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Path Creation: Like a Phoenix from the Snow

Abstract

Path research investigates processes from path creation to path dependence ending up in lock-ins. Hitherto, little is known about parallel processes of path dependence and path creation as well as about the origin of initial rule breaking and its subsequent reinforcement for ending up into new riverbeds of organizing. Based on a single case study from a process perspective, we show how path dependence, path creation and path separation unfold over time. We therefore contribute to path research by extending the existing knowledge in three domains. *First*, we introduce insights into how firms deal with opposing tendencies and paradoxes between path dependence and path creation to overcome lock-in situations. *Second*, we highlight the interplay between external and internal triggers to facilitate path creation by emphasizing the coincidence of opportunity, ability, and motivation for questioning established paths and creating new ones. *Third*, we shed light into the emergence of new ideas from upstream issue-selling activities of managers for mobilizing and canalizing resources (e.g. attention, financial resources, human resources) into new territories for creating new paths.

Introduction & Theoretical Background

Recently, large media coverage resulted from NOKIA's announcement to sell its famous mobile devices business unit to Microsoft. In particular, many newspapers said that this event might be an act of desperation as NOKIA was not able to manage a turnaround in this business unit. However, NOKIA's history is full of examples how the firm escaped path dependent processes. NOKIA left various industries and business fields such as pulp, rubber, communications (e.g. TV sets), or military equipment. Now NOKIA quit the mobile devices industry for receiving € 3.79bn from Microsoft for its weakening business unit resulting in bags full of money that NOKIA needs for investing in another – perhaps – more promising business field. NOKIA's story is therefore not a story about a firm close to ruin; it is a story about a firm, which has been able for decades to break both its path and its technological trajectory to survive although business models or technologies perished. However, many other firms such as Kodak, PanAm, Quelle, or Schlecker failed to leave their predestinated path.

When answering the question why some firms manage to reinvent themselves over and over

again, while others cannot, the literature on paths offers various reasons. Whereas path dependence emphasizes the role of history and self-reinforcing processes as drivers for becoming path dependent, literature on path creation refers to the variety of choice options, on which managers and not history have to decide and thereby can actively participate in shaping an organization's path. Both concepts perfectly complement each other and are captured by Sydow, Windeler, Müller-Seitz, and Lange (2012) in the term path constitution.

The concept of path dependence was first applied in the field of historical and institutional economics and was dedicated to analyze technological path dependence on industry level (Arthur, 1989; David, 1985). David (1985) tried to explain why systems, still persist although the initial problem, does not exist anymore. By using a historical perspective, he examined why the QWERTY-keyboard, which was introduced to solve the problem of jamming typewriter keys, is still in use although typewriters have been replaced by personal computers.

Applied to the organizational level path dependence means that an organization's history matters in terms that initial investments and primary conditions shape organizational structures as well as tangible and intangible assets from the beginning as reversing them requires additional effort (Sydow, Schreyögg, and Koch, 2009). They show how historic events paired with self-reinforcing processes might result in a lock-in. Thereby the authors focus on decision-making patterns that become stabilized and produce the same outcome over and over again (Figure 1). They perceive path dependence not as the outcome of a single choice but of an event that triggers further actions.

Insert Figure 1

about here

At the beginning of the process, the variety of available choice options is large (Koch, 2011). At the heart of path dependence, self-reinforcing processes serve as explanation why the range of available options gets smaller and ends-up at one. Asking the question why self-reinforcing processes emerge, Pierson (2000, 2004) mentions the role of organizational context or contextual factors such as power, complexity and ambiguity as drivers for path

dependent processes. Koch (2011) sees the organizational context as criterion for the inclusion or exclusion of options. As indicated in Figure 2, if context and strategic path are congruent, then the variety of options is smaller as issues that conform both find approval without discussions and issues that deviate both are not even considered. But, if context and strategic path differ the variety of choice is greater. Path dependent issues are not taken for granted and can be critically discussed within the organization. The organizational context therefore is one source to counterbalance tendencies of path dependence. The degree of the embeddedness of the strategic path into the organization is relevant for the variety of options and the chance that the process ends up in a lock-in situation.

Insert Figure 2

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Whereas the organizational context offers the basis for path breaking as it allows deviation from an existing path, the sources can be different: external events such as crisis, internal changes of staff, incomplete socialization, or a by-product of decisions in other areas of the organization (Sydow et al., 2009). These are all unintended events independent from the actions of “mindful” agents (Garud and Karnøe, 2001). Perceiving path dependence as cognitive lock-in, where a narrow search focus and deadlocked decision-making heuristics lead to the inability of leaving the path, then the same actors will never be able to break the path intentionally.

