantly, proactive customer orientation (Narver et al. 2004; Blocker et al. 2011). The importance of proactive customer orientation has been particularly noted in the business-to-business context (Blocker et al. 2011; Tuli et al. 2007). As collaborative research progressed it was discovered that the offering development model presented by Teemu Kokko in his doctoral dissertation (Kokko 2005; cf. Normann 2001) could provide a salient framework to guide the development work.

Offering development can be seen as a company-driven process, where customers have a central role (Kokko 2005). The term "offering" is meaningful due to its comprehensive, operational and customer-oriented character. Offering development is typically a continuously repeating, recursive and iterative process. In this case, the term "offering" is looked upon as a whole that the business unit provides to its customers, consisting of the core product, facilitating and supporting services, the service concept, interactions and customer anticipation (cf. Kokko 2005; Grönroos 1990). Management orientation and customer behaviour and orientation are two complementary dimensions in offering development (Kokko 2005). In this case, the process of offering development was initially approached from a managerial point of view. In the next step, customer perspective and customer behaviour is incorporated in the management perspective.

4.3 Offering development in relation to customer processes and practices

In sum, instead of speculating about the general benefits of emerging energy management solutions independent of the specific use case, it began to look more reasonable to set the question to define in what way it is possible to serve and develop the customers' practices and processes (Hills & Sarin 2003; Narver et al.

2004; Blocker et al. 2011). That is, in what way it is possible to enhance the adoption of new solutions in the customer context (Sheth & Mittal 1996)?

As Brady et al. (2005) notes, some of the world's leading firms have been changing their strategic focus to compete by providing "solutions" rather than individual products or services. Becoming solutions-focused means that providers have to understand how value is created through the eyes of the customer. The conventional "product-forward" orientation towards value creation is reversed (Brady et al. 2005). Solution providers begin by thinking about the desired outcome for the customer and work backwards to the products and services required to meet those needs. This demands a detailed understanding of the customer's processes and activities.

The work continued by focusing on the value and implications of energy management solutions in relation to users and their ways of usage, assuming that the realisation of benefits depends on the specific modes of usage, the extent of utilisation, the goals and modes of implementation, and comparable factors. Measurement and the verification of benefits is possible only after a certain customer uses a specific EEM solution in a specific context in a specific way. Often, especially in a product-centric business, value has been thought to come from products themselves. In fact, it is difficult to determine whether a product generally provides value for an individual or an organisation without understanding the multitude of different ways the product will be used (Grönroos & Ravald 2011) and the contexts of use.

Secondly, it was considered that the offering of the company may have potential which exceeds the existing, known and explicitly expressed needs and expectations. The service provider's solutions may also serve the customers' latent, potential and future needs and business development opportunities. The development of offering should start from the assumption that the energy management systems and practices in the marine sector are under early development, are being formed and are in an emerging state (Tsoukas & Chia 2002; Clegg et al. 2005). Respectively, the service provider may support this customer side development with its own services and solutions (Sheth & Mittal 1996; Kumar et al. 2000; Normann 2001). That is to say, the service provider's offering may support the invention, adoption and spreading – i.e. innovation diffusion – of new kinds of energy management practices in the customer field (Rogers 1995).

The current situation in the marine sector was that potential customers were accustomed to solving energy management issues in a straightforward and simple way through traditional methods such as reducing the cruising speeds of their ships. Actors in the marine sector may not necessarily have enough knowledge about alternative opportunities and options regarding ship and fleet energy management. The situation on the customer side can be characterised as a question of exploiting the existing knowledge versus the challenge and problem of exploring new knowledge, that is to say exploitation versus exploration dilemma (March 1991; Gupta et al. 2006; Smith & Tushman 2005).

Balancing exploration and exploitation entails balancing the prioritisation of today versus tomorrow, accepting that it takes time to develop the resources re-

quired for competing successfully tomorrow. Exploitation refers to the short-term improvement and refinement of present opportunities, competencies and solutions. Exploration is associated with the long term, and implies experimentation and searching for new opportunities, competencies and solutions. The returns of exploitation are closer in time – and space – than the returns of exploration. A firm that only explores puts itself at a short-term risk, as it neglects present opportunities. Conversely, a firm that puts too much emphasis on exploitation risks not surviving in the long term, because it neglects building knowledge to seize new opportunities. (Fjeldstad & Haanaes 2001.)

The situation of potential customer companies can be described as a challenge of choosing whether to exploit existing knowledge or to explore the possibilities of creating new knowledge, a classical dilemma of exploitation versus exploration. From the viewpoint of a company that offers modern energy management solutions, the same situation can be viewed as a positive set-up that opens up new business opportunities in various services and solutions. In short, the customer-provider relationship is shadowed by knowledge asymmetry that is fairly common in the provision of expert services (e.g. the doctor-patient relationship) (Stabell & Fjeldstad 1998; Miller 2003; Verity 2005).

As Miller (2003) notes, the strategy research of the past 20 years has developed in two main directions: resource-based theorists concentrate on the valuable resources needed to sustain competitive advantage, and Porterians focus on discovering market opportunities. These schools fall short of telling managers how a company can develop the distinctive resources required to compete. The sustainability-attainability dilemma – how to develop sustainable advantage that is not in hand but nonetheless attainable – reflects this gap. Organisations can overcome this dilemma by discovering asymmetries, to convert them into resources and capabilities and leverage them across the appropriate market opportunities.

How, then, are the asymmetry-based view on competitiveness and the need for ambidexterity (Simsek et al. 2009) related to one another? Improving the capability of customer companies to adapt and create new knowledge is possible not only with internal solutions but also with interorganisational cooperation, customer relationships and networking (Simsek et al. 2009). Such an approach can be described as reciprocal ambidexterity (Simsek et al. 2009), boundary-crossing ambidexterity (Nosella et al. 2012), or alliance ambidexterity (Tiwana 2008). Reciprocal ambidexterity involves the sequential pursuit of exploitation and exploration across units. This kind of ambidexterity contains a reciprocal interdependence in which the outputs of exploitation from unit A become the inputs for exploration by unit B and the outputs of unit B cycle back to become the inputs of unit A. This type of ambidexterity requires relationships characterised by ongoing information exchange, collaborative problem solving, joint decision-making, and resource flows between the managers of different units responsible for exploitation and exploration (Simsek et al. 2009, 886-887).

A company that offers energy management solutions should be able to readily contribute to the exploration efforts of their customer companies in the area of energy efficiency management. This requires genuine customer orientation, ade-

quate understanding of and vision for customer-specific practices, processes and context, as well as customisation of the offering to the specific needs of the customer. This means that knowledge-intensive business services that support the practices and business processes of customer companies, or customer support services in short, (Gebauer et al. 2008; Bilderbeek et al. 1998) need to have a central role in the business model and concept of the service provider company (Table 2).

Table 2. Service classification (Gebauer et al. 2008).

Product-related services (PRS)	<ul style="list-style-type: none"> • Concentrate on the after-sales phases in the primary customer activity chain • Ensure the proper functioning of the product • Require fewer assets, are often counter-cyclical and can provide higher margins than products
Customer support services (CSS)	<ul style="list-style-type: none"> • Increase the efficiency and effectiveness of customers business processes • Concentrate either on reconfiguration of existing primary and adjacent customer activities or introduce new services in the adjacent opportunities spaces

The significance of knowledge-intensive business services cannot be reduced to their immediate commercial impact. They can be seen to have positive external effects (Rouvinen 2007), as they accumulate knowledge to both providers and customers of these services. Knowledge-intensive business services increase the provider's understanding of the customer and the customer's business environment, and the customer's understanding of their own needs and possible areas of improvement.

As development or innovation process involves parties with various gaps in resources and in innovation management capabilities, intermediaries (including knowledge-intensive business services, KIBS) may be employed directly to fill these gaps or less directly to help bridge them (Bessant & Rush 1995). The type of bridging required varies (den Hertog 2000) from expert consulting to experience sharing, brokering, diagnosis, problem clarification, and from benchmarking to change agencies.

The enhanced configuration of the total offering is illustrated in Figure 6 below (cf. Gebauer et al. 2008).

