



HAL
open science

Actions driving and legitimizing radical innovations in a large firm

Johansson Magnus, Rani Jeanne Dang, Rick Middel

► **To cite this version:**

Johansson Magnus, Rani Jeanne Dang, Rick Middel. Actions driving and legitimizing radical innovations in a large firm. The Conference for Organisational Learning, Knowledge and Capabilities (OLKC), Apr 2012, Valencia, Spain. pp.3. halshs-00727515

HAL Id: halshs-00727515

<https://shs.hal.science/halshs-00727515>

Submitted on 4 Sep 2012

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Interrupted innovation

Actions driving and legitimizing radical innovations in a large firm

Magnus JOHANSSON, Rani J. DANG, Rick MIDDEL

Institute for Innovation and Entrepreneurship, University of Gothenburg, Sweden

Corresponding author: Magnus.Johansson@handels.gu.se

Abstract

In a longitudinal real time case study over 14 months, we follow the process of radical innovation in an incumbent Swedish firm. Applying institutional theory and the concept of legitimacy, we try to shed new light on the firm process of developing and implementing radical ideas. We deconstruct the black box of individual actions undertaken in the process and trace the effect of these actions on the development and legitimacy for the radical idea. We find that when an idea lack top management support and the process of innovation are interrupted, lower level employees' action can have a defining impact of the survival. In the literature there is a perceived need for a consistent view on how to organize the bottom up processes of innovation within a firm. Emerging from the qualitative grounded analysis we thus formalize these actions undertaken in a radical innovation process.

Key words: Legitimacy, Radical Innovation, Actions

DRAFT: Please do not cite or spread document without contacting the authors

1. Introduction

Innovation is about “a process of developing and implementing a new idea” (Van de Ven and Angle, 1989:12). This process can take numerous forms: placed in different contexts, with different actors, representing various outcomes and magnitude - from small incremental steps to more radical ones. Radical innovations can involve new products, novel technologies and novel application areas or market segments (Gatignon, Tushman, Smith, & Anderson, 2002; Leifer et al., 2000). Developing radical innovations is proven to be problematic for firms of all size. In this process, there is a challenging task of achieving legitimacy for these activities. Radical ideas cause opposition from established forces, activating inertia, when challenging existing trajectories - structures, cultures, routines and old investments. And institutional forces constrain innovators in developing ideas in to what is legitimate within existing institutional logics and structures, thereby inhibiting radical innovations (Christensen, 1993; Tripsas & Gavetti, 2000). In other words, the challenge here is that activities developing the radical innovation do not align with the institutionalized practices, and thus cause opposition when it hurt vested interests, violate the existing system of thought and action, threatening with sunk costs, or fall into a vacuum where no shared understandings exist to make them meaningful (Dougherty & Heller, 1994).

Both practitioners and scholars agree in the difficulties for large established firms to develop radical innovations. Researches have pointed in different directions trying to better explain this fact. Mitchell (1989, 1992) used neo-classical economics to explain why incumbents fail to handle more radical innovations. Having a strong position in an established, profitable market implies that the opportunity cost of initiating more uncertain projects is too high. Large firms are more prone to wait and see if uncertainties resolved before entering on a new trajectory since they are often bound by sunk costs (Lieberman and Montgomery, 1988). Fear of cannibalization has also been pointed out as a factor that makes it seemingly rational for an established firm not to invest in a more radical innovation (Reinganum, 1983; Baldwin and Scott, 1987; Reinganum, 1989). Dougherty and Heller (1994) found that product innovations in established firms frequently ran into problems regarding connections of new products to firm strategies and structures, collaboration across departments, and links between technological opportunities and market needs. If the explanations are somewhat scattered, the proposed solutions in the literature have been more unified, pointed towards separating more radical ideas from the rest of the organization in order to provide shelter from institutional conforming forces. Yet successful radical innovations do occur within established firms (Leifer et al., 2000) without separating and shelter the process from existing institutional pressure. To better why, it is thus vital to understand how to overcome and counter the conformation pressure from existing institutional logics.

1.1 Gap

The rationale of this explorative study is to gain in depth knowledge about the process of radical innovation in general, the legitimacy process and individual actions that enhance

legitimacy in specific. In doing so we approach some of the gaps that have been targeted by scholars before us. From a theoretical point of view, Cattani, Ferriani, & Lanza, (2010) argue that there is a need to better understand the process of novelty acceptance. Greenwood, Hinings, & Suddaby, (2002:61) shows that “most writers to date have largely ignored how new ideas become legitimated, except where it occurs through processes of mimicry” (p.61). Takeishi, Aoshima, & Karube, (2010) argue that legitimacy itself and ways to obtain it have not been fully explored and open up for further research on the topic. Hargrave & Van de Ven, (2009) ask the question how novel actions within institutions possible when actors are constrained by the same institutions? Earlier writings in in the institutional school (see Suchman, 1995) call for more empirical research on the legitimacy process: “Because we lack studies that address the full range of legitimation techniques, we currently can say very little about the nature (or even the existence) of ‘typical’ legitimation progressions.” (Suchman, 1995:602-3). From a methodological perspective, first Boxenbaum (2008), argue that a number of studies already address legitimation techniques but these studies use inadequate methods “Archival sources, textual data, and retrospective interviews from case studies that were selected on the dependent variable are not sufficient data sources for studying legitimation processes; yet they are, by far, the most commonly used in previous studies”. (2008:238). van Dijk et al., (2011) take a micro-institutional view when studying legitimacy strategy in radical innovation projects. In a similar fashion they also call for more real-time investigations of legitimacy actions. They argue that real-time studies are missing for understanding the reflective processes from the early phases of innovation histories. *Second*, apparent when reviewing the literature of legitimacy is the macro focus (e.g. relation between firm/organization and industry/society/government) thus leaving out the micro perspective (Jarzabkowski, Matthiesen, & Van de Ven, 2009). Hence, there is a need to translate and further extend the prior work to lower levels, viewing the established company as an institution that both enables and constrains actions. (Dijk, et al., 2011). The gaps above can be summarized in two theoretical gaps: (1) what is the process of novelty acceptance looks like in general, and in specific when it do not occur through mimicry, (2) what ways/techniques individuals use to obtain legitimacy. And in two methodological gaps: (1) The lack of real-time studies, (2) and the need to extend and transfer institutional theory to lower levels.

1.2 Research Question

What actions are taken in the process of driving and legitimizing a radical innovation in an incumbent firm and what is the outcome of these actions?

2. Theory

2.1. Innovation process: Legitimacy as dominant evaluation criteria

Innovation starts from an idea whose technological feasibility and marketability is most often uncertain, and there is no objective prospect of achieving economic value beforehand. The process of innovation is highly uncertain, controversial and boundary crossing (Kanter, 1988) and managing the innovation process is challenging and complex (Goffin & Koners, 2011), comprised of multifaceted factors involving different actors at different stages (Takechi et al., 2010). The process usually involves a great extent of cycling back and forward, in a non-linear fashion, where the actual outcome is unknown and characterized by high variability and low analyzability (Souder & Moenaert, 1992) Moensted (2006) argue the most important decisions, with the greatest implications, are made in the early stages of the innovation process, before all relevant information is available. Thus, the process cannot be explained solely by economic rationality but reveals that the subjective, local reasons of particular actors to agree to mobilize resource do matter more than objective, universal reasons. (Takeishi et al., 2010). Van de Ven (1986) in the same line of reasoning introduce legitimacy as dominant criteria in this process: “since the value or correctness of innovative ideas rarely can be objectively measured or analyzed, until late in the process, the perceived legitimacy becomes the dominant evaluation criteria.” (1986:604). The concept of legitimacy encompasses not only technological and economic factors but also social and political factors. Boxenbaum (2008) makes it more distinct saying that “even genuinely novel ideas that revolutionized our understanding had to be legitimated when they were first introduced (2008:23) and that these ideas are not consistent from project start to finish. While managers may support "innovation" in general, the specific radical idea can in fact been seen as illegitimate in relation to existing institutions. Actors who come up with a radical idea, are very often not the same people who can commercialize or implement the idea (Schepers, Schnell, & Vroom, 1999). Thus these actors “has to convince relevant actors inside and outside the organization of the legitimacy of putting manpower, allocating budget, and investing other precious resources for development and commercialization.” (Takeishi et al., 2010:168) Further, ideas that lack legitimacy may fail to acquire resources and thus be abandoned ((Dougherty & Heller, 1994; Zimmerman & Zeitz, 2002)). In line with the reasoning above, the resource allocation in the radical innovation process do not seems to lend itself to rational calculations, alone. It is rather said to be dependent upon the perceived legitimacy for an idea, which encompass subjective, social and local reasons by various actors in different times.