Path creation in contrast to path dependence emphasizes the role of entrepreneurship for shaping a firm’s trajectory. Initially influenced by Schumpeter’s idea of creative destruction, path creation literature puts “mindful deviations” from existing orders at center stage. “Mindful deviations” require powerful individuals that are willing to take the risk of searching for alternatives and are able to resist the pressure of conformity (Garud and Karnøe, 2001). Whereas path dependence perceives entrepreneurs as outsiders looking at events retrospectively, path creation highlights the active role of entrepreneurs in shaping the firm’s future. ”More precisely, entrepreneurship requires an ability to span boundaries of relevance

structures, translate objects and mobilize time as a resource. As entrepreneurs endogenize time, relevance structures and objects, they generate power to strategically manipulate and mobilize these elements” (Garud and Karnøe, 2001, p. 25).

This is where the concept of issue selling comes into place. “Issue selling refers to individuals' behaviors that are directed toward affecting others' attention to and understanding of issues.” (Dutton and Ashford, 1993, p. 398). Primarily the concept is used to understand how bottom-up initiatives find its way on the Top Management’s agenda. Therefore issue selling contributes to the variety of strategic options. Floyd and Wooldridge (1994) emphasize this as source for enhanced performance and competitive advantage. Contextual factors that influence issue selling are organizational support, the Top Management’s (TMT’s) open-mindedness and the relationship quality between the seller and the TMT (Ling et al. 2005). Middle managers also perceive the external environment as relevant context to be informed about innovations in order to classify the likelihood of selling their issues (Dutton, 1997). The breadth of strategic options is therefore dependent on the search focus of middle managers, which is impacted by the motivation for issue selling.

Thus, we rely on the concept that path constitution (creation and dependence) requires a combination of entrepreneurial agents as well as internal and external enabling factors. Sydow et al. (2012) show how R&D consortia can contribute to path constitution in an industry network. Building on the idea of coupling influences of history and deliberately acting agents, we show how these enabling factors for constituting an organizations path are interrelated inside an organization. This is a prerequisite for dealing with path breaking events (Sydow et al. 2009). Sydow et al. (2009, p. 702) define path breaking as the "effective restoration of a choice situation – the insertion of at least one [superior] alternative course of action”. Schreyögg, Sydow and Koch (2003) captured the idea of path breaking and present an additional phase of “de-locking” after the “lock-in”-phase. However, as “de-locking” contradicts the irreversibility logic underlying path dependence, path breaking is still an underinvestigated field (Sydow, 2009). Little is known on processes that cause path breaking activities in particular without using M&A for entering new industries (Karim and Mitchell, 2000). Intra-organizational dynamics leading to path creation out of existing ones are widely neglected, as according to path dependence literature external shocks are the only source for path breaking.

We adopt a path research lens to analyze the interplay between path dependence, path breaking, and path creation. We use a process perspective to investigate the history of the ski-

producing company FISCHER SPORTS that entered the aircraft component business. While many companies use acquisitions to move to a new technological field (e.g. NOKIA) or to a new market, our case-study firm internally developed new capabilities, while it was fully engaged in the sports business by using and refining its existing capabilities. Although the technology was similar entering a completely new business field required completely new competencies in production standards, dealing with customers and suppliers. Sydow et al. (2012) encourage research dealing with differences, similarities and interrelation between technological, organizational and institutional paths. The case of FISCHER SPORTS illustrates the importance of a fit between these paths. Although FISCHER SPORTS was never trapped in technological path dependence it had serious issues in using this advanced technology to develop their business as a whole due to cognitive, strategic and structural inertia. FISCHER SPORTS's technologies were well developed and capable of serving as platform for entering the aircraft industry, they were far ahead of their market opportunities (e.g., knowledge about the "rules of the game") and operational abilities (e.g., production processes). Hence, we understand path as the trajectory of an organization resulting from decisions bounded by the interplay of technological and organizational (structure, culture, power structures,...) conditions.