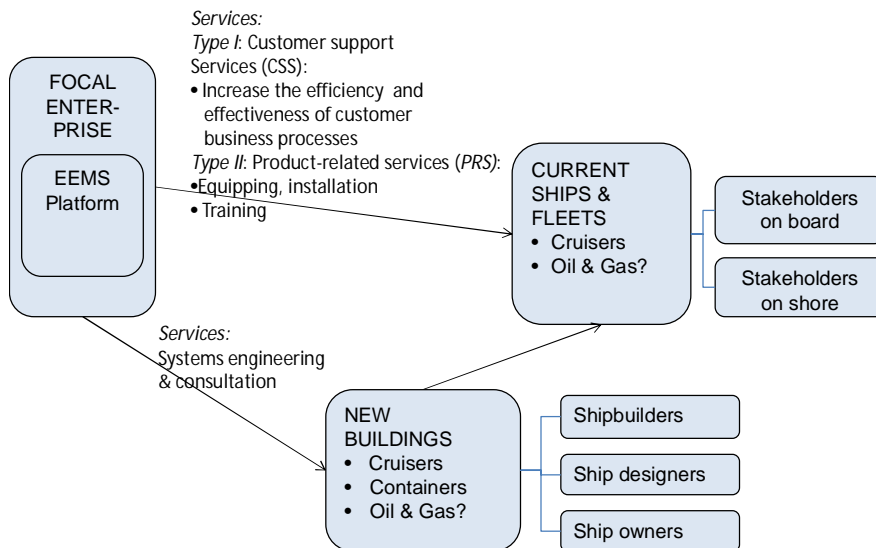


Figure 6. Extended service offering.

4.4 Offering development from the customer point of view

Using the concept of customer support service as the basis in outlining a service offering results in a relatively generic outcome that remains distant from specific markets, real issues and environments faced by specific customers, and their real business opportunities and development needs. Based on such an outline, it is difficult for a service provider to concretely visualise the content and function of the services and solutions offered as well as their connection to the processes of the customer.

In addition, even though the service-dominant logic has widened the scope of understanding the function of marketing, the view of SD logic is still very production- and interaction-focused, i.e. service-provider-dominant, not customer-dominant (Heinonen et al. 2010). In other words, developing the content of an offering requires that the issue is approached in a genuinely customer-centred way.

Heinonen et al. (2010) argue that both GD logic and SD logic are still examples of a provider-dominant logic. If we only focus on interaction, we will fail to take account of what the role of the company's services and goods are in the customer's business. Heinonen et al. (ibid.) propose that marketing should start considering CD logic as the next step towards an in-depth understanding of customer experience. So far research has not explicitly focused on the mechanisms of co-creation from both the customer's and the provider's perspective.

In CD logic, the focus is not on exchange and service as such, but how a company's service is and becomes embedded in the customer's context, activities, practices and experiences, and what implications this has for service companies.

Instead of focusing on what companies are doing to create services that customers prefer, Heinonen et al. (2010) suggest that the focus should be on what customers are doing/able to do with services. An approach that is grounded in customer agency (Marsden & Littler 1996) will allow to build a business on an in-depth insight into customers' activities, practices, experiences and context. Such insights can be then converted into concrete ways for companies to participate in and support the customer's processes in terms of service offerings. The primary issue is not the offering as such, whether it is seen as an outcome (physical good, service, solution) or a process (service interaction), or both, but rather the customer's life and tasks that the offerings is related to (Heinonen et al. 2010). A CD marketing logic positions the customer in the centre, rather than the service, the service provider/producer or the interaction. It is thus not a subset of a SD logic but rather a different perspective (Heinonen et al. 2010).

A managerial implication resulting from the CD perspective is that a service provider should consider each customer in their respective context (Heinonen et al. 2010, 545). Awareness of the mechanisms of the customer's logic will provide businesses with new perspectives on the role of the company in their customer's business. Compared to the traditional view this means that, besides visible and immediate interactions, service providers should expand their perspectives in order to get to know their customers on a deeper level than before. In addition, companies should try to discover the potential, unrealised value of a service by learning what processes customers are involved in within their own context, and what different types of input, both physical and mental, they would need to support those processes. Value-in-use should be seen as everything that the company does that the customer can use in order to improve his business. A third managerial implication is the need to design a service based on the new in-depth knowledge of customers. Rather than persuade customers that the offering is valuable to them, companies need to try to embed the service in customers' existing and future contexts, activities, experiences and competencies.

Figure 7 shows the applied model of the focal company's interface in relation to the customer's processes and business.

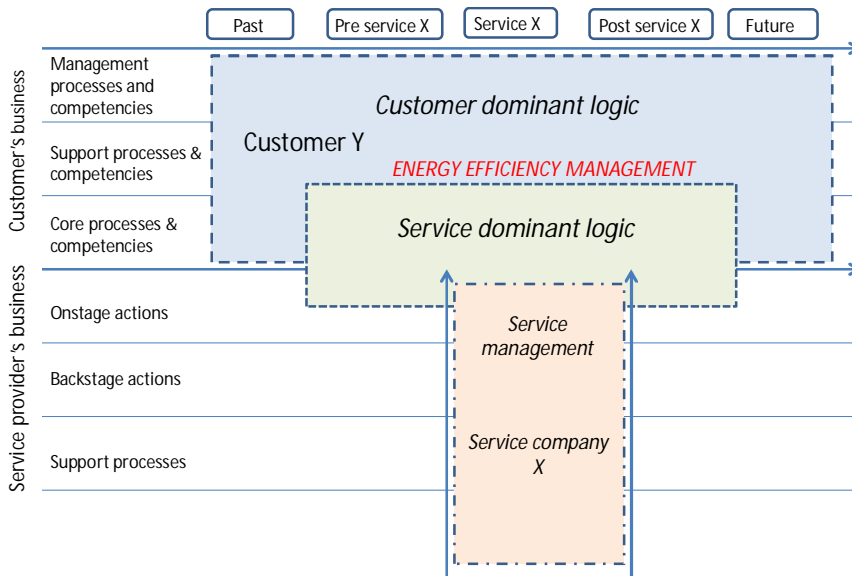


Figure 7. Customer-dominant logic (modified from Heinonen et al. 2010).

Heinonen et al. (2010) assume the CD approach to be applicable for both consumer and business-to-business markets. However, they factually discuss the issue predominantly in the application area of consumer markets, and from the viewpoint of individual consumers. Additionally, it is assumed that customers are fully aware of their own needs and have certain unified interests and purposes. CD logic is based on recognising the primacy of the customer's perspective and assumes that *customers always know best how value is formed in their lives* (Heinonen et al. 2013). In the case of knowledge-intensive business services (KIBS), the starting point is, however, in differences and asymmetries in knowledge and expertise (Miller 2003). The providers of knowledge-intensive business services (e.g. an engineering firm or a lawyer's office) often have a more up-to-date view of the alternative solutions to meet particular customer needs. For example, in order to innovate effectively, it is necessary to understand and alter the means by which customers co-create value-in-use, as well as to initiate new ways that facilitate the actual process of value co-creation (Breidbach et al. 2013).

Narver et al. (2004) differentiate between responsive and proactive market orientation. Responsive market orientation refers to cases in which an enterprise attempts to discover, understand and satisfy the expressed needs of customers. Proactive market orientation, on the other hand, refers to cases in which an enterprise attempts to discover, understand and satisfy the latent and future needs of customers. In addition, Blocker et al. (2011) differentiate between responsive and proactive customer orientation. Proactive customer orientation refers to a provider's capability to continuously probe customers' latent needs and uncover future

needs, and possibly offering ideas even before customers realise they had such a need. From the customer's perspective it reflects customers' perceptions that providers have proactive processes and skills to successfully anticipate their latent and future needs.

The customer and user base of a solution offered by any focal company should not be considered to consist of homogenous actors. Instead, they are almost invariably systems that can be described as loosely-coupled (Orton & Weick 1990; Brusoni & Prencipe 2001) or distributed knowledge systems (Tsoukas 1996). As Breidbach et al. (2013) note, the SDL notion of the "beneficiary" or customer (singular) as co-creator of value is problematic in the context of innovation in professional service firms. In fact, there can be multiple beneficiaries involved, such as customers as end users and customers as payers. As a result of the existence of multiple beneficiaries, there may be divergent interests among groups of beneficiaries, such as between customers as payers and customers as end users.