2.2. Legitimacy and Institutional theory

Legitimization is to be seen as a dynamic process over time where the subject of legitimacy, here expressed as a radical idea is in transition (Boxenbaum, 2008). Further, the need for legitimacy also changes in the different phases of the process: People to whom the subject has to appeal for legitimacy - from colleagues within an R&D division, to people and organizations outside the firm boundaries, to colleagues in the production and sales functions to members in top management team. Not only is legitimacy a continuous construct, it is also a multidimensional one. The different dimensions of legitimacy are interrelated, but are important to distinguish when studying them (Suchman

1995). Suchman (1995) define legitimacy as: "...implies congruence with 'some socially constructed system of norms, values, beliefs, and definitions'". (p. 574) There has been some debate as to how much influence an organization has on its own legitimacy. In the institutional theory the literature can be divided into two camps - one strategic, and one institutional (Suchman 1995). First, institutional legitimacy has a more passive view, seeing legitimacy more as a constraint and focuses on the pressure that the environment exerts on them (Massey 2001). The traditional interpretation allows little room for embedded actors making deliberate choices or initiating institutional change, and predict a conformity response (Scott, 2001). Second, the strategic, has a more active view, proposing that legitimacy is to a certain extent controllable by individuals, and seen as a resource individuals (Oliver 1991). In this vein, actions to gain legitimacy is generally seen as a proactive, where actors use deliberate strategies (Hargadon & Douglas, 2001). Some argue the opposite, that actions are instead less intentional ((Lippi, 2000), where actions fall along a continuum from relatively passive conformity to relatively active manipulation. And these nuances are more likely to become visible when studying the process in real-time (see Boxenbaum, 2008). Breitsohl (2009) acknowledge both streams, arguing that institutional environments do shape the course of an organization's evolution, but not independently of it. In line with Breitsohl, we take a strategic approach in this paper, recognizing the need and possibility for individual actions, but at the same time recognize the conforming pressure of institutions. Suchman (1995) define three main strategies for organizations to manage legitimacy. Legitimacy-building strategies fall into three clusters: (1) efforts to conform to the dictates of pre-existing audiences within the organization's current environment, (2) efforts to select among multiple environments in pursuit of an audience that will support current practices, and (3) efforts to manipulate environmental structure by creating new audiences and new legitimating beliefs. ((Suchman, 1995:587). (1) Conforming is the easiest way of gaining legitimacy is simply to position within a pre-existing institutional regime. Conformist strategies align with the pre-existing cultural order and pose few challenges to established institutional logics. When conforming, it means that one is not required to break out of established frames; rather, the conformist can turn a liability into an asset, taking advantage of being a cultural "insider". (Suchman, 1995;587). Conforming actions are adaptations of the new idea to established interests, norms and beliefs. Actions and ideas thus adapted become more consistent with established practices, and fit better into established structures (Oliver, 1991). (2) Selecting is a strategy when its not possible to conform to the demands of an initial setting. Selection strategies seek another sponsor who accepts the organization as it is. Then actors attempt to relocate to a friendlier environmental niche in which otherwise illegitimate activities appear to be more appropriate and accepted. (Suchman, 1995). (3) Manipulating is an action when the first is not enough. Suchman (1995) argue that most organizations gain legitimacy primarily through conformity and selection, for some, these is not enough. Departing substantially from prior practice must often intervene pre-emptively in the cultural environment, where manipulation strategies are more a matter of evangelism than of management.

3. Method

We conducted a longitudinal qualitative study in real-time thus answering to the methodological concerns authors have raised (see Boxenbaum, 2008). “The question “what is legitimacy?” often overlaps with the question “legitimacy for what?” (Suchman, 1995:573) where “subjects of legitimation’ are those social entities, structures, actions, and *ideas* whose acceptability is being assessed. (Suchman, 2008). The subject for legitimacy in this paper is a radical idea diverting from the firms core business. Following a radical innovation provides an exemplary setting to investigate actions, because conflicts with existing institutional logics (van Dijk et al., 2011). In this paper we define the radical innovation as a new product, novel technology and novel application areas.

3.1. Data collection

The main sources of data consist in interviews and archival documents. We conducted 18 in-depth semi-structured interviews with people from different departments and levels inside the firm, and one observation. Each interview lasted around 1 - 2,5-hours. Informal discussions with a firm mentor have been carried out frequently.

3.2. The case study

A case study research design is particularly relevant to our objective to deconstruct the black box of actions undertaken in the process of gaining legitimacy.

The research setting takes place at a large established Swedish Forest Company; which is one of the world’s biggest produce of paper pulp. The firm, here referred to as Alfa, has a long history of good profits, stable finances and high productivity. However, in the last decade, the conditions in the industry of global paper and forest products have been rapidly changing, thus exerting pressure on the organization to find new products innovations. First, paper is no longer used in the same way as before and the demand is changing in form and degree with a decreasing demand for the principal end product, printing and writing paper. What the industry has witnessed for some years, and what is now accelerating is a migration to digital media, electronic readers, and paperless document systems. Second, the global production has been shifting towards developing regions. “The competition has increased and shifted in the last 10 years, with increased competition from companies in South America...as the same time as they are improving their quality.”

The changes described above have put pressure on the organization to find new products and markets. The insight of the need to move away from the diminishing segments, in favor for more attractive growing segments, has evolved gradually and is today a widespread view: “There has been long time discussions about what is going to happen and the trends, but it has been first lately we have seen it in the figures for the printing paper... and we have a challenge to find new offset markets for our input products – the many tonnage of forest”

3.3. The method of analysis and presentation of the findings

The paper draws on the *grounded theory* method of analysis (Glaser and Strauss, 1967) in a theory building perspective. The literature on the Innovation process and the value of legitimacy as well as the Institutional theory approach of innovation was used only to structure the data collection and helped to analyze the data. Nevertheless, the insights we gained emerged from the data. As suggested by Goia (2007), we analyzed the data simultaneously to their collection so as to follow the constant comparative techniques (Glaser and Strauss, 1967). This technique is very helpful for a rigorous data collection and analysis as it enable to update and determine what are the next data to collect. Moreover such technique facilitates the process of identification of the main dimensions emerging from the data and provides the basis for the set up of a data structure (Corley and Gioia, 2004). The data structure (cf. Figure 1) was developed iteratively by identifying the quotations from interviews that supported first and second-order concepts. First, through the double coding of each interview separately and drawing from informants' words, we detected similar ideas that we merged. From this, we established preliminary categories. While developing them, links between concepts appeared and allowed us to merge them into distinct theoretical groups, or second-order concepts. We gave them analytical codes to recognize them. As noted by Goia (1994, 2007) the second order concepts are more abstract concept induced by researchers but using the informant terms. Then were assembled into aggregated dimensions. This step was crucial to build our theoretical model as aggregated dimensions are linking the different phenomenon that derived from the data. Indeed, as recommended by Goia, the data analysis technique was not followed in a linear manner. On the contrary, the technique was developed in a processual way, i.e. we continued the collection as well as the analysis of data until we had a clear view on the theoretical emerging links. The following Figure 1 presents the final data structure and shows the central "aggregated concepts" from which we drew our model to analyze the legitimation process