Based on our single case study we show how path dependence, path breaking, path creation and path separation unfold over time. In particular, we respond to three research gaps in path research. *First*, little is known on the interplay between self-reinforcing processes to stabilize existing paths and reverse tendencies to escape lock-in situations (Sydow et al., 2009) or success traps (Levinthal and March, 1993) apart from Schreyögg and Kliesch-Eberl (2007), who emphasize the importance of "recursive practicing" and "reflexive capability monitoring" in order to avoid lock-ins. This topic is particularly relevant for companies that seek to continue their business in the established industry but concurrently recognized at least unconsciously threatening lock-in situations. Therefore, they need to deal with paradoxes and tensions at the bifurcation between the existing business and new and unknown opportunities.

Second, by focusing on events that trigger path creation, little is also known on the interplay between external and internal triggers that open up the door to novel trajectories. Breaking, creating, and separating or even concurrently maintaining two paths depend on an unknown territory of the coincidence of opportunity, ability, and motivation for overcoming lock-in situations.

Third, it is also unknown how managers sell their ideas – issues to change (issues-selling;

Dutton et al. 2001) – to an established company to trigger path breaking. We shed light into the emergence of new ideas from upstream issue selling activities of managers for mobilizing and canalizing resources (e.g. attention, financial resources, human resources) into new territories for creating new paths. Thereby, we highlight the interplay of agency and context in path dependence research.

Method

Research design

In order to answer our research question we adopted a longitudinal case study design (Yin, 2003; Eisenhardt and Graebner, 2007). We chose this design as it allows for capturing evolutionary and dynamic processes over time and grasping their complexity (Langley, 1999). Several scholars call for more qualitative research in the field of management (Aguinis, Pierce, Bosco, and Muslin 2009; Bansal & Corley, 2012; Pratt 2008; Welch, Piekkari, Plakoyiannaki, & Paavilainen-Mäntymäki, 2011) in general and also Garud et al. (2010) recommend an interpretative approach to analyze processes of path creation in particular.

Research context

We selected FACC's development from FISCHER SPORTS as an "outlier case" (Patton, 2005), an atypical example that offers the potential for gaining extraordinary insights beyond existing theory (see Ramachandran's, 1998 metaphor of a "talking pig"; Siggelkow 2007). FACC as globally oriented supplier of aircraft components successfully emerged in the 1980s out of the manufacturer of sports equipment FISCHER SPORTS. FISCHER SPORTS has been the most successful Nordic ski and skiing boot brand for nearly four decades. It is world market leader in sales of cross-country skis and possesses remarkable innovations in the skiing boot sector (Der Standard, 2012). During the crisis in 1989, FACC got spun off and is now owned by Chinese investors that support FACC's growth ambitions. FACC develops and produces lightweight composite components for the aeronautics industry with a total turnover of € 433,9 Mio. in 2012/13 and an increase of 31% in 2012 (Company Webpage; Der Standard, 2012).

Data collection

Data originate from both, primary (interviews, casual observation) and secondary sources (archival data). We took narrative interviews with four important actors of that time so far: the

Head of R&D at FISCHER SPORTS from 1970 to 1980 (referred to as: FISCHER SPORTS Head of R&D 1970s), his successor as Head of R&D at FISCHER SPORTS and now CEO of FACC (referred to as: FACC CEO), a marketing manager from FISCHER SPORTS (referred to as: FISCHER SPORTS Marketing Manager 1970s), and the Division Head of cross-country skis and later CEO of FISCHER SPORTS (referred to as: FISCHER SPORTS Division Head 1970s). We primarily used retrospective questions along the time-line to reconstruct the path of FISCHER SPORTS. Recall was stimulated by critical incident technique (Ericsson and Simon, 1980). All interviews lasted from 90 to 240 minutes, were recorded and transcribed in German; interviewees' quotations presented in this paper were translated afterwards.

We conducted the interviews partially at FACC's premises. This also allowed casual observations of interviewees in their environment. Further, we followed a tour through FACC's premises guided by the CEO, where we had the opportunity to listen to a company presentation and to discuss open questions. We also used this opportunity to gain information on their core cultural values and norms by adding observation notes to our data. To triangulate and to improve the quality of our analysis, we extensively use archival materials from internal and external sources. We analyzed internal documents (Die Fischer Story, DVD with published and unpublished interview statements of Josef Fischer jun., company presentations) and corporate webpages about FISCHER SPORTS's and FACC's history as well as newspaper articles (regional newspaper 1980-1987; online articles for later years) and compared them with the interviewees' statements (Jick 1979).