4.5 Enhancing customer's absorptive capacity through EEM-related services

Knowledge-intensive customer support services enable, at least in principle, both the raising awareness of energy management and the development of energy management practices and processes in a customer context. The diffusion of new, high-end energy management solutions and the emergence of new customer relationships require certain absorptive capacity from potential customers. The term absorptive capacity refers to a customer's ability to identify, assimilate and exploit knowledge from the environment (cf. Cohen & Levinthal 1990; Zahra & George 2002; Easterby-Smith et al. 2008). The challenge for the case company was that the potential customer and user group consisted of very heterogeneous, relatively independent actors that did not share a vision of alternative energy management solutions and practices. As such, these groups may be described, at least when it comes to energy management, as loosely-coupled systems (Weick 1976; Orton & Weick 1990; Brusoni & Prencipe 2001) or even organised anarchies (Cohen et al. 1972; Musselin 1996) without systematic approaches, practices or programmes for energy management.

It might be that attention has not been paid to energy management and alternative solutions in a very systematic way in the decision-making processes and operations of potential customer companies. Each actor in the customer field is accustomed to solving issues related to energy management in a unique way that is based on their previous experiences in the area. This also implies that organisational boundaries and responsibilities can be fuzzy when it comes to energy efficiency management. No one has a clear idea of who is responsible for the improvement of energy efficiency and who should be referred to in this matter.

How can problems in the management of innovation be solved? As Van den Ven argues, there are four central problems in the management of innovation (Van de Ven 1986). First, there is the human problem of managing attention because

people and organisations are largely designed to focus on, harvest and protect existing practices rather than pay attention to adopting and developing new ideas. Second, there is the process problem of managing ideas into good currency so that innovative ideas are implemented and institutionalised. Third, there is the structural problem of managing part-whole relationships, which emerges from the proliferation of ideas, people and transactions as an innovation develops over time. Finally, the context of an innovation points to the strategic problem of institutional leadership. Innovations not only adapt to existing organisational and industrial arrangements, but they also transform the structure and practices of these environments.

In what concrete way can the emergence of a new kind of energy efficiency awareness be promoted in a loosely-coupled customer field? The specific services and concrete ways to support the adoption of new knowledge related to energy management and the implementation of energy management practices and solutions remain unclear, especially when the heterogeneity and variety of interests of the potential customer and user groups and their stakeholders is considered. Furthermore, it is not self-evident as to what kind of development work should and can be supported with the offering of the provider company. How can the decision-making processes and practices of organised anarchies (Cohen et al. 1972; Musselin 1996) be unified, aligned, clarified and organised?

Organised anarchies are organisations – or decision-making conditions – characterised by three general properties (ibid.): problematic (unclear) preferences, unclear technology and fluid participation. The organisation operates on the basis of a variety of inconsistent and ill-defined preferences. It can be better described as a loose collection of ideas than as a coherent structure; it discovers preferences through action more than it acts on the basis of preferences. The second property is unclear technology. Although the organisation manages to survive, its own processes are not understood by its members. It operates on the basis of simple trial-and-error procedures, the residue of learning from the accidents of past experience, and pragmatic inventions of necessity. The third property is fluid participation. Participants vary in terms of the amount of time and effort they devote to different domains; involvement varies from one time to another. As a result, the boundaries of the organisation are uncertain and changing; the audiences and decision-makers for any particular kind of choice change capriciously.

Under these conditions, the structure of attention to arising issues is unstable and stochastic (March & Olsen 1976, 45). Attention wanders over time according to the variable participation of actors who come and go because of personal preferences, elections, appointments, unexpected events, and opportunities to participate in other venues. Problems, solutions and politics are separate streams moving randomly over time that become coupled primarily as a matter of change and fortuitous circumstances (Flemming et al. 1999). Whereas traditional Weberian model postulates rationality, the model of organised anarchies postulates just the opposite (Fardal & Sornes 2008): lots of messy processes, unstructured relationships, contested goals, and uncertain results.

The development of energy efficiency management practices in customer companies and the customer field requires that attention is paid to energy management issues and that these issues are emphasised in the activities and decision-making of these companies. It is not enough that individuals in these organisations acknowledge the significance of energy management practices. These practices need to be adequately acknowledged and appreciated in organisational decision-making, communication and context (Klimecki & Lassleben 1998).

Organisational attention can be understood as the noticing, encoding, interpreting and focusing of time and effort by organisational decision-makers (members) on both a) issues: the available repertoire of categories for making sense of the environment: problems, opportunities and threats; and b) answers: the available repertoire of action alternatives: proposals, routines, projects, programmes and procedures (Ocasio 1997; Sullivan 2010).⁶

The importance of attention in problem-solving and decision-making processes has long been noted by organisational scholars (Simon 1961; March & Simon 1958; Ocasio 1997). Organisational members' allocation of attention to an issue is a necessary precondition to their making a decision and taking substantive action on this issue (Vidaillet 2008). Attention is a necessary precondition for the choice process and policy-making, and dynamics of attention are closely intertwined with the selection of problems and solutions for active consideration (Flemming et al. 1999). According to March and Olsen (1976), choice processes depend on "who is attending to what and when" and that the core of agenda dynamics is the organisation of attention.

An attention-based view of a firm (Ocasio 1997; Yu et al. 2005) is based on three interrelated premises. First, what decision-makers do depends on the issues and answers upon which they focus their attention. Second, the issues and answers decision-makers focus upon, and what they do, depend on their situation. Individual decision-makers vary their focus of attention depending on the characteristics of the situation in which they find themselves. And third, the particular situation decision-makers find themselves in, and how they attend to it, depends on the structural (organisational) allocation of attention. The attention of decision-makers to select issues depends on how the organisation regulates and controls the distribution and allocation of issues, answers and decision-makers into specific activities, communications and procedures. Organisations can establish structures – including decision programmes – that influence what issues come to members' attention, the options available to them to act on these issues, and ultimately the

⁶ According the attention-based view of the firm (Ocasio 1997) what decision-makers do depends on what issues and answers they focus their attention on (focus of attention); what issues and answers decision-makers focus on and what they do depends on the particular context or situation they find themselves in (situated attention); and what particular context or situation decision-makers find themselves in and how they attend to it depends on the firm's rules, resources and [external and internal] relations that regulate and control the distribution and allocation of issues, answers and decision-makers into specific activities, communications and procedures (structural distribution of attention).

actions they take. According to this view, organisational structures (e.g. programmes) are a primary force in directing members' attention.

For a company that provides energy management solutions, it is reasonable to configure their offering so that they can simultaneously offer technological solutions for the measurement of energy consumption (EMMA) and support the implementation of energy management programmes with knowledge-intensive business services. Ship energy efficiency management plans/programmes (SEEMP) and company energy efficiency management plans/programmes (CEEMP) are good examples of energy management programmes of different levels. In the field of organisational research, these kinds of organisational devices are generally referred to as performance programmes and routines (March & Simon 1958; Nelson & Winter 1982; Luhmann 2000).

Programmes are decision premises that define conditions for correct decision-making (Seidl 2005). They are often also called "plans". There are two different kinds of programmes: conditional programmes and goal programmes. Conditional programmes define correct decision-making on the basis that certain conditions are given. They generally have an "if-then" format – "if this is the case, then do that". Goal programmes, in contrast, define correct decision-making by defining specific goals that are to be achieved (e.g. "energy efficiency", "operational flexibility" or "competitive advantage"), and in this way structure the given decision possibilities.

There are two major functions that such programmes fulfil. First, they are part of the control system in an organisation. Second, they are important parts of the coordination system in an organisation. They help fulfil the needs for interdepartmental predictability. Insofar as they are to function as controls, the programmes must be linked to variables that are observable and measurable (March & Simon 1958, 166).