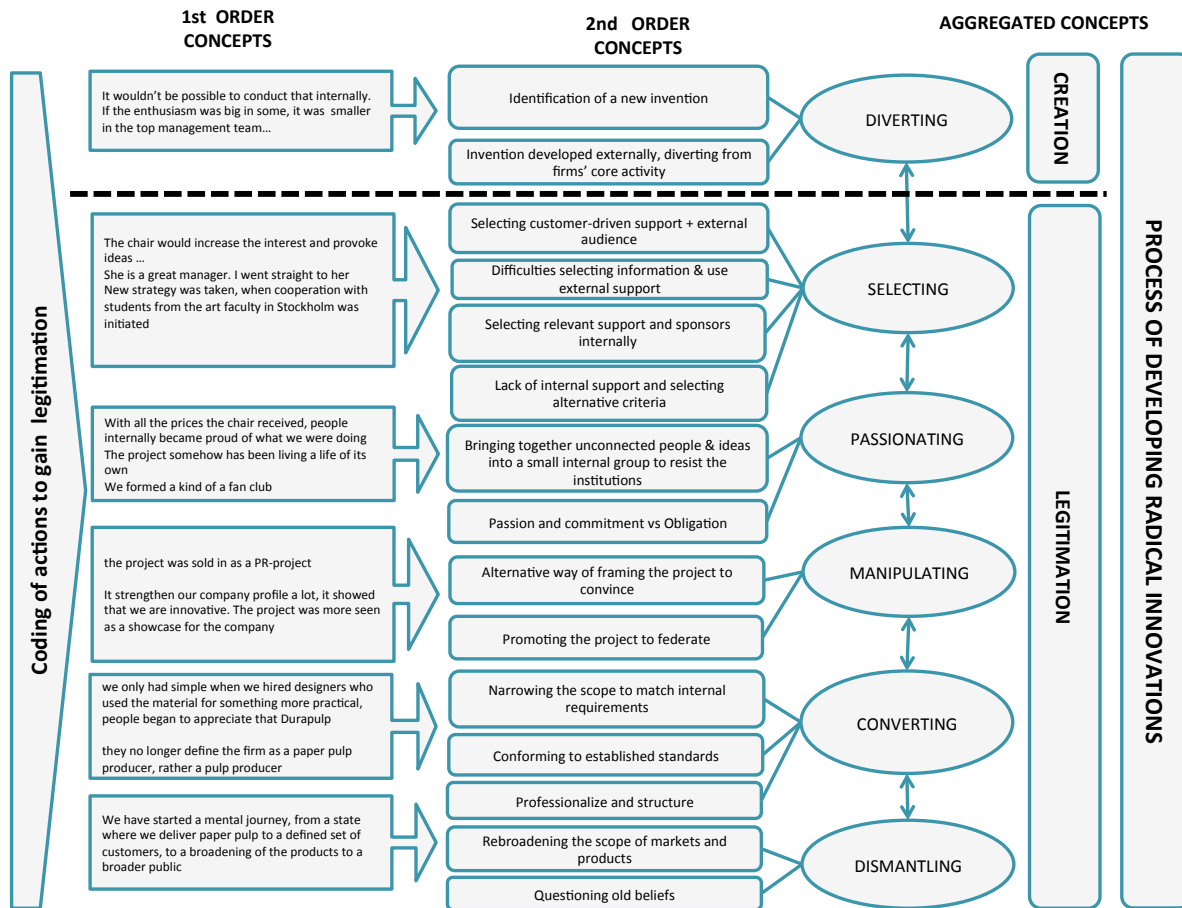


Figure 1

The abstraction process is developed in two different steps (Nag *et al.*, 2007; Gioia, 1994):

- The *first-order results* stay close to the data and are described through a narrative of the case study. It is developed iteratively and identifies and describes the actions taken in the legitimation process. The narrative follows the coding presented in the data structure. It is based on the first and second order concepts and allow the identification of the aggregated concepts.
- The *second-order results* present a conceptual study of the results presented in the narrative, but in more abstract level, through a grounded model that links the actions we have identified, how they have emerged, their role and influence on the radical innovation process and successful legitimacy claim in established firms.

Overarching dimensions & Second-order concepts	Representative quotations
1. Overarching dimension: DIVERTING	
Identification of a new invention	"In 2007 we filed a patent application since unique characteristics and interesting technical properties had been revealed: It was a totally new to the market. It was

	<p>renewable, and degradable and quite water resistant and with a natural feeling." "It is a completely new product, new technology, new thinking, new business logic, new customers, new applications...we have a big respect for this challenge...to handle this, we need focus, resources and maybe we need to hire new competences" "This was not only totally new for our company, but also totally new for the world...a biodegradable composite material, with so many different applications".</p>
Invention developed externally, diverting from firms' core activity	<p>"This project was about working with new people, external, informal routes, fast decisions, really experimental. It was critical that we worked externally, this material could never been realized internally"</p> <p>"It wouldn't be possible to conduct that research internally. It was too demanding and too long processes, and not in line with what we were doing at the time"</p> <p>"It was long-term research. And it had been on going for 8 year. Results that we could capitalize on in the later phase"</p>

2. Overarching dimension: *SELECTING*

Selecting customer-driven support	<p>We were hoping that the chair would increase the interest and provoke ideas among our existing customers, but also among new potential customers and markets, and thus initiate a dialogue with these new groups"</p> <p>"The idea was to show the possibilities the new material offered for a different set of people"</p> <p>"We worked with many different contacts, and then we decided to go into deeper discussion with some of the companies that we perceived as offer more promising cooperation"</p>
Selecting relevant audiences externally	<p>"The cooperation has been extremely enriching for our company, and it has meant that we have been seen by a wider public."</p> <p>"The chair received feed back from all over the place. Those who wanted to start selling it in Australia, Finland, France. They wanted order, come and visit us to tell us of the various color patterns they wanted the chair in. From producers who said they could manufacture the chair. From other industrial partners who expressed their interest in the material as such"</p> <p>"The participating firms in the center didn't show enough interest in the material. So a new strategy was taken, when cooperation with two students from the art faculty in Stockholm was initiated".</p> <p>"After the success at the fair, I met up with a very creative person XXX in this center. One afternoon we had a meeting with many different people involved, from a diverse set of industries. I ended up in a meeting with Mårten Claesson från Claesson Couvisto Rune They wanted to produce a chair in paper, in this new material".</p>
Difficulties in selecting information and use external support	<p>"When we arrived home, we had 10 times more business cards as when we arrived. But we had no idea how to use them"</p> <p>"We weren't prepared to receive that huge genuine interest from so many different directions"</p> <p>"The feed back from the interested parties wasn't received that well from our firm. We weren't prepared, and we had to say no in the beginning, because of time but also most because we didn't dare."</p>
Selecting relevant	<p>"From this meeting I went strait home to my company, and into my manager's office. We had these discussions and we want to make a chair. Something that you think we</p>

support and sponsors internally	<p>should go for? She agreed to go for the chair, and the project was added 200 000 SEK.”</p> <p>“With the project being visible in the fairs in Milan receiving all the feed back, the marketing director really embraced the idea”</p> <p>“When sales and marketing got interested in the idea, the project was automatically added new resources”</p>
Lack of internal support	<p>"I feel that I much more understand out other projects we have in the company than this. I even tried to stop the whole project. And if you ask me today, I'm still not convinced"</p> <p>“Well, there wasn't really support for the project higher up in the hierarchy, since they saw it more as a marketing project, and a popular material, without the ambition to commercialize it”</p> <p>“Lower level management wanted to push the project forward, but there was a hesitation, and what was going to be shown: there was simple too many question marks surrounded the project, which made it difficult to grant it more money.”</p>
3. Overarching dimension: PASSIONATING / BUILDING COLLECTIVE	
Bringing together unconnected people & ideas into a small internal group to resist the institutions	<p>"The chair we showed in Milan got big repercussions throughout the whole company. Our own magazine had been writing about it, and In Sweden in general there is a big interest for design. So a guy from IT approached me and said that he liked our chair that was displayed in the last Elle magazine"</p> <p>"The Innovation management team understood that if Alfa wouldn't step in, the project wouldn't be realized. So a group at Alfa was put together, very ad hoc and fast. A person at Alfa with great knowledge in production processes and molding, was important for the project. By taking the project in-house we combine the new material with Alfas genuine knowledge molding that wasn't available at the research cluster."</p> <p>“We are convinced that the hardest and most challenging projects are tackled best in cooperation with others. We call this: Growing together”</p>
Building passion among the collective (Passion and commitment vs Obligation)	<p>“They came, 12 people walking into my office, really passionate about the project begging me not to kill it. Well at least I have to admire their courage and commitment. Maybe they see something I don't”</p> <p>"The sum of all people internally that now were somehow connected to the project, and have been working with it, have been driving it more as guerrilla operations in those times when top management wanted to freeze the project"</p> <p>We formed a kind of a fan club internally for the project, that was called Dura pulp's friends”</p>
4. Overarching dimension: MANIPULATING / TRANSFORMING	
Use alternative way of framing the project to convince	<p>"At this stage the project was sold in as a PR-project to the management team, a marketing event, rather than a product development project".</p> <p>"From the top management side this project was said to be more of interesting corporation and smaller project...it was not sure at all if it would be realized”</p> <p>“But from their side, it was still a belief that it was more a PR-project, which was actually the intentional meaning”</p>
Promoting the project to federate – Use of impression	<p>“They (e.g. management) were proud that we had managed to improve the company brand, that more people contacted us for work positions and for collaboration, and that we were in the fore front in a rather conservative industry.”</p>