Data analysis

For the data analysis we followed the suggestion of Dobusch and Kapeller (2013), who recommend a narrative approach as ideal method for revealing phenomena of path creation and path breaking. In a first step we started writing up the organizations' histories from the raw interview and archival data (see Langley's, 1999 narrative strategy). The combination of reactive and non-reactive data allowed us to match conflicting statements between interview partners and archival data and thus counteract disadvantages of the retrospective approach. We eventually were able to draw a timeline of internal and external events from FISCHER SPORTS's early years until today. The narrative allowed us to identify stages in the process of development that differ in terms of the strategic orientation, persons involved, the company structure and the way of learning and revealed critical external events (boom in leisure

industry, snow crisis) that lead to different interpretations and actions of persons involved and therefore lay the ground for subsequent changes.

Consistent with the recommendations of Eisenhardt (1989), the research team spent considerable time as a group sharing impressions and data in order to achieve a consensual view of FISCHER SPORTS's and FACC's paths. Moreover follow-up interviews with FACC's CEO have been conducted and feedback sessions with the other interview partners are planned. Additionally, the constant comparison with theory (Eisenhardt and Graebner 2007) served as a means to ensure validity and reliability according to case study research standards (Yin 2003).

Findings

Low-cost skis for the masses: FISCHER SPORTS's early years (1924-1967)

An Austrian wainwright founded FISCHER SPORTS in the early 1920s. He was puzzled by the idea of industrial production, which he learned to know during his years of apprenticeship and started the production of handcarts and sledges using a self-invented band saw. The founder also machined the first wooden skis for ski enthusiastic-friends soon. In the 1920s skiing as leisure sport was in its very early years, but boomed with the construction of the first ski-lifts in the 1930s. FISCHER SPORTS enlarged its ski production year by year, producing 2,000 pairs of skis at the end of the 1920s and 10,000 in the early 1930s. While the production of handcarts was stopped after a few years, FISCHER SPORTS industrialized its production even further in the 1930s. By the beginning of WWII the company already exported 2,000 pairs of ski to the U.S. (The FISCHER SPORTS Story, n.d.). During the first years of the war, FISCHER SPORTS mainly produced short skis for military purposes and deckchairs for battlefield hospitals, but had to stop production in the late years of the war due to unavailable raw material. However, after the end of the war, FISCHER SPORTS recovered quickly and focused on the production of skis (Swietly and Simharl, 1989).

In 1948 the founder's son entered the company and soon tensions between father and son emerged. While the founder's son encouraged his father to adopt new technologies, such as the "sandwich" technology, which the Scandinavian ski producers started to use, the founder himself still produced skis the "traditional" way, made from solid wood, "It won't work without ash and hickory"; he was convinced that using adhesive technologies for ski

construction “destroys wood’s natural structure” (Binder, 1970). Whereas FISCHER SPORTS’s competitors were engaged in alpine racing and possessed cutting edge knowledge, FISCHER SPORTS was producing skis for the masses and children (FISCHER SPORTS Marketing Manager 1970s: 29-33). These target groups were ideal for FISCHER SPORTS, as they were not producing high-end skis these days. The demands of the “average” skiers were small and for children skis the quality issues were not as obvious due to the short length of the skis.

After the founder’s son almost left FISCHER SPORTS due to the tension with his father, the founder finally understood the importance of the “modern” way of ski construction and put the responsibility for more and more technological concerns on his son. In 1949 FISCHER SPORTS built the first press to produce skis using the sandwich technology (Swietly and Simharl, 1989). Investments in this technology allowed a remarkably increased production output: e.g., from 40,000 of skis in 1955 to 53,000 pairs of skis in 1956. In 1958, when the founder died, FISCHER SPORTS was one of the largest ski manufacturers (FISCHER SPORTS History 1924-1970, n.d.). Although his son actually led the firm at this time, until his death FISCHER SPORTS still stuck to established patterns. For instance, the construction of skis was still based on wood by ignoring new materials (e.g., metal skis). In addition, the engagement in the racing World Cup that started in the early 1950s was restrained, although the founder’s son already recognized the potential market advantage this engagement implies. One of FISCHER SPORTS’s competitors demonstrated that promoting their products with successful athletes as testimonials led to increased sales, “People only want the skis of the champions” (Spiegel, 1968).