The function of energy management programmes and relative supporting technologies can also be viewed from the perspective of the learning and development of competitiveness of customer companies. Organisational learning occurs when an organisation is able to alter the knowledge structures that direct and regulate its activities and operations (Duncan & Weiss 1979; Klimecki & Lassleben 1998). From a cognitive perspective, learning is always triggered by information (Klimecki & Lassleben 1999). Learning refers to information processes which leave a mark on knowledge. Learning enlarges (adds new), diminishes (removes old or wrong), or alters (replaces existing) given knowledge – in short it makes a difference with regard to knowledge structures. As such, information can be defined as "difference that makes a difference" (Bateson 1972). Altering knowledge structures requires that the organisation is able to make a difference between the current and possible energy management practices, and the current and advanced energy efficiency management practices (cf. Klimecki & Lassleben 1999). When, for example, Duncan and Weiss (1979) assert that performance gaps can trigger organisational learning, they indicate that observed differences between an organisation's targeted and actual performance make a difference to its knowledge base. When Argyris and Schön (1978) affirm that errors can trigger OL, they indicate that differ-

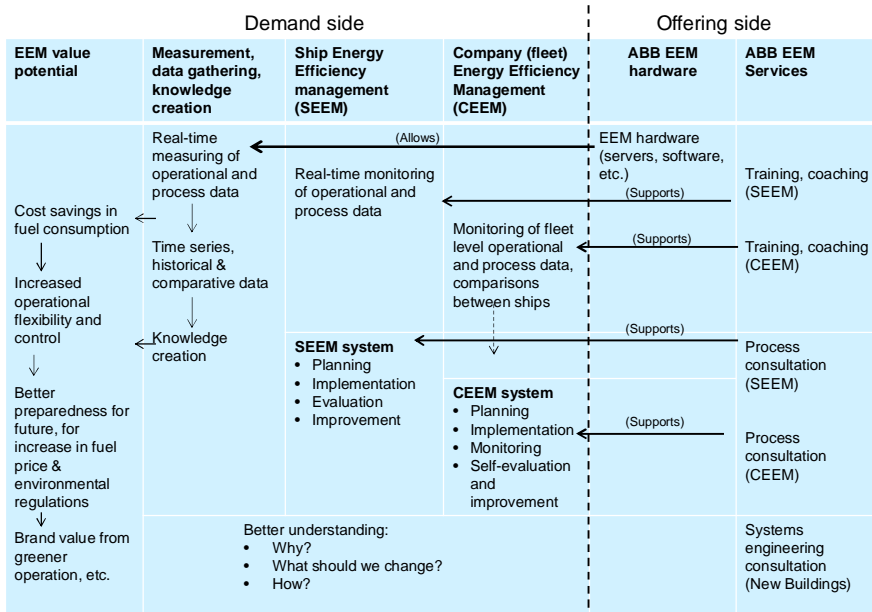
ences between expectations and outcomes of organisational actions make a difference to the organisational theory-of-action. When Garvin (1993) claims that benchmarking is an appropriate tool for OL, he implies that differences between an organisation's practices and its competitor's practices make a difference to organisational procedures. And when Cangelosi and Dill (1965) notes that disjunctive stress releases OL, they indicate that differences between groups' ways of doing things potentially trigger a difference to the organisation's course of action.

In practice, this means that changes in knowledge structures are based on observed differences, conducted comparisons and comparative data from the specific situation of the customer company. The required comparative data can be generated in reactive, goal-directed activities or systemic differences and comparisons between units. Thus, an organisation can learn (Lassleben 2009): a) from its own experience (method of trial and error), b) from its own goal programmes, c) by benchmarking to paragons, competitors or other companies relevant to their specific situation, and d) from differences in perspectives, etc. between different organisational units.

5. Practical outcome of the research

The practical outcomes of the service offering development process outlined above were conceptual models and frameworks linking the EEM service offering elements to customers' needs and demands. These resulting frameworks are consolidated in Table 3. As described above, after changing to a customer context-driven development approach, the customer's perceived value from the EEM system and services were outlined. The most concrete and direct value potential from the customer perspective is cost savings in fuel consumption, including possible savings in emissions-related fees. More indirect value opportunities were identified that could be captured from increased operational flexibility and control, better ability to respond to future increases in fuel prices, and environmental regulations and ultimately from green brand value.

Table 3. Value mechanism of EEM offering concepts.



Concerning the offering side, distinctions of offering concepts were made between services which are offered by an EEM system (hardware + software) automatically to the user on board and services provided by human experts. In some cases an EEM system can automatically give guidance to the user, e.g. based on real time monitoring, suggesting turning off equipment that is unnecessary consuming energy. Human experts' services are required in situations which presume more advanced problem solving and require a consultative approach towards the user either on board or onshore.

From the demand perspective, the developed concepts were linked to 1) basic measurement and data gathering required for knowledge creation, 2) ship-level energy efficiency management (SEEMP), and 3) company/fleet level energy efficiency management (CEEMP). The provision of energy usage measurement data (real time and historical time series) forms the foundation for EEM services. During the project, the Marine & Crane project team developed the technological solution for measurement together with user interfaces for users on board and onshore. Ship-level energy efficiency management services are related to the SEEMP programme (Ship Energy Efficiency Management Plan), promoted by the International Maritime Organisation (IMO). SEEMP extensively defines energy efficiency development activities at the ship-level related to voyage planning, cruise execution and continuous improvement, for example. The IMO-promoted SEEMP is also a major programme for raising awareness of energy efficiency issues in the marine sector, thus creating the market as well. EEM solutions can provide services

to these activities both directly from software and with the addition of expert training and coaching. For company (fleet)-level energy efficiency management programmes, (CEEM) EEM services mainly include training and coaching types of services related to benchmarking across the fleet, etc. However, the measurement data from the EEM system forms the foundation for these services as well.

6. Conclusions

As a whole this research has been characterised as an assumption-challenging and a “path-setting” approach in contrast to a “gap-spotting” approach (Alvesson & Sandberg 2013). In the management literature it is assumed that the creation of future-oriented, practically relevant knowledge on the basis of rigorous research is an inaccessible, impossible or even incorrect mission (Kieser & Leiner 2012 as a clearest example). In addition, it is assumed (Kieser & Leiner 2012) that crucial assumptions of collaborative research do not hold, including the assumption that scientific and practical perspectives can be combined, and that a trade-off between rigour and relevance can be avoided.

In this study it is assumed – and demonstrated – that the apparent contradiction between discovery and creation, exploration and exploitation, and relevance and rigour is possible to overcome or transcend by utilising, elaborating and expanding the sensemaking perspective (Weick 1979; Gephart et al. 2010; Sandberg & Tsoukas 2014). Expanding the perspective means in this context that the processual and evolutionary perspective must be complemented by substantive conceptions. Conceptions are necessary for organising otherwise meaningless or ambiguous information into significant agendas and action plans (Witt 1998). It has been assumed and demonstrated that service-dominant logic (Vargo & Lusch 2004, 2008b; Michel et al. 2008) can be utilised at least to some extent as a conceptual device and an orienting frame for new business opportunity development.

The main result of the study is that practically and scientifically relevant knowledge can be produced with the methods of practice-oriented intervention research (Whitley 1984; Van de Ven 2007; Mohe & Seidl 2009; Koivisto 2011; Splitter & Seidl 2011). In fact, it is shown that this is a real opportunity, not just an intention or a normative idea. Through collaborative management research, it is possible to contribute to both scientific discussion and practical decision-making (Argyris 1970; Pettigrew 2001; Van de Ven & Johnson 2006). In relation to practice and decision-making it is possible to produce conceptually relevant knowledge (Nicolai & Seidl 2010; van der Meer-Kooistra & Vosselman 2012). The term conceptual relevance refers to the impact of scientific knowledge on framing and reframing the decision situation in practice.

In relation to practical opportunities and capabilities, this study has focused on improving and enhancing the sensemaking capacity of an organisation (Werle &

Seidl 2012; Neill et al. 2007; see also Sandberg & Targama 2007; Möller 2010). The issue of improving the sensemaking capacity of an organisation has been approached methodologically on the basis of the collaborative management research (Shani et al. 2008). Methodologically we focused on the question of how the sensemaking capacity of individual organisations can be supported and expanded. The process of expanding the sensemaking capacity can also be described as “scaffolding” (Werle & Seidl 2012; Orlikowski 2006). Scaffolding denotes a broad class of physical, cognitive and social augmentations that allow us to achieve some goal that would otherwise be beyond us. In this research we are focused in particular on the questions of how proactive (Gioia et al. 1994; Stigliani & Ravasi 2012) or future-oriented (Gephart et al. 2010) sensemaking can be expanded by drawing on collaborative research processes and “engaged scholarship” (Van de Ven & Johnson 2006).

The question of future-oriented sensemaking was approached conceptually and thematically on the basis of both entrepreneurship research and service-dominant logic (Vargo & Lusch 2004, 2008b; Michel et al. 2008) as an issue of new business exploration and creation (Alvarez & Barney 2007; Alvarez et al. 2013). The evolutionary perspective suggests that no contradiction necessarily exists between the active creation of opportunities and their discovery as a “higher-order opportunity” – an opportunity to create the opportunity (Buenstorf 2007). Business conceptions (Witt 1998), or the framing of an opportunity, conditions the decision of whether to pursue the opportunity and, if so, how to pursue it. This implies that the discovery and exploitation of opportunities are inextricably linked (Buenstorf 2007).