management	<p>We had a separate meeting before the main meeting with one of the more skeptical persons in the top management. In this meeting we managed to convince her about the project and managed to get her talk in favor for the project at the main meeting. Then the rest of the group followed”.</p> <p>“It was a wonderful PR project”</p>
Need to use external endorsement to face TMT refusal	<p>“During this meeting (e.g. resource allocation meeting with top management) the project was close to be killed...those signals hadn’t been interpreted and understood by the project. And those who were involved in the project didn’t think it was necessary to sell in the project” (Lack of manipulating activities)</p> <p>“A desk lamp made of Durapulp from Alfa – Claesson Koivisto Rune w101 from Wästberg won this year’s Design S award. The jury’s motivation was: A potential mass-product – a reading lamp, which is a step towards a more sustainable future, both in classrooms and offices. The lamp is made of environmentally friendly paper, through technical innovation and environmental performance. The design is playful and reminiscent of Japanese origami. The lamp is testimony to the creativity as an environmental challenge can inspire.”</p>

5. Overarching dimension: CONVERTING / CONFORMING	
Narrowing the scope and adaptation to match internal requirements	<p>“Now its time to get down to business”</p> <p>“We had a very broad pallet of possible applications. Since the project made two Milano-trips (e.g. the fair) and had a quite big number of commercial leads, there where many opportunities on the table. Now it was about limit our self and choose a couple of these leads”</p> <p>“Then we defined that we could deliver it as a bale, the same way as we deliver all the rest of our products. So it looks the same, but the content is different”</p> <p>“So we clearly showed now what will be loaded from the dock”</p>
Conforming to established standards and instrumental demands	<p>“Now the main focus is to fill the machine as soon as possible so that we can prove that its possible to sell the material. The small buyers of the material will not help us to reach the scale benefit, but they are for sure important in the learning process in this initial phase”</p> <p>“We used something we call plus method to get a grip of the case. Its analysis of the environment, the industry, and then the company’s role in the case. Three parts. It's a formalized way. This was necessary, because we had extremely many areas of application we wanted to enter.”</p>
Professionalize and structure	<p>“Suddenly it started to become concrete for us what to do”</p> <p>“We started building the database over the various contacts and assigning persons responsible for the various contacts”</p> <p>“We took a new grip. Installed a clear organizational structure in the project... we understood that we had been working really reactive, and needed to get a better grip on fundamental questions. So we constructed two teams, one with responsibility to enhance the understanding of the material, and the other with focus on product applications.”</p>
6.	
7. Overarching dimension: DISMANTLING	

Re-broadening the scope of product and market and redefine old beliefs	<p>“We have started a mental journey, from a state where we deliver paper pulp to a defined set of customers, to a broadening of the products to a broader public”</p> <p>"We are not a paper pulp producer, we are a pulp producer"</p> <p>“We have to understand that we are not only working with customers in the forest industry. Our mission is much broader and bigger than that”</p>
--	--

4. First order results: Narratives of the process of radical innovation

Following the company in real-time for 14 months allowed us to map the entire innovation process that we present in *seven main stages*. From this highly iterative analysis and while piecing the data together, *six key actions* emerged, where five of them connect to the legitimacy of the idea. The process is roughly divided into two: (1) The external emergence of the idea and (2) the internal legitimization of the same.

4.1 External research - Diverting from firms core

In the first stage, the company decided to explore new technological possibilities through external research centers and joined a long-term project focusing on new fibers and materials. In 2000 the external research center Inventia, consisting of a number of firms including Alfa, initiated a long-term research strategy towards new fibers and materials. Innventia portray themselves as a world leader in research and development relating to pulp, paper, graphic media, packaging and biorefining. One of Innventia's areas of interest is to develop new areas of application for fiber. (Pulp Innovations) The project continued over time, and in 2006, after several years of research, the project had advanced quite far in the process of coming up with technical applications. The starting point for the research included the idea of creating a new fiber-based material that would be renewable and biodegradable. The project came up with a new material with interesting technical properties and a first very simple prototype was presented at an international furniture fair where it received major interests. In 2007 a patent application was filed, and at this time, a new **diverting** activity took place when a collaboration with an art department at the university and external design companies was initiated and people were hired on project basis, part financed by Alfa. Later that year, a small prototype of the material was presented at an international furniture fair where it received major interests. The new material and the prototype **diverted** extensively from the Alfa's existing businesses and from the industry in total: “This was not only totally new for our company, but also totally new for the world...a biodegradable composite material, with so many different applications...unique characteristics and interesting technical properties had been revealed.” Involving in the external research center and getting in contact with the various people and companies in relation to that was crucial for the emergence of the material and prototype: "It wouldn't be possible to conduct that internally...not in line with what we were doing at the time”

4.2 Bringing the radical idea in-house - *Manipulating the idea frame*

The second stage consisted in the transfer of the project's findings from the external research center to Alfa's internal innovation department for further development. In the development process the material took on special properties such as humidity resistance, tensile strength and rigidity. However, it was hard to legitimate a consistent resource allocation due to the high explorative nature of the innovation and its sharp divergence from the company's core businesses. Therefore, considering the attractive features of the innovation regarding sustainability and its newness (but perceived as too far from the company's core activity), the project leader framed it as a PR project and not as a new product development project, and in that sense **manipulated** the resource allocation. "At this stage the project was sold in as a PR-project to the management team, a marketing investment, rather than product development". Due to the nature of the project (PR) it initially only received a small amount of money and already when the project had kick off in august, the money was finished. "It strengthen our company profile a lot, it showed that we are innovative...the project was more seen as a showcase for the company, much more than really believing in a valid product in the end". In part of the company and specific in the top management team, their wasn't any belief that on the new material and the prototype (e.g. research center prototype) could be turned into viable business: New audiences were needed (potential customers, partners, media) to increase its legitimacy.

4.3 Development: 1st prototype – *Selecting new audiences*

Thus, to enhance the support, actions to **select new audiences** began. "In the beginning we only had simple plates to show as examples...and those plates weren't that convincing. But when we hired designers who used the material for something more practical, people began to appreciate that Durapulp is a material to be reckoned with." A new **prototype was developed** and presented in 2009 at an international design fair. "We were hoping that the chair (e.g. prototype) would increase the interest and provoke ideas among our existing customers, but also among new potential customers and markets, and thus initiate a dialogue with these new groups". "The idea was to show the possibilities the new material offered for a different set of people", "The prototype and the new material received major interest". The actions to **seek support externally** and **selecting** new audiences were successful: hundreds of producers, buyers, potential partners and media approached Alfa and declared interest in the prototypes, and in the new material as such. A database of the new potential customers and industrial partners soon counted up to more than one thousand. "The chair received feed back from all over the place. From those who wanted to start selling it in Australia, Finland, France...to producers who said they could manufacture the chair, to other industrial partners who expressed their interest in cooperation". Also internally, the support and awareness began to grow: "...one from the IT- department approached me and comment on the nice pictures of the product in the latest Elle magazine". "Another parallel thing was that the advertising agency Alpha use now also got involved in the project. And this naturally added new resources when the marketing department became interested in the project". In the process of developing the prototypes, different departments internally got involved in making it happen: research, market, HQ, and production plants.