High-tech skis and the plentiful years: FISCHER SPORTS’s turning point (1968-1977)

After the death of the founder, FISCHER SPORTS increasingly engaged in the world of alpine ski racing and adopted new technologies. FISCHER SPORTS’s first metal skis turned out to be a success in alpine ski racing and customers quickly forgot about FISCHER SPORTS’s low-quality image and were eager to buy the “champions’ skis”. The upturn in the sports and leisure industries in general, and especially the ski industry, led to annual sales growth rates of 10 to 20 percent. While the number of pairs of ski sold in the season 1967/1968 was 410,000, it reached 585,500 pairs of skis in 1968/1969. Furthermore, having close contact with very successful testimonials of FISCHER SPORTS was not only pushing sales, but also the close relationship to racing created a positive attitude towards competition inside the firm. The sporting ambitions also influenced FISCHER SPORTS’s corporate

culture in a way that employees stretched for higher goals according to “the Olympic motto: faster, higher, stronger.” (FISCHER SPORTS Marketing Manager 1970s: 116)

In the 1960s FISCHER SPORTS also bought one of its competitors and started to extensively invest into R&D. By the end of the 1960s FISCHER SPORTS was the first company to base its ski construction on four technologies: wood, wood-steel, plastic and metal. Remarkably, FISCHER SPORTS’s (as all of its competitors’) R&D-activities were based on trial-and-error learning. For instance, the founder’s son, at that time CEO of FISCHER SPORTS, relied on his haptic perception of how stiff a ski should be for product development.

In order to supplement this trial-and-error learning by more scientific methods, FISCHER SPORTS employed a former nuclear physicist from Austria’s leading Applied-research Institute as Head of R&D. This extraordinary move allowed FISCHER SPORTS to calculate properties of skis (e.g., the optimal stiffness of the ski) instead of relying solely on trying. Sophisticated computer models – even during the 1970s – improved the way of doing R&D significantly and led FISCHER SPORTS to great success in the alpine ski racing World Cup as well as in the alpine ski market.

In the early 1970s, FISCHER SPORTS also decided to enlarge its portfolio by launching cross-country skis as the management was well aware of the limited market of alpine skis and their dependence on the snowfall in the winter season. Cross-country skis’ sale is not only limited to mountain regions and is less dependent on snow conditions as the amount of snow needed is smaller than in alpine skiing. In that field they gained success by replacing existing materials by composite technologies with honeycomb cores. Based on this technological revolution FISCHER SPORTS gained unforeseen dominance in the Nordic ski World Cup rapidly. Within three years (1971-1974) from the presentation of the first cross-country-ski collection, more than 50 percent of the Nordic athletes trusted FISCHER SPORTS. Demand rose in dimension that production was nearly not able to follow, “a few years later [we] accomplished to be global market leader in Nordic, in the cross-country-skis market, that’s what we are to date. That’s even more surprising, as the Scandinavians totally dominated [the field]. At Olympia [...] there were only Scandinavian skis [...] That’s like, eliminating the German automotive industry overnight.” (FISCHER SPORTS Marketing Manager 1970s: 13-17).

To gain seasonal stability, FISCHER SPORTS at the same time followed another market idea, which the founder’s son was passionate about—tennis. Besides alpine and Nordic skiing FISCHER SPORTS established tennis as its third business field in 1972. FISCHER SPORTS

saw the chance to revolutionize the tennis market that was dominated by wooden tennis rackets through the introduction of its technologies (e.g., the use of plastic and metal). By the end of the decade more than 50 percent of all tennis rackets were made from plastic or metal. In combination with a tennis' boom in the 1970s, the sale of tennis rackets soared within three years from already 40,000 tennis rackets sold in the very first year, 1974, to 140,000 in 1977 (The FISCHER SPORTS Story, n.d.) . Also professional tennis players trusted the new rackets soon, athletes using FISCHER SPORTS rackets already won five Grand Prixes in 1976 (singles) and two Wimbledon Championships in 1978 (doubles and mixed-doubles).

Due to the technological achievements that served as basis for FISCHER SPORTS's successes, R&D gained higher and higher reputation inside the organization by professionalization. The use of sophisticated scientific methods, basic research conducted with the highest level of technical knowledge and the use of latest computer technologies was completely uncommon and unknown in the industry. In addition, the spirit of coming up with crazy ideas and testing them with racing athletes or on internal team events (e.g., FISCHER SPORTS-internal cross-country races) further pushed R&D efforts to the limits. A spirit of trying out new things and learn from trial and error created a perfect environment for learning, like an interview partner described the way of trying out, "There was a lot of crafting [...] let's try it, you put that [on your cross-country ski], you get a piece of fur, shorter, longer, now skate, let's change the ski" (FISCHER SPORTS Marketing Manager 1970s: 586-591).