In contrast to “pure” entrepreneurship research, we have focused this study on how the discovery of an opportunity and the creation of an opportunity can be linked at the fuzzy front end of opportunity development on the basis of collaborative management research. How is it possible to resolve the exploration/exploitation dilemma (March 1991) and improve the ambidexterity (Gibson & Birkinshaw 2004; Simsek et al. 2009; Lavie & Rosenkopf 2006) of an organisation through collaborative management research? How is it possible to support the opportunity development and especially the business conception and framing at the fuzzy front end of innovation through collaborative management research? On what theoretical and methodological basis is it possible to support opportunity development and business conception and framing in a positive and constructive way at the fuzzy front end of innovation? How is it possible to create practically relevant and future-oriented knowledge on the basis of the collaborative management at the fuzzy front end of opportunity development?

Based on the research, it is possible to construct (i) a heuristic model of how to facilitate business opportunity creation in nascent markets. Moreover, it is possible to construct a (ii) generic model/theory regarding the mechanisms which mediate the development of new market relationships. In addition, it is possible (iii) to clarify the view of why the dialogue and collaboration between research and practice is necessary and on what methodological grounds it is possible to produce both scientifically and practically relevant knowledge.

6.1 How to facilitate practical decision-making at the fuzzy front end of offering development

From a practical perspective, this study has focused on improving and enhancing the sensemaking capacity of the organisation. The issue of improving the sensemaking capacity of an organisation has been approached methodologically on the basis of collaborative management research. How can the sensemaking capacity of individual organisations be supported and expanded? In particular, we focused on the questions of how proactive (Gioia et al. 1994; Stigliani & Ravasi 2012) or future-oriented (Gephart et al. 2010) sensemaking can be expanded by drawing on collaborative research processes and “engaged scholarship” (Van de Ven & Johnson 2006).

The development of new business opportunities is typically an evolutionary process that is based on experiential learning, and trial and error. The constraints and restrictions of learning-by-doing (trial and error) and through the processes of enactment-selection-retention come out particularly clearly in a complex and constantly changing environment (cf. Bogner & Barr 2000). First of all, this process is relatively slow, difficult and resource-demanding. This process of enactment, selection and retention generates new knowledge and understanding typically *ex post*, by reflecting activities and experiences after they have already happened. Secondly, this process is history- and path-dependent (Bogner & Barr 2000; Cohen & Levinthal 1990), local and myopic (March & Levinthal 1993).

Besides the company’s own history, another key factor that restricts the development of the said novel solutions can be that identifying and developing new business opportunities requires sufficient understanding of dynamically developing complex systems (Roth & Senge 1996). Behavioural complexity characterises the extent to which there is diversity in the aspirations, mental models and values of decision-makers. High behavioural complexity is characterised by conflict in assumptions, beliefs and perspectives. Dynamic complexity characterises the extent to which the relationship between cause and resulting effects are distant in time and space (Roth & Senge 1996). What is especially problematic is the ability of firms to deal with dynamic complexity when cause and effect are not closely related in time and space, and obvious changes do more harm than good (Senge 1990; Kim & Senge 1994). Planning often recognises detail complexity by taking into account multiple market segments and complex production lines. But dynamic complexity is more challenging because it requires us to think in terms of complex causal interdependencies involving multiple sources of delay and nonlinearity, and evolving patterns of change over time. Very often, recognising dynamic complexity demands changes in prevailing mental models. Few organisations have the capacity to build shared understanding of dynamic complexity. Yet this is precisely what characterises the most important policy and strategy issues (Kim & Senge 1994).

In strategy and business research, it is typically assumed that either products, services and customer solutions or markets and customers already exist or are otherwise predetermined (Vos 2002). In the studied case situation, both the offering and the markets were still largely undetermined, resulting in numerous uncer-

tainties that have been somewhat neglected in previous research. The starting point was the chicken-and-egg problem of offering and customers: both the concrete content of the offering – specific products and services – and markets and customers needed to be defined and specified simultaneously. For the specification of both offering and markets there were, of course, multiple interdependent alternative solutions. First, there were many possible ways of configuring products and services into solutions. Second, there were multiple potential customers or even customer segments (e.g. cargo shipping, cruise lining, oil and LNG shipping) to approach. Additionally, it became evident that potential customers and users include a large number of very different and only loosely-coupled actors (e.g. charters, ship operators, ship crew, etc.). Integrated, sophisticated energy management systems do not necessarily hold the interest of any of these actors. The attention of potential users is usually focused on local issues that demand immediate attention. All in all, this group of stakeholders was fairly vague and in a sense chaotic. Due to this, recognising suitable or most potential buyers or actors to negotiate with was extremely difficult.

Many authors have noted that complexity, uncertainty and lack of knowledge are closely connected to entrepreneurship and innovation activities (Dosi 1988; Sarasvathy & Dew 2005; Carter & Ford 1972; cf. Smithson 1989; Smithson 2008). The question is how complexity and uncertainty of decision-making situations can be meaningfully reduced.

Concepts, distinctions and frames are tools and means for reducing complexity par excellence. This does not mean that anything goes, or that different concepts, distinctions and frames are somehow equally relevant for all decision-making situations. Instead, they need to have a good fit to the management and decision-making practices of the organisation in question. They also need to be adequate and up-to-date (cf. Luhmann 1990, pp. 362-468). In other words, concepts, distinction and frames need to be selected so that they are relevant for the contexts of both practical decision-making and research (cf. Vos 2005).

Based on this study it can be claimed that the issue of business and market creation can reasonably be approached from the perspective of enactment (Weick 2001) and on the basis of the theory of self-referential systems (Maturana & Varela 1980; Luhmann 1995; Mingers 1995). As Vos (2002, 213) notes, companies busy with innovation are confronted with a situation that is characterised by high uncertainty with respect to the market to be approached and the technology or service to be developed. The chicken-and-egg problem of these companies consists of making sense of the fact that the specifics of the future market depend on the specifics of the innovative technology, and the specifics of the innovative technology depend on the specifics of the future market. When deliberately making sense of this situation, organisation members stumble upon the paradox that they need to observe their situation, which only exists because of themselves existing despite themselves. To put it differently, coming to terms with one's situation self-referentially implies rising above one's situation without oneself.

According to the self-referential social systems theory, social systems need to asymmetrise tautological problems with respect to their environment and them-

selves in order to become operational (Vos 2002, 230). In addition, management concepts can function as means to asymmetrise tautologies – like that the markets to be served depend on the products offered and the products to be offered depend on the markets served (Vos 2002, 44).

In order to solve the initial chicken-and-egg problem, the company needs to be able to asymmetrise it in one way or another (Vos 2002). In principle, asymmetrising can be realised either from the perspective of customers by aligning the offering to specific customer segments and to specific customer expectations (outside-in), or alternatively from the focal company's perspective by specifying customers and markets according to offered products (Vos 2002; cf. Payne et al. 2008). As nascent markets are in the process of developing or becoming, asymmetrisation needs to be initiated from the inside out, by defining and specifying the content and elements of the potential offering first.

After asymmetrisation and the specification of the content of the offering, the focus of analysis needs to be redirected so that the issue is reflectively approached from the viewpoint of customer context and customer situation. At this stage, it is crucial to identify latent customer needs, and possibly also anticipate needs that are just taking shape. In this process, Kokko's (2005) extended offering model can be partially applied. The model aims at combining the management and customer perspectives of a focal company. By identifying latent customer needs, the company can reach a concretised view of the content, components and function of their offering in relation to the actual customer context. The customer's value creation process can be defined as a series of activities performed by a customer to achieve a particular goal (Payne et al. 2008). One key aspect of the customer's ability to create value is the amount and quality of information, knowledge, skills and other operant resources that they can access and use (Normann 2001). Respectively, the supplier has to develop its capacity to either add to the customer's total pool of resources in terms of competence and capabilities, or to influence the customer's process in such way that the customer is able to utilise the available resources more efficiently and effectively (Payne et al. 2008, 86). Training and consultancy services can be used to influence the customers' processes and develop their competencies and capabilities.