4.4 Development: 2nd prototype – *Passionate and building collective*

The development work continued, in collaboration with external parties as well as with more and more internal employees getting involved. A **new prototype was developed**, this time a desk lamp in the new material. The lamp was presented the year after the same international fair and as with the chair, the lamp attracted interest from internal and external parties: “The reason the lamp has had such an impact I think depends on the combination of material and design. And it is really fun to be a part of the exhibition and it is good for DuraPulp”. The lamp also received several external endorsements: “A desk lamp made of durapulp from Alfa – Claesson Koivisto Rune w101 from Wästberg won this year’s Design S award. The jury’s motivation was: A potential mass-product – a reading lamp, which is a step towards a more sustainable future, both in classrooms and offices. The lamp is made of environmentally friendly paper, through technical innovation and environmental performance. The design is playful and reminiscent of Japanese origami. The lamp is testimony to the creativity as an environmental challenge can inspire.” With all the prizes, awards and appraisal from new potential customers, people internally became proud of the work they were doing". Following this phase of external success, an increasing number of people internally started to work for the project with passion based on altruistic reasons. This group of strong believers even formed a fan club in order to protect the project. These actions further increased **passion** and created a shared vision. “The project somehow has been living a life of its own. And many people here have put so much time and energy into it”. The **collective** grew bigger and with that the power to resist institutional conforming demands. "The sum of all people internally that now were somehow connected to the project, and have been working with it, have been driving it more as guerrilla operations in those times when top management wanted to freeze the project". After the success with the two prototypes that received a great deal of attention and appraise externally and internally in part of the organization, the expectations were now high for the next step.

4.5 Interrupted Innovation: Denied diverting activity

“If the enthusiasm was big in some part of the organization, it was somewhat smaller in the top management team: “For sure, it is very exciting, but now we have to decide what we will do, because we cannot produce chairs in the company. That is not what we do” “They (e.g. top management) were proud that we had managed to improve the company brand, that more people contacted us for work positions and for collaboration, and that we were in the fore front in a rather conservative industry. But from their side, it was still a belief that it was more a PR-project, which was actually the outspoken meaning”. At this stage, the conflict between the firms’ core activities and the radical innovation became visible and acute when the idea didn’t receive acceptance from the top management for increased funding and alignment with ingoing product strategy. After the fair in 2009 and the great momentum that was built up, the process took a new turn. Lower level management wanted to push the project forward, but too many questions surrounded the project: “The TMT not really understood what were we were going to do with this...was

this more than a marketing project, how to produce it? To many vital questions surrounding the business case there were not really good answers”. “During this meeting (e.g. resource allocation meeting with top management) the project was close to be killed...those signals hadn’t been interpreted and understood by the project. And those who were involved in the project didn’t think it was necessary to sell in the project” “The air just disappeared from us working with this, we just couldn’t believe that this was going to end, but we managed to at least ask for a new chance to present it again.” The project was **denied** more funding on the basis of what was presented. For the first time in the projects history, a real crisis appeared when the CEO clearly stated that he wanted to kill the project. However, the project group, never really finished the project, and it was told in the group to continue working with it, or at least maintain the contacts. The meeting resulted in that the process of innovation was **interrupted**.

4.6 Test production: *Converting to the firm’s core in gaining legitimacy*

Several months after the negative response in the resource allocation meeting, the project was presented again. What was now presented differed substantially, first from what was exhibit at the fair in 2009 and more specific from what was presented in the meeting of 2010. “It was more in-line with the firm’s present integration in the value-chain, with the logistic solutions and sales and didn't really interfere with the ongoing production of pulp in one of the existing plants.” Also actions in order to **convince** key stakeholders were taken: “We had a separate meeting before the main meeting with one of the more skeptical persons in the top management. In this meeting we managed to convince her about the project and managed to get her talk in favor for the project at the main meeting. Then the rest of the group followed”. The innovation now **converted** to the old. The understanding increased and so did the economic rational to allocate resources when a distinct business case was incorporated. “Prior to new investments I think it was crucial that we had initiated these discussion with some of the new firm contacts over the years. Building the investment case around one specific firm, for sure helped us. First, to make sense of what we were doing with this new material, what we were going to sell, and also important, to give the project rational with a calculation that looked promising.” "It is a learning process..." (e.g. interacting with the new potential customers). So, the response at this time was different and the project received the acceptance to go on with a deeper investigation and in February 2011 there was a confirmation to start **building a test facility** to produce the material”.

4.7 Full scale production: *Continuous converting and dismantling the old*

With the acceptance from management now the project restarted: “We took a new grip. Installed a clear organizational structure in the project...we understood that we had been working really reactive, and needed to get a better grip on fundamental questions. So we did set up two teams. One with responsibility to enhance the understanding of the material as such, and the other with focus on product applications.” A professionalization of the former more ad-hoc activities took place, with a narrowing in scope and focus on clear results. "Now the main focus is to fill the machine as soon as possible so that we can prove that it’s possible to sell the material. The small buyers of the material will not help

us to reach the scale benefit, but they are for sure important in the learning process in this initial phase". At this time, the old institutions were now not only challenged by some individuals but also by people throughout the organization: "We have started a mental journey, from a state where we deliver paper pulp to a defined set of customers, to a broadening of the products to a broader public" And some old truths were now dismantled in public speeches: "We are not a paper pulp producer, we are a pulp producer". The mental journey and new institutional foundations continued to emerge: "We have to understand that we are not only working with customers in the forest industry. Our mission is much broader and bigger than that". The external endorsement also changed from more periphery design awards to more core innovation awards: "Alfa's new biocompositematerial, DuraPulp, won first prize in the category of Innovative Product of the Year earlier this week at the PPI Awards in Brussels. PPI Awards are the only global competition dedicated pulp and paper industry and highlights the company performance, individual mills and people in the industry. The category of Innovative Product of the Year rewards companies that manage to overcome all obstacles and produce new products that really stand out on the market and are important for end users."

5 Second-order results: the emerging model of actions undertaken to develop and gain legitimacy for a radical innovation in an established firm

We found six key actions explaining the radical innovation process: 1) Diverting from the old, (2) manipulating the frame, (3) selecting new audiences, (4) building and passionate the collective, (5) converting to the old, and (6) dismantling existing beliefs

The first action ("diverting to the old") relate to the emergence of the idea outside the existing institutional frames, where the following five relate to the legitimacy of the idea inside the existing institutional frames. In this part we define the six actions. Then we deconstruct the specific actions and explain their effect on the process of gaining legitimacy.

5.1 Diverting from the old

Definition

Diverting actions are those indented to create something novel in relation to the existing/old. Where the novelty here divert from firms core business, technologies, product/service offers, as well as a geographically, by locating outside the core firm.

Actions

Here it was crucial that a researcher at Alfa early on *identified the* opportunities the research center offered. She also committed strongly by promoting her own ideas in the specific research cluster. The second important diverting action was that she exposed herself to new social settings. She networked frequently in the center and tried to meet up

with a many different people from different industries. By teaming up with a design company, she came back to here company with a proposal on how to develop the new material into a product.

The effect of actions

The main contribution of the diverting activity we have seen here is two fold, as we define as push and pull: The idea enjoyed shelter from institutional pressure to conform in the development, (push) and secondly connected to other context and knowledge sources. (pull). This is also the first step in the process of developing the radical innovation. The action of diverting meant breaking out from existing business, physically and mentally. Here it physically took place via an external center that could shelter the emergence of the radical idea. Mentally by involving different actors, from various industries. By engaging with different sources the researcher managed to create something new. People create novel insights by importing and recombining schemas and scripts learned in other contextual domains—in other words, people don't think out of the box, they think in other boxes (Hargadon & Fanelli, 2002). The technological historian Usher (1929; in Hargadon, 2006) described innovation as the “constructive assimilation of pre-existing elements into new syntheses” (p.11). The individual actions from the researcher diverted from ordinary ways of doing things in Alfa and can be seen as a highly creative process. From the creation of the radical idea, moving into the next phase, Hargadon, (2006) reminds us that “creativity is a social process that initially constructs solutions from pieces of the known world and ultimately depends on the approval of audiences in that world.” (p. 3-4)

5.2 Manipulating the frame/resource allocation

Definition

Manipulation is defined as adopting or altering the meaning of the idea or convincing in words important for stakeholders in order to positively influence the resource allocation. Actions that can be seen as misleading.