This inimitable culture was positively influenced by the CEO's fascination for new technologies and by the availability of abundant resources. Innovative technologies were FISCHER SPORTS's biggest competitive advantage, made possible by strong investments into R&D. That time 10 percent of FISCHER SPORTS's staff was dedicated to R&D and the percentage of university graduates at FISCHER SPORTS was extremely high for that time compared to its competitors, "There were only PhDs, graduate engineers, Masters, nobody was without degree, nearly provoking for that time" (FISCHER SPORTS Marketing Manager 1970s: 85-87).

FISCHER SPORTS also built excellent networks with research partners. Collaborative basic research such as projects with the U.S. army on the properties of snow, U.S. universities survey on the American population's feet, and European universities on shock absorption ensured to gain deeper knowledge about the underlying principles of skiing and tennis than their competitors, "You cannot sell such things, but its extremely important, if you want to understand, what happens in this sport" (FISCHER SPORTS Head of R&D 1970s: 479-481).

Networks also allowed FISCHER SPORTS to continuously experiment with materials that were in use in other industries but new to the sport industry. For instance, FISCHER SPORTS's strong relationships with its suppliers enabled it to come up with carbon as new material for tennis rackets. Until that time, carbon has mainly been used for military purposes and in the aerospace industry, "[FISCHER SPORTS] was one of the very few firms at this point of time, namely the late 1970s, using carbon for civil purposes. Carbon was used in the military industry in the U.S. at that time and then for tennis rackets" (FISCHER SPORTS Division Head 1970s: 31-34). This innovation allowed FISCHER SPORTS to confirm its standing as highly innovative tennis racket producer.

These enabling factors on organizational level allowed individuals like the Head of R&D in the 1970s to live their passion for research and made them going extra miles in order to fulfill their personal goals. For instance, he asked another firm to use their mainframe computer—that was superior to FISCHER SPORTS's computing capacity—to run calculations. To not disturb the other companies' work processes he spent numerous nights at their facilities, "they had an IBM 1130 [...] and at 10 pm the second shift ended and I was allowed to go in [...] and calculated in the night" (FISCHER SPORTS Head of R&D 1970s: 71-77). FISCHER SPORTS was fully integrated into research networks not only because of participations in testing at universities but also because the Head of R&D actively searched for face-to-face contact with experts in the field. But not only the engagement in networks for basic research but also the contact with relevant actors in alpine racing helped FISCHER SPORTS being on or in front of the pace of time and actively shape rules of the field, "For example, I was the industry representative of the Scientific Advisory Board of the [Olympic] Competition Committee" (FISCHER SPORTS Head of R&D 1970s: 1142-1144).

Slack resources and excess knowledge: Foundations for the creation of FACC (1978-1988)

FISCHER SPORTS's focus on extending its networks to other industries also led to the first contacts with the aircraft industry. The Head of R&D got the possibility to get insights into the construction process of the "Concorde" in 1973 and also held a talk at the national aeronautics and space research center of the Federal Republic of Germany. Two years later FISCHER SPORTS's CEO went for a tour at Boeing premises and joked about ideas to engage in the business, because what FISCHER SPORTS learned from these contacts was that it possessed knowledge in material and adhesive technologies that were interesting for the aircraft industry, which was constantly looking for lighter material, "They were astonished,

which know how we had about adhesion in this dumb sport industry. And so the contacts to MBB started” (FISCHER SPORTS Head of R&D 1970s: 511-513).

By the end of the 1970s FISCHER SPORTS formally separated alpine skiing, cross-country skiing and tennis into three divisions, which were run as profit centers. R&D stayed centralized. However, the profit centers were reluctant to buy new technologies from R&D as the existing one sold very well and they did not want to take more risk than necessary, “the Head of the Alpine Division told me [...] he does not need developments” (FACC CEO: 415-416) FISCHER SPORTS recognized that it had too much knowledge to apply it only to a pair of skis or a tennis racket. Also the high number of employees in the R&D department caused the situation that more knowledge was generated than could be exploited within the three divisions. FISCHER SPORTS’s technologies were far ahead of its opportunities to market them.