Identifying authentic customer needs requires a perspective and approach that goes beyond SDL (cf. Heinonen et al. 2010). In other words, identifying genuine customer needs is not possible using only the concepts and conceptual tools that are based on the scientific discussion on SDL. The businesses and needs of customers usually have their own existence, history and future that are independent of the business of the focal company (Heinonen et al. 2010). Making a reflective turn and identifying authentic customer needs that are independent of the provider of an offering typically requires research expertise and an anthropological (Blomberg & Darrah 2014) or ethnographical (Korkman 2006) perspective and approach in the customer context.

So far, the SDL discussion has been characterised by a certain asymmetry in the analysis. The supplier is viewed with his network partners while the customer is conceived in the shape of a unique organisation (Cova & Salle 2008). The cus-

customer network is not taken into consideration and is underestimated or does not exist. As Cova and Salle (ibid.) argue, if we want to completely carry out the program of SD logic and translate it into B2B offering strategies, we must re-establish the balance to the customer's advantage: co-creation is carried out, in many-to-many approach, between a supplier and their network in interaction with the customer and their network. From an SD logic viewpoint, it is therefore not only about making an offering to the customer but also to some of the actors in their network (Cova & Salle 2008). In addition, as Breidbach et al. (2013) note, in the customer network there can be multiple beneficiaries involved, such as customers as end users and customers as payers. As a result of the existence of multiple beneficiaries, there may be divergent interests among groups of beneficiaries, such as between customers as payers and customers as end users.

Through certain kinds of services and solutions, a company can increase the awareness of the users of new opportunities in energy management in nascent markets. In addition, the company can co-create offerings that "mobilize customers" (Normann & Ramirez 1993) and support the formation of new institutional practices and their diffusion in potential customer organisations and markets. This can be done in such a way that the company directs and targets its knowledge-intensive services towards supporting the adoption and implementation of the company and unit level energy management programme (March & Simon 1958: action programs) in the customer context. On the whole, through services the company has an opportunity to create "order in chaos", i.e. to create the required context and niche (Luksha 2008) for its own businesses and operations.

Instead of trying to solve the problem of opportunity creation in a trial and error manner – by offering only technological solutions, that is energy efficiency monitoring systems, in a traditional way – the company can offer both monitoring systems and services that support the adoption of energy efficiency programmes in the context of customers. In sum, the opportunity creation is possible through the combination of service and technological innovation.

6.2 Prospective sensemaking as a formation of expectations

On the basis of the study it can be said that working with practical problems actually pushes and inspires the use and combination of several theoretical perspectives into the coherent whole. In this research we have combined several time perspectives (retrospective and prospective) – the entrepreneurial perspective and the marketing perspective (service-dominant logic), the offering development perspective and the customer perspective – in order to cope with the problem of opportunity development.

In addition, working with practical problems provokes and inspires the elaboration of "second-order sensemaking" (Van Maanen 1979; Gioia & Chittipeddi 1991; Sandberg & Tsoukas 2014) and to contribute critically to the theoretical discussion. The second-order analysis moves to a more theoretical level, wherein the first-order findings are examined for underlying explanatory dimensions. This

mode of analysis seeks to provide further insights that might be relevant for domains beyond the immediate study (Gioia & Chittipeddi 1991).

In this case, second-order sensemaking relates to the question of how (collaborative) management research can contribute to the development of new business relationships and opportunities. How can management research facilitate the emergence of new productive communicative connections (Luhmann 1995) with heterogeneous autonomous actors in nascent markets? How can management research prospectively contribute to the sensemaking capabilities and processes of organisations?

The following propositions rest on the experiences of the case study and existing research of social mechanisms (Hedström & Swedberg 1998; Mayntz 2004; Pajunen 2008). Mechanisms state how, and by what intermediate steps, a certain outcome (in this case: market relation) follows from a set of initial conditions (Mayntz 2004). The mechanism is only identified when the process linking an outcome and specific initial conditions is spelt out.

As the discussion on SDL has shown, the creation and development of market relationships are based on reciprocal communicative processes between the parties. From this perspective, a market is not only a meeting place or a space; it also involves communicative interaction (Ballantyne et al. 2011; Truong et al. 2012). Additionally, the discussion has deepened and strengthened the view that customers, users and user networks (Cova & Salle 2008) play a foundational role in the construction of market relationships and in the process of value creation. As Ballantyne et al. (2011) argue, an enterprise can initiate or participate in developing value propositions as reciprocal promises of value but beneficiaries will always determine what is of value in their own terms.

One shortcoming of the discussion on SDL is that it has not paid enough attention to the initial conditions for the emergence of market relationships and subsequently to the specification of the mechanisms mediating their emergence (cf. Hedström & Swedberg 1998; Pajunen 2008). The discussion has assumed that markets and market relationships have existed at the outset and their emergence and development has been ignored (cf. Araujo et al. 2008).

The emergence of a market relationship requires the contribution of at least two independent and identifiable parties. According to SDL, the value of new solutions depends on the choices and contribution of customer and users. On the other hand, the development, launch and configuration depend on the decisions and choices of suppliers. In practice, this means that the process of co-creation will not even start if both parties wait for each other's decisions and choices. In sociology, this kind of paralysed decision-making situation is known as a problem of double contingency (Parsons & Shils 1951; Luhmann 1995).

Double contingency implies that actors ("Ego" and "Alter") are uncertain about what others will do and value. Ego's gratifications are contingent on his selection from available alternatives. But in turn, Alter's reaction will be contingent on Ego's selection and will result from complementary selection on Alter's part (Parsons & Shils 1951, 16). Simply put, the difficulty is that action cannot take place when Ego is waiting for Alter to respond, and Alter's response is dependent on Ego's action.

This creates a communication stand-off, with each participant waiting for the other. Action cannot take place if Alter makes his action dependent on how Ego acts, and Ego wants to connect his action to Alter's (Luhmann 1995).

The problem of double contingency somehow has to be solved, asymmetrised and transformed into productive interaction. Typically, the problem is solved through trial and error (Loasby 2000). In other words, the chicken-and-egg problem is solved by doing "something" spontaneously and arbitrarily, i.e. doing first and making sense later (Weick 1988; Vos 2002).

The limitations and problems of learning based on trial and error come up particularly in complex and dynamic environments (cf. Bogner & Barr 2000). Firstly, it is a slow, cumbersome and resource-consuming process. The enactment-selection-retention process typically creates new knowledge and understanding retrospectively and *ex post*, based on actions, experiences and (possibly) their reflection. Secondly, it is a history- and path-dependent (Bogner & Barr 2000; Cohen & Levinthal 1990) and myopic process (March & Levinthal 1993). The question is, how is it possible to take advantage of some other faster, more reflective and efficient methods of knowledge creation in order to generate new business opportunities and relationships? How can management research contribute prospectively the sensemaking capabilities and processes of organisations? Management research cannot substitute for practical decision-making. Instead, it can contribute to the actual conditions of decision-making. To the extent that management research modifies our understanding of decision situations, it possesses what one could call conceptual relevance (Nicolai & Seidl 2010).

As Herbert Simon (1959) has said, while the future cannot enter into the determination of the present, expectations about the future can and do. According to Simon (*ibid.*), the work on the formation of expectations represents a significant extension of classical theory. For, instead of taking the environment as a "given", known to the decision-maker, it incorporates the process of producing knowledge with respect to the environment in the theory. In other words, in the theory it incorporates the ability (or inability) to anticipate, reflect and enact changes and developments both in the practice of one's own company and in the customer's business.

To have an expectation is to envision something that is reasonably certain to come about (Weick & Sutcliffe 2001). To expect something is to be mentally ready for it. Every deliberate action we take is based on assumptions about how the world will react to what we do. Expectancies form the basis for deliberate actions because expectancies about how the world operates serve as implicit or explicit assumptions that guide behavioural choices. Expectations direct our attention to certain features of events, which means that they affect what we notice, mull over and remember. When we expect something to happen, that is a lot like testing a hypothesis (Weick & Sutcliffe 2001).