Actions

When the idea was about to be migrated in-house from the research center, it needed new support and funding. However, for the first time the idea met the institutional conforming pressure. To be granted initial funding, the project couldn't be framed as a new product development, since the product in itself (e.g. a chair) in such a great extent diverted from the firms core business. As a bulk producer with well-defined B2B customers, and no consumer products the production of a chair wasn't even possible to consider.

It was easier when the project was reframed, not as a new product development, but rather as a PR project. Enhancing the visibility of the firm, strengthen the corporate brand due to the nature of the idea (e.g. renewable; highly innovative; new research), was seen as legitimate enough for the top management not to protest when resources were allocated when continue developing the idea internally.

So the first major action was reframing the idea:

"At this stage the project was sold in as a PR-project to the management team, a marketing event, rather than a product development project".

The second action was about convincing major skeptical stakeholders about contributing with their support for the idea. Here external endorsement was used as a tool in the effort to convince.

"We had a separate meeting before the main meeting with one of the more skeptical persons in the top management. In this meeting we managed to convince her about the project and managed to get her talk in favor for the project at the main meeting. Then the rest of the group followed".

The effect of actions

- Positive

By manipulating the frame of the idea when transfer it in-house it wasn't initially rejected by top management. It was not however totally deliberate, in the sense of misleading even if that was an outcome. This rendered the possibility to incorporate the new into the old frames. It wasn't seen as a threat to the organization or a competitor to the institutions.

"From the top management side this project was said to be more of interesting corporation and smaller project...it was not sure at all if it would be realized"

From a PR point of view, and the actions that followed in that line was a success.

"It strengthen our company profile a lot, it showed that we are innovative."

"They (e.g. management) were proud that we had managed to improve the company brand, that more people contacted us for work positions and for collaboration, and that we were in the fore front in a rather conservative industry."

- Negative

The negative effect of manipulating actions came to be visible later on when the idea had to be reframed from PR to something else. First of all the persons working in the project didn't realize it had to be sold and marketed internally since the support, which was for the PR idea, was there.

"During this meeting (e.g. resource allocation meeting with top management) the project was close to be killed...those signals hadn't been interpreted and understood by the project. And those who were involved in the project didn't think it was necessary to sell in the project"

Then the top management reacted strongly coming to know that it wasn't only a PR project.

"...from their side, it was still a belief that it was more a PR-project, which was actually the intentional meaning"

5.3. Selecting new audiences

Definition

Selection is about finding and target people, organizations and environments that value the idea and are prepared to support it in different ways without demanding major changes in return.

Actions

- Selecting customer-driven support

Selecting new audiences took place both internally, and externally. It was done externally when the prototypes were displayed at Milan fair three years in a row, reaching for the company, a totally new group of customers and stakeholders. The company decided to display the new prototypes in a totally different setting, the Milano fashion fair:

“We were hoping that the chair would increase the interest and provoke ideas among our existing customers, but also among new potential customers and markets, and thus initiate a dialogue with these new groups”

The intention turning to the fair with a prototype was to show what the material could offer and show the possibilities the new material offered for a different set of people.

“Developing the paper lamp has meant being in contact with completely new markets and companies that are interested in new materials.”

“We worked with many different contacts, and then we decided to go into deeper discussion with some of the companies that we perceived offer more promising cooperation”

- Selecting relevant audiences externally

When the participating firms in the center didn't show enough interest in materializing the material actions was taken, to initiate cooperation with two students from the art faculty in Stockholm.

"I ended up in a meeting with Mårten Claesson från Claesson Koivisto Rune. They wanted to produce a chair in paper, in this new material".

The selection of new audiences didn't come without putting effort into the prototype:

“It's easily done to forget the design part when developing new material. You become so elated by the fantastic properties of the new material that the design work takes a back seat. This was what happened with Durapul, until the designers developed the Parupu chair.”

- Selecting relevant support and sponsors internally

The selection process also took place internally when the researcher and initiator behind

the idea initially choose to discuss with and seek support from one specific manager to realize the first round of investment. When the meeting at the external research center came up with the idea to build a chair, the researcher went back to Alpha:

“From this meeting I went straight home to my company, and into my manager’s office, without using the formal way. She is a great manager, and she understands both sides - the commercial and the scientific. We had these discussions and she agreed to go for the chair, and the project was added 200 000 SEK.”

The marketing department was introduced to the project when a team was put together planning for the Milan fair. In parallel the firm’s own advertising agency was introduced for the project by the marketing department and got deeply involved. Creating PR material a totally new website and blog. This naturally added new resources to the project.

“With the project being visible in the fairs in Milan receiving all the feed back, the marketing director really embraced the idea”.

Effects of the actions

- Positive

The effect of selecting new type of audiences was apparent:

"After the child seat Parupu was shown at the Milan Furniture Fair 2009 the material DuraPulp was known for the furniture industry design student Rasmus got very interested, so that’s the way it is. He wants to work for a sustainable development, therefore, he contacted the company when it was time for his thesis and he has now created a stool and a seedcase with the material DuraPulp.”

Internally it became even more important when the project ran into difficulties. When it was time to build the case, a potential partner facilitated the ROI calculation with their demand for the new material.

External support from new potential customers and partners was overwhelming and enriching and meant that Alfa saw a wider public and Galaskiewicz (1985) found that organizations often sought to enhance their legitimacy by...obtaining external endorsements

“The prototype and the new material received major interest”

"The chair received feed back from all over the place. Those who wanted to start selling it in Australia, Finland, France. They wanted order, come and visit us to tell us of the various color patterns they wanted the chair in. From producers who said they could manufacture the chair. From other industrial partners who expressed their interest in the material as such”

- Negative

The negative side of seeking and being granted support was the difficulties in capitalizing on external support:

"When we arrived home, we had 10 times more business cards as when we arrived. But we had no idea how to use them"

"The feed back from the interested parties wasn't received that well from our firm. We weren't prepared, and we had to say no in the beginning, because of time but also most because we didn't dare."

5.4 Building and passionate the collective

Definition

Building the collective is creating shared beliefs, setting up informal groups with a common goal in order to develop and protect the idea.

Passionate is driving an engagement not based on fear of punishment or hope for reward but rather on intrinsic and altruistic motivation.

Actions

- Bringing together small groups to avoid pressure to conform

“We formed a kind of a fan club internally for the project, that was called Durapulps friends”

“Fundamentally, the difference between a good idea and a bad one...these early collectives also provide a common belief in their cause and its chances for success just when these are needed most, when the ideas (and people) are attempting to go against the established ways of doing things (Hargadon, 2006).

“The project was terminated from top management, but in the project group we never really finished the project, and it was told in the group that we should continue working with it, or at least maintain the contacts”

“They came, 12 people walking into my office, really passionate about the project begging me not to kill it. Well at least I have to admire their courage and commitment. Maybe they see something I don't”

In 1951 Solomon Asch conducted an experiment to investigate the extent to which social pressure from a majority group could affect a person to conform. In his experiments he revealed the ineffectiveness of individual judgment in the face of social pressures to conform. He also found that the easiest way to enable somebody to resist the larger group was by giving them a small group of their own. Asch also argued that collectives encourage individuals to think differently together. The role of the collective is often more critical inside large organizations, where standard operating procedures and “the way we do things around here” are apparent and strong. (Hargadon, 2006:22) Where the top management's casual comments can turn into powerful pressures to conform. “The role of the collective, joining forces to fight the status quo, often spells the difference between good ideas stopping at the first conservative layer of management or pushing their way, painfully if necessary, all the way to the top”. (Hargadon, 2006:22)

- Building passion among the collective

“The project somehow has been living a life of its own. And many people here have put so much time and energy into it.” “The sum of all people internally that now were somehow connected to the project, and have been working with it, have been driving it more as guerrilla operations in those times when top management wanted to freeze the project” “The reason the lamp has had such an impact I think depends on the combination of material and design. It is really fun to be a part of the exhibition and it is good for DuraPulp”. Projects tends to survive crises better when its driven of passion rather than out of fear of punishment or chance for reward (Taylor, 2006)

“People internally went totally in to this...and with the deeper engagement from the marketing department the project was naturally added more resources”

“When you work with others who are visibly engaged in and passionate about their work, you feel better about it yourself.” (Hargadon, 2006:21)

Effects of the actions

- Positive

“There were also many ways forward which we didn’t know about...but since this created such a major interest, and people were proud that we had come up with something that rendered such a big interest, the sales and marketing organization wanted to get started immediately selling the chair as it was”

“Everybody were really engaged in this, not at least the marketing director”

“At this point there was a huge momentum in the firm and a feeling that this was the right thing to do.”