In 1975 the later CEO of FACC did an internship in the R&D department for a few month and started to write his Diploma thesis in collaboration with FISCHER SPORTS. In 1977 he entered the organization and started working on the research project with Messerschmitt-Bölkow-Blohm (MBB), a German aircraft manufacturer for civil and military purposes. The relationship of MBB with FISCHER SPORTS was characterized by their need of knowledge about FISCHER SPORTS’s adhesive technology and FISCHER SPORTS, in return, required access to radio bandwidth for its measurements that were only accessible for scientific or defense institutions. After the end of the project, the later CEO of FACC was about to start to work for MBB, “I signed there, but did not take the security test [which was needed as] I would have been responsible for the firing proof test of [MBB’s] rotor blades” (FACC CEO: 65-67). But as the former Head of R&D left FISCHER SPORTS in 1980, he applied for his position and was appointed as new Head of R&D.

In these times, the markets for cross-country skis dropped from 2.7 millions pairs of skis to 2.2 millions and for alpine skis from 5.9 millions to 5.0 millions; a development that was about to continue for the next decade due to “bad” winters with little snowfalls (“snow crises”) (Raudaschl, 2003).

FISCHER SPORTS’s CFO planned to cut the R&D budget and reduce the number of employees in the R&D department by a half, in order to limit the exploding costs. Although the CEO knew that further developing new technologies would not return any profit, he did not want to cut the resources of the R&D department, but thought of contracting for other companies or sell R&D units, “[The CEO said] if they are no use [...] then I take my 20

people and sell them to Airbus” (FACC CEO: 594-595). Nevertheless, the R&D department was, of course, struggling to legitimize its size. Protected by the CEO, the R&D department started to search for new applications of FISCHER SPORTS’s knowledge outside of the company and identified the automotive, aircraft, and medical devices industry as promising options.

Feeling the autonomy arising from the disagreement within the TMT, the newly employed Head of R&D made his first efforts to start the aircraft business. He was personally fascinated by this topic (he even tried to become a pilot once) and had first proficiencies in this business from the joint research project. Although also automotive industry was an issue at the beginning, the design of the axles for Audi Quattro stayed a single event, “we learned from it and did not accept an order since then” (FISCHER SPORTS Division Head 1970s: 758-760). The prices achievable in the automotive industry were way too low to compensate FISCHER SPORTS’s engineering and production costs for its carbon-based lightweight constructions.

Developments for the aircraft industry, in contrast, seemed to bear greater potential. The aircraft assemblers called for high quality standards but were in turn willing to pay a significantly higher premium for weight reduction. Thus, the Head of R&D gave the explorative search initiatives a focus on the aircraft industry and bundled the various attempts going into very different directions (e.g., automotive and medical devices). By using his contacts from FISCHER SPORTS’s former collaborations and by establishing new ones, the new Head of R&D secured projects from Airbus, Boeing and MBB for different aircraft components. FISCHER SPORTS’s competitive advantage was on the one hand its knowledge in composite and adhesive technologies and on the other hand its incomparable attitude towards risky endeavors. Established competitors rejected development projects because they perceived the realization as impossible or too risky, but FISCHER SPORTS’s R&D-department took its chance to make, “risky attractive offers [...] technical as well as [regarding] the business model, but execute them and stick them out” (FACC CEO: 837-839).

In order to also satisfy the (small) demands from FISCHER SPORTS’s three existing divisions, Alpine, Nordic, and Tennis, the new Head of R&D assigned development projects for sports goods to one part of the R&D department and created a separated work group of around 25 people that were engaged in the development of aircraft components only. People were excited about being part of that work group. In order to protect the work group on the one hand against the TMT and on the other against the other divisions they started to lock their doors to show that they are developing something outstanding that is worth to be kept

secret. The locked doors signaled internal cohesion and at the same time excluded the rest of the organization (“insiders” and “outsiders” in the true sense of the word). They even developed stickers to show that they are an own entity, “we shut ourselves off [...] we were a [...] sworn team” (FACC CEO: 495-497).

Led by a strong leader—the new Head of R&D—and the perception of the rest of the organization as enemy, soon a firm within in the firm evolved. They had their own business plan, internal accounting, and own production. Starting own production—within the R&D department—was necessary, as after the first engineering and development projects FISCHER SPORTS became also the order for production. However, the production of panels for Airbus failed completely at first, as production in the tennis racket plant by unqualified seasonal staff did not meet the quality standards of the aircraft industry at all. Production facilities were meant for sports goods and not for the requirements of aircraft components, “We produced aircraft components with summer fellows [