In the theory of social systems (Luhmann 1995, 1997; see also Seidl & Becker 2005), the dynamics of interaction and communication are explained by contingency and expectation. First, contingency arises because agents are complex systems that are "black boxes" for each other. An agent will never know exactly what the other will do next. The reciprocity of social situations between parties

("Alter" and "Ego") results in double contingency: alter contingency and ego contingency. Second, the black box problem is resolved by expectations. Agents (can) create expectations about the future actions of other agents to adjust their own actions. Ego has the option to build up expectations that make the variable and unpredictable behaviour of Alter predictable and expectable. Ego can expect that Alter also orients himself according to expectations. The expectations of expectations of the other, that is reflexive expectations, make it possible for Ego and Alter to include the other's orientation selectively in his own orientations. If it were not possible to expect the expectations of other parties, there would be no possibility of orienting actions, or the setting-up and continuation of communication. In addition, no (particular) social system would be possible (Tangen 2004). In sum, expectations are a crucial mechanism for the regulation of interaction and communication between heterogeneous parties.

The concept of structural coupling (Luhmann 1995; Mohe & Seidl 2011) refers to the case of two systems that have adjusted their respective expectations in such a way that systematically allows mutual resonance. That is, whenever one system produces an event of a particular kind (e.g. a marketing event), it is very likely that this event will trigger a reaction of a particular kind (resonance) in the structurally coupled system. As a consequence of their structural coupling, the systems become resonant to each other but only according to their very own logic.

Expectations play an important role in determining leadership effectiveness, for instance (Eden 1992). Scholars and practitioners have noted that leaders who expect more get more. The leader expectation effect is a special case of a self-fulfilling prophecy (Eden 1992; Merton 1948; Hedström & Swedberg 1998). A self-fulfilling prophecy is the process through which the expectation that an event will occur increases its likelihood of occurrence. When expecting something to happen, we act in ways that make it more likely to occur. McGregor's (1960) Theory X and Theory Y invoked self-fulfilling prophecy as an explanatory concept. McGregor described the circular process by which managers' assumptions and expectations determine how they treat their subordinates, which in turn affects how the subordinates respond (Eden 1992).

As Ballantyne et al. (2011) note, a potentially valuable proposition to a counterpart firm can be crafted in advance by any initiator. When crafted, these value propositions become a starting point for negotiation, or an agenda for working together with participating stakeholders so as to create mutual benefits. Second, if the parties involved so wish, propositions can be co-created over time, with value being realised in use over time. In order to develop robust value propositions, it is meaningful to establish processes of dialogue and knowledge sharing between parties. Besides, there are additional benefits to be gained from an interactive learning approach (Lundvall 1985) to creating reciprocal value propositions.

According to Castelfranchi (2005), intelligence refers not just to the capacity to exhibit complex adaptive behaviours, nor the capacity to solve problems (for example blind trial and errors), but the capacity to solve a problem by working on an internal representation of the problem, by acting upon "images" with simulated

actions, or on mental models or symbolic representations by mental actions, before performing the actions in the real world.

With respect to the investigated case, this means that the new solutions-providing company can in principle create proactive heuristic schemes and models about its potential offering and its function within specific customer and user contexts (cf. Ballantyne & Williams 2008). Secondly, the company can utilise the knowledge that the user side practices, schemes and mental models (Welch & Wilkinson 2002; Ballantyne & Williams 2008) have to be commensurate with the new solutions in its decision-making and operation. That is to say, the awareness of the potential customers has to resonate sufficiently with the new energy management-serving solutions. Thirdly, it is an opportunity for the new solutions-providing company to influence these customer practices, schemes and mental models through its own knowledge-intensive services.

Management research can support the formation of expectations through framing and reframing the situation (Goffman 1986; Kaplan 2008; Benford & Snow 2000). Goffman (1986) comprehended frames as guides to interpretation, which is constructed through interaction. Framing is an active processual phenomenon that implies agency and contention at the level of reality construction (Benford & Snow 2000). According to Benford and Snow (2000), we can distinguish between diagnostic framing (assessment of the problem) and prognostic framing, that is assessment of the solution (see also Werle & Seidl 2012; Kaplan 2008).

As March (1994) notes, decision-makers typically frame problems and solutions narrowly rather than broadly. They decide on local options and local preferences without considering all the alternatives. They are normally content to find a set of sufficient conditions for solving a problem, and not necessarily the most efficient set of conditions. Assigning proper weights to things in the spatial, temporal and causal neighbourhood of current activity as opposed to things that are more distant spatially, temporally or causally is a major problem in assuring decision intelligence. It is reflected in the tension between the frames of decision-makers, who often seem to have relatively short horizons, and the frames of historians, who (at least retrospectively) often have somewhat longer horizons.

Management research may facilitate practice through providing conceptualisations that shapes managers' perceptions and thoughts, thereby enhancing their problem-solving capabilities (Astley & Zammuto 1992). Conceptual devices may increase mental agility, allowing managers to redefine problems in ways that are more amenable to resolution. Problem-solving abilities can be increased by developing "complicated understanding" (Weick 1979; Bartunek et al. 1983) of the matter at hand. Complex understanding includes both differentiation and integration, the ability to understand an issue from a variety of perspectives, and to synthesise aspects of these perspectives in an appropriate response. The development of more complex understanding suggests, then, at least a two-stage process in which people are assisted first to perceive an issue from multiple yet specific and detailed perspectives, and then to achieve an integration that incorporates the different perspectives (Bartunek et al. 1983).

6.3 Concluding remarks

Organisation, management and business research can, in principle, facilitate a company and its decision-makers in complex, contradictory challenges and requirements involving decision-making situations. The extent to which it is possible for research to contribute to practical decision-making depends on the methodological and theoretical solutions (cf. Splitter & Seidl 2011). Researchers can approach the challenges of practical decision-making from several viewpoints and on the basis of a comparative view. Researchers can contribute to complex decision-making situations by making observations from different positions, and by making comparisons between alternative solutions and their foreseeable outcomes. Thus, researchers can reduce and increase the complexity of practical decision-making in a meaningful way (cf. Vos 2002).

As proposed above, practical problem-solving skills can be increased by developing “complicated understanding” (Bartunek et al. 1983; Astley & Zammuto 1992; Nicolai & Seidl 2010): the ability to see and understand organisational problems and solutions from several, rather than single, perspectives. Complicated understanding is so important because many of the problems managers face are “messy” or “wicked” (Rittel & Webber 1973; Ackoff 1974; Roth & Senge 1996), which can be framed in many different ways, have many different answers, and are rarely definitely resolved (Nicolai & Seidl 2010). The apparent simplicity of a situation is often more a function of the constraints put on the framing of the issue or problem at hand than a reflection of any inherent properties of reality (Shackley et al. 1996).

Research has the potential to produce conceptually relevant knowledge. The term conceptual relevance refers to the impact of scientific knowledge on framing and reframing the decision situation in practice. The greater the extent to which scientific knowledge modifies our understanding of decision situations, the stronger is its conceptual relevance (van der Meer-Kooistra & Vosselman 2012). As Nicolai and Seidl (2010) note, a shift of focus from instrumental to conceptual forms of relevance would lead to a change in management research and education. “Pseudo-professionalism” would be replaced by a form of education with an entirely different orientation: breaking rather than following rules, rich observations rather than simplifications, and an entrepreneurial rather than a managerial attitude (cf. Bartunek et al. 1983). Conceptual use does not require immediate, direct application. It gives great latitude to users in selecting, redefining, altering, combining and reinterpreting research results to fit a wide variety of circumstances.

Paton et al. (2014) go even further. According to them, to be truly effective, management research must not merely operate in a “problem-solving” mode offering what executives “want” or even what they perceive they need – instead it must be a constant source of disruptive and discomfiting experiences so that a more rigorous reassessment of their strategic priorities and practices can be effected. According to authors, shifting paradigms and the expansion of the decision possibilities is the true ultimate aim of management research and executive education.

The aim should be that both academics and practitioners are able to reflexively learn about the limits and limitations of their own favourite theories and practices.

Mutual learning requires a critical and constructive approach. Alvesson and Sköldböck (2009; Alvesson et al. 2008) differentiate reflexive research practices between those that emphasise avoiding problematic things and those that try to produce new insights. They refer to the former as D-reflexivity, where the D stands for deconstruction, defence, declaiming, destabilising and denaturalisation. D-reflexivity engages with the problems, uncertainties and contingencies of knowledge claims. R-reflexivity goes in the other direction. It is about developing and adding something. R-reflexivity refers to reconstruction, reframing, reclaiming and re-presentation. R-reflexivity practices provide alternative descriptions, interpretations, results, vocabularies, voices and points of departure that could be taken into account. R-reflexivity aims to open up new avenues, paths and lines of interpretation.