“With all the prizes and awards the chair received, people internally became proud of what we were doing”

“The chair we showed in Milan got big repercussions throughout the whole company. Our own magazine had been writing about it, and In Sweden in general there is a big interest for design. So a guy from IT approached me and said that he liked our chair that was displayed in the last Elle magazine”

- Negative

Lack in internal top management support – Lack of converting actions

“I feel that I much more understand our other projects we have in the company than this. I even tried to stop the whole project. And if you ask me today, I’m still not convinced”

“I felt it was too much enthusiasm in the project, and then its up to me to calibrate that a little and asking the critical questions”

5.5 Converting

Definition

Converting actions are adaptations of the new idea to established interests, norms and beliefs. After the actions the idea become more consistent with established practices, and fit better into established structures (Oliver, 1991).

While the former process (e.g diverting) involves a sort of social deconstruction, a taking down of established thought and action, the latter involves social construction, the building up of new thoughts and actions first by an individual or small group and later by the larger social system. (Hargadon, 2006). When the motivation and passion was high regarding the prototypes and new material, both externally and internally in some parts, the need to gain the legitimacy among top management was now crucial since additional resources were needed to keep the project alive. When the resource meeting took place the project was denied additional funding and innovation process was interrupted:

“Well, there wasn't really support for the project higher up in the hierarchy, since they saw it more as a marketing project, and a popular material, without the ambition to commercialize it”

So, after the success from the fairs in 2008/2009, the process took a new turn. In early 2010, a new meeting was held to discuss the future of the project. Lower level management wanted to push the project forward, but there was a hesitation, and what was going to be shown: there was simple too many question marks surrounded the project, which made it difficult to grant it more money.

“If the enthusiasm was big in some part of the organization, it was somewhat smaller in the top management team: “For sure, it is very exciting, but now we have to decide what we will do, because we cannot produce chairs in the company. That is not what we do”

“From the top management the project was more seen as a showcase for the company. Much more than really believing in a valid product in the end”

Actions

- Narrowing the scope and adaptation to match internal requirements

With the wide range of possible applications for the new material there where too many possible ways forward. Action was taken to narrow down the scope and choose a couple of the leads and focus.

“Prior to new investments I think it was crucial that we had initiated these discussion with some of the contacts over the years. (e.g. coming from the fair) Building the investment case around one firm, for sure helped us. First, to make sense of what we were doing with this new material, what we were going to sell, and also important, to give the project rational with a calculation that looked promising.”

The new plan was now more in-line with the firm's present integration in the value-chain, with the logistic solutions and sales and didn't really interfere with the ongoing production of pulp in one of the existing plants.

- Conforming to instrumental demands, show the viability to make money of it

So far, there was no crystal clear view on how to make money out of it. The main concern now was to get down to business, to fill the machine with the raw material as soon as possible, and start selling. This was crucial to gain the TMT support for the project. So for the project to achieve legitimacy it converted to instrumental demands, i.e produce, sell and show the possibility to make money.

- Take control over the ad-hoc process and induce structure

A new phase took place, when an increased formalization of the former informal procedures and ad-hoc structure that had been symptomatic for the project. A professionalization of actions also took place two enhance the status as a project.

“We took a new grip. Installed a clear organizational structure in the project... we understood that we had been working really reactive, and needed to get a better grip on fundamental questions. So we constructed two teams, one with responsibility to enhance the understanding of the material, and the other with focus on product applications.”

“We build a database cover the various contacts and assigning persons responsible for the various contacts”

Effects of the actions

- Positive

The understanding of what the project could lead to increased and so did the economic rational to allocate resources when a distinct business case was incorporated. The response at this time was different and the project received the acceptance to go on with a deeper investigation and to start building a test facility to produce the material.

“It was more in-line with the firm's present integration in the value-chain, with the logistic solutions and sales and didn't really interfere with the ongoing production of pulp in one of the existing plants. The response at this time was different and the project received the acceptance to go on with a deeper investigation and in February 2011 there was a confirmation to start building a facility to produce the material”

- Negative

The risk of converting too much and refining the material into one or two end products is here apparent. Top management put pressure to conform and show business results, thus putting bandage on the explorative force. Parallels can be drawn to 1882, when Edison announced: “the electric lighting system is now perfected. I will now bend all my time and energies to its introduction to the public.” And continued saying: “I'm going to be a business man, I'm a regular contractor for electric lighting plants and I'm going to take a long vacation in the matter of invention” (Hargadon, 2006:13).

5.6 Dismantling existing beliefs

Definition

Dismantling is about challenge existing institutions, promoting beliefs that contradicts the existing.

Actions

- Re-defining the scope and delegitimize old beliefs

When actors promote a belief that contradicts existing beliefs, they engage in an act of deinstitutionalization; they challenge the institutions to which they owe their own autonomy and legitimacy (DiMaggio 1988, 13).

“We have to understand that we are not only working with customers in the forest industry. Our mission is much broader and bigger than that”

“We have started a mental journey, from a state where we deliver paper pulp to a defined set of customers, to a broadening of the products to a broader public”

Boxenbaum (2008) says that: “If a new belief comes into conflict with existing beliefs, then legitimation requires partial dismantling of existing beliefs” (2008:240). And somehow in line with Leonard-Barton, (1992) who expresses that while legitimacy play an important role in innovation, it may become a constraint when a shift in strategy is necessary, in line with the notion of “core competence, core rigidity”.

"We are not a paper pulp producer, we are a pulp producer"

6. Contribution

Because the identification and the process of legitimation of radical innovations are central for a firm to benefit from novelty, the main objective of this paper was to deepen our understanding of how to enhance this important process of legitimation.

This paper contributes to this question by first, identifying the actions and techniques individuals use to obtain legitimacy. Our main focus and question in his study was how a radical idea gained legitimacy in an organization despite breaking institutional logics. We were especially interested in the actions that were taken and came to affect the innovation development process. We distinguished 6 actions in the process and defined them more precisely. While Suchman (1995) acknowledged earlier the 3 actions of diverting, manipulating and conforming, we detailed them, and found more fine-grained insights into how they unfold in the firm, incorporating microsociology of creativity (Hargadon, 2006). New actions we identified as collective building and dismantling actions in the radical innovation process also contribute to something

Boxenbaum (2008) have theoretically argued.

Secondly, this study shows that actions of legitimacy are not mobilised in a static way: they are interconnected. The innovation idea is dependent upon these different actions to gain legitimacy. When an idea lack top management support, the process of innovation is interrupted and lower level employees' action enhancing legitimacy have a defining impact of the survival of the project.

Thirdly, we carried out real-time studies over 14 months: our work has an important bearing on our understanding of real-time legitimation process something called for by Boxenbaum (2008) and van Dijk et al., (2011). Some studies suggest that actors use deliberate strategies (Hargadon and Douglas 2001), whereas others imply less intentionality (Lippi 2000). By doing real-time studies we can follow the support individuals express at different points in time and also have them reflect upon their actions.

Finally, while most research on legitimacy focus on organizations' legitimacy, we analysed the individual employee' action. This allowed translating organizational strategies to achieve legitimacy for an organization to individual employees actions to achieve legitimacy for a radical idea.

References

- Aldrich, H. E., & Fiol, C. M. (1994). Fools rush in? The institutional context of industry creation. *Academy of management review*, 645–670. JSTOR.
- Bledow, R., Frese, M., Anderson, N., Erez, M., & Farr, J. (2009). A Dialectic Perspective on Innovation: Conflicting Demands, Multiple Pathways, and Ambidexterity. *Industrial and Organizational Psychology*, 2(3), 305–337.
- Boxenbaum, E. (2008). The process of legitimation. Sten Scheuer, John Damm Scheuer: *The Anatomy of Change – A Neo-Institutionalist Perspective*, CBS Press, 2008 (pp. 237-262).
- Cattani, G., Ferriani, S., & Lanza, A. (2010). The Legitimation Journey of a Radical Idea: Pursuing the Accurate Measurement of Longitude at Sea. Paper presented at the AOM of Montreal, 2010 (pp. 1-68).
- Christensen, Clayton M. (1993). The Rigid Disk-Drive Industry - a History of Commercial and Technological Turbulence. *Business History Review*, 67 (4), 531-88
- Corley, K. G., & Gioia, D. A. (2004). Identity ambiguity and change in the wake of a corporate spin-off. *Administrative Science Quarterly*, 49: 173-208.
- Dougherty, D., & Heller, T. (1994). The Illegitimacy of successful product Innovation in Established Firms. *Organization Science*, 5(2), 200–218. JSTOR.
- Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific sociological review*, 122–136. JSTOR.
- Gatignon, Hubert, Michael L. Tushman, Wendy Smith, and Philip Anderson (2002). A Structural Approach to Assessing Innovation: Construct Development of Innovation Locus, Type and Characteristics. *Management Science* 48, no. 9 (September 2002): 1103-1122.
- Gilbert, R.J. and D.M.Newbery, "Preemptive Patenting and the persistence of Monopoly," *American Economic Review* . June 1982, 514-95.
- Glaser, B. G & Strauss, Anselm L., (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Chicago, Aldine Publishing Company
- Goffin, K., & Koners, U. (2011). Tacit Knowledge, Lessons Learnt, and New Product Development. *Journal of Product Innovation*, 300-318.
- Greenwood, R., Hinings, C. R., & Suddaby, R. (2002). Theorizing Change: the Role of Professional Associations in the Transformation of Institutionalized Fields. *Academy of Management Journal*, 45(1), 58-80.
- Hargadon A. & Fanelli A, (2002) "Action and Possibility: Reconciling dual perspectives of knowledge in organizations," *Organization Science* 13 (3)
- Hargadon, A. B. (2006). Bridging old worlds and building new ones: towards a microsociology of creativity. *Creativity and innovation in organizational teams* (p. 199). Lawrence Erlbaum.
- Hargadon, A. B., & Douglas, Y. (2001). When Innovations Meet Institutions : Edison and the Design of the Electric Light. *Administrative science quarterly*, 46(3), 476–501. JSTOR.

- Jarzabkowski, P., Matthiesen, J., & Van de Ven, A. H. (2009). Doing which work? A practice approach to institutional pluralism. In T. B. Lawrence, R. Suddaby, & B. Leca (Eds.), *Institutional work: Actors and agency in institutional studies of organizations* (pp. 284–316). Cambridge: Cambridge University Press.
- Kanter, R. M. (1988). When a thousand flowers bloom: structural, collective, and social conditions for innovation in organization. *Research in Organizational Behavior*, 10, 169-211.
- Leifer R., Christopher M. McDermott, Gina Colarelli O'Connor, Lois S. Peters, Mark P. Rice, and Robert W. Veryzer (2000). *Radical Innovation: How Mature Companies Can Outsmart Upstarts*. Harvard Business Press, 261 pages
- Leonard-Barton, D. (1992), Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Vol. 13, Issue S1*, pages 111–125
- Lieberman, M.B., Montgomery, D.B. (1998), First-mover advantages, *Strategic Management Journal*, Vol. 9(S1), pp. 41-58.
- Lippi, a. (2000). One theory, many practices. Institutional allomorphism in the managerialist reorganization of Italian local governments. *Scandinavian Journal of Management*, 16(4), 455-477.
- Lounsbury, M., & Glynn, M. A. (2001). Cultural entrepreneurship: stories, legitimacy, and the acquisition of resources. *Strategic Management Journal*, 22(6-7), 545-564.
- Lovelace, K., Shapiro, D. L., & Weingart, L. R. (2001). Maximizing Cross-Functional New Product Teams' Innovativeness and Constraint Adherence: A Conflict Communications Perspective. *Academy of Management Journal*, 779–793.
- Millard A., (1990) *Edison and the Business of Innovation*, Baltimore: John Hopkins University Press
- Mitchell, W. (1989) Whether and When? Probability and Timing of Incumbents' Entry into Emerging Industrial Subfields, *Administrative Science Quarterly*, Vol. 34(2), pp. 208- 230.
- Mitchell, W. (1992) Are More Good Things Better, or Will Technical and Market Capabilities Conflict When a Firm Expands, *Industrial and Corporate Change*, Vol. 1(2), pp. 327-346.
- Moensted, M. (2006). High-tech, uncertainty, and innovation. The opportunity for high-tech entrepreneurship, In Bernasconi, M., Harris, S. & Moensted, M. (Ed.) *High-tech Entrepreneurship – Managing innovation, variety and uncertainty*, 15–32, Routledge, London.
- Oliver, C. (1991). Strategic responses to Institutional Processes. *Academy of Management Review*, 16(1), 145-179.
- Reinganaum, J.F.: "The Timing of Innovation: Research, Development and Diffusion." Chapter 14 in Volume 1 *Handbook of Industrial Organization* . R.Schmalensee and R. Willig, Eds. North Holland, 1989.
- Reinganaum, J.F.: "Uncertain Innovation and the persistence of Monopoly," *American Economic Review*. September 1983, vol 73, 741-48.
- Robey, D., & Ross, J. (2002). Learning to implement enterprise systems: An exploratory study of the dialectics of change. *Management Information Systems*, 19(1), 17-46.

- Schepers, J., Schnell, R., & Vroom, P. (1999). From idea to business - How Siemens Bridges the Innovation Gap. *Research-Technology Management*, 42(3), 26–31. Industrial Research Institute, Inc.
- Souder, W. E., & Moenaert, R. K. (1992). Integrating Marketing and R&D Project Personnel Within Innovation Projects: an Information Uncertainty Model. *Journal of Management Studies*, 29(4), 485-512.
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *The Academy of Management Review*, 20(3), 571–610. JSTOR.
- Takeishi, A., Aoshima, Y., & Karube, M. (2010). Reasons for Innovation: Legitimizing Resource Mobilization for Innovation in the Cases of the Okochi Memorial Prize Winners. (H. Itami, K. Kusunoki, T. Numagami, & A. Takeishi, Eds.) *Dynamics of Knowledge, Corporate Systems and Innovation*, 165–189. Berlin, Heidelberg: Springer Berlin Heidelberg.
- Tripsas M. Giovanni Gavetti G. (2000). Capabilities, Cognition and Inertia: Evidence from Digital Imaging. *Strategic Management Journal* N°21,p.1147-1161
- Van de Ven, A. H. (1986). Central Problems in the Management of Innovation. *Management science*, 590–607. JSTOR.
- Van de Ven, A. H., & Angle, H. L. (1989). An introduction to the Minnesota innovation research program. In A. H. Van de Ven, H. L. Angle, & M. S. Poole (Eds.), *Research on the management of innovation* (pp. 3-30). New York: Harper & Row
- Van de Ven, A. H., & Poole, M. S. (1995). Explaining development and change in organizations. *Academy of management review*, 510–540. JSTOR.
- van Dijk, S., Berends, H., Jelinek, M., Romme, a. G. L., & Weggeman, M. (2011). Micro-Institutional Affordances and Strategies of Radical Innovation. *Organization Studies*, 32(11), 1485-1513.
- Zimmerman, M. a., & Zeitz, G. J. (2002). Beyond Survival: Achieving New Venture Growth by Building Legitimacy. *The Academy of Management Review*, 27(3), 414.
- Zott, C., & Huy, Q. N. (2007). How entrepreneurs use symbolic management to acquire resources. *Administrative Science Quarterly*, 52(1), 70. SAGE Publications.