Reflexive researchers can also engage in practices that create a dialectic between D-reflexivity and R-reflexivity (Alvesson et al. 2008). Moving between tearing down – pointing at the weaknesses in the text and disarming truth claims – and then developing something new or different, where the anxieties of offering positive knowledge do not hold the researcher back. For example, one can use D-reflexive practices to demolish the assumptions of a text, thereby creating space to engage in R-reflexivity and construct an alternative and emancipatory text. Deconstruction can be used to destabilise or denaturalise the text and to challenge its assumptions, which then enables the use of R-reflexivity to introduce new assumptions that construct a different and potentially emancipatory text, providing a new understanding of research and organisational practices.

However, organisation and management research should continuously reflect on and improve its ability to achieve resonance in practical discourse and decision-making. This reflection should focus on the content and process side of research (cf. Seidl 2007). On the content side, one should try to develop theories and concepts that are likely to have resonance in practical discourse. On the process side, one should try to ensure that the process of research comes into contact with management practice.

On the content side of organisation and management research, it is necessary to generate theories that both grasp important aspects of the logic of practice and articulate what is going on in the organisations and fields under study (Sandberg & Tsoukas 2011). This is possible since practices are always already constituted by distinctions that direct and constrain those practices. The question inevitably arises as to whether such distinctions are adequate, complete and useful – hence the need for more refined distinctions (Sandberg & Tsoukas 2011, 354). The aim is to provide organisational practitioners with resources to view their organisational practices in a different light and, based on that, to be able to create new ways of performing and enacting their practice. The question is how “managerial imagination” (Shackle 1979; Witt 1998; Loasby 2001) can be methodologically stretched.

The problem remains that practitioners and decision-makers seldom have an opportunity to systematically and diversely follow scientific discussion (Kieser &

Leiner 2009; Rasche & Behnam 2009; Splitter & Seidl 2011). Research and practice are separate and independent domains of communication and action. Additionally, the learning-by-doing process is a circular, self-referential process (Vos 2002; Weick 1995a). Sensemaking refers to the closed-loop process comprised of enactment, selection and retention activities that enable individuals and organisations to resolve equivocality and complexity (Ellis et al. 2011). On the basis of the theory of social systems (Luhmann 1995, 2000) it can be said that two basic characteristics of organisations are self-reference and operative closure (Kieser & Leiner 2009). Operative closure means that operations from the outside cannot directly interfere with operations (decisions) within the system. External events and communications may “trigger” internal processes as reactions but they cannot determine them (Seidl 2005). Self-reference means that communication within a system always ties in with earlier communication within that system. To qualify as an element of a system, the communication has to be connectable to other communication within the system. Communications and meanings that are not connectable belong to the system’s environment (Kieser & Leiner 2009).

To achieve the resonance in practical decision-making, firms must be made aware of existing blind spots underlying their corporate observations and proactively trigger new observations and options (van der Vorst 1997). Within novel cybernetic and systems theoretical research, the idea of research as “second-order observation” (Vanderstraeten 2001; Seidl 2003; Andersen 2003) and a method of functional analysis (Luhmann 1972; Christis 2005; Knudsen 2011) has been emphasised.

According to second-order cybernetics (Von Foerster 1981; Heylighen & Joslyn 2001; Glanville s.a.; Vanderstraeten 2003), what one observes depends on the distinction that is used. Second-order cybernetics abandons the kind of questions that deal with the correspondence between the knowledge system and the known environment. Distinctions are the foundation of observation (Spencer Brown 1972; Luhmann 2002b; Seidl & Becker 2006). The observed reality is the product of using distinctions and differences. Each observation is an operation which draws a difference, but that difference is not visible to the observation itself. The observation always indicates one side of the difference and leaves the other side unmarked and yet constitutive in the observation. One sees what one sees, but one does not see the perspective and the difference (distinction) through which one sees (Andersen 2009). The distinctions and differences used remain hidden to the observation itself; it is the “blind spot” of observation. However, this does not preclude the fact that an observation can reflect upon another observation by a different observer or by the same observer at another moment in time (self-observation). A second-order observer is an observer who observes another observer. He uses a distinction that is different from that of the first-order observer. The second-order observer can see the blind spots of the first-order observer, and he can see that the first-order observer could also use other distinctions and make other observations (Seidl 2003). Observing other observers observing is, in fact, a common practice (Langlitz 2007). We become particularly aware of the way in which others see things when it differs from our own perspective. When observing

another observer observing, we are less interested in what they observe than in how they observe their reality. Social scientists – like everybody else – can practice both kinds of observations.

Second-order observation does not focus on which opportunities management observes, for example, but instead which opportunities they do not or cannot observe because of their own concepts, frames and distinctions. Researchers can, because of their own frames and distinctions that are different from those of the management, observe opportunities that the management would almost inevitably miss. This does not mean that researchers are somehow inherently better at observing business opportunities; they can, however, view a certain challenge and possible solutions from a completely different perspective than practical decision-makers.

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Title	<p>Initiating business opportunity creation in nascent markets</p> <p>A practice-based, future-oriented explorative case study</p>
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Abstract	<p>This study focuses on enhancing the sensemaking capability of the organisation. The starting point is the assumption that the process of identifying and creating new business opportunities is typically an evolutionary process based on experiential learning, and trial and error. This implies that future-oriented sensemaking capabilities are constrained by past actions. However, companies with advanced sensemaking capability can anticipate the potential development path(s) of the field. This gives them a strategic advantage. The issue of developing the more complicated cognitive frameworks and improving the sensemaking capacity of an organisation is approached methodologically on the basis of collaborative management research. Methodologically we are focused on the question of how the sensemaking capacity of individual organisations can be supported and extended. The empirical point of reference of the study lies in the business development process of ABB Marine. The company is developing new energy management solutions for the use of the marine industry. The researchers aimed to support the development work and decision-making on new offerings and business development, and to generate new knowledge of the creation of new markets and business opportunities at the fuzzy front end of innovation. We focus in particular on how proactive or future-oriented sensemaking can be extended by drawing on collaborative research processes and "engaged scholarship". The task of future-oriented sensemaking is to construct intersubjective meanings, images and schemes in conversation where these meanings and interpretations create images of future orientation. The question of future-oriented sensemaking is approached conceptually and thematically on the basis of both entrepreneurship research and service-dominant logic as an issue of new business exploration and creation. The practical outcome of the study includes the conceptual model and framework that links offered technological solutions and services to customers' needs and demands. Instead of trying to solve the problem of opportunity creation in a trial and error manner by offering technological solutions only, the opportunity creation is supported through the innovative combination of services and technological solutions. Based on the research, it is possible to construct a heuristic model of how to facilitate business opportunity creation in nascent markets. It is also possible to construct a generic model/theory regarding the mechanisms which mediate the development of new market relationships. In addition, it is possible to clarify the view of why the dialogue and collaboration between research and practice is necessary and on what methodological grounds it is possible to produce both scientifically and practically relevant knowledge. One of the main results of the study is that practically and scientifically relevant knowledge can be produced with the methods of practice-oriented intervention research. In fact, it is shown that this is a real opportunity, not just an intention or a normative idea. Through collaborative management research, it is possible to contribute to both scientific discussion and practical decision-making. In relation to practice and decision-making it is possible to produce conceptually relevant knowledge. The term conceptual relevance refers to the impact of scientific knowledge on framing and reframing the decision situation in practice.</p>
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Initiating business opportunity creation in nascent markets

A practice-based, future-oriented explorative case study

New technologies can potentially shape businesses at every market. While providing new opportunities, they also make the business landscape more complex to negotiate for business developers. Creating and commercialising new solutions becomes challenging as there is abundance of potential emerging opportunities but limited resources to test their functionality at the outset.

Innovation process can be understood comprising of three phases: ideation or fuzzy-front-end phase, offering development phase and commercialisation phase. Fuzzy-front-end phase represent the most critical and challenging phase of whole innovation process, and simultaneously one of the greatest opportunity to improve overall innovation capability.

This publication provides insights how collaborative management research can support the ideation and offering development process in a nascent market situation. A case study is presented, where the innovative combination of new technologies and services provided a way forward for the case company in commercialising its new offerings in an emerging market.

The results of the study can be applied in the commercialisation of new technological solutions in general. The study also presents an approach to produce both practically and scientifically relevant knowledge. Thus, this publication provides relevant knowledge both for the practical business developers and management researchers.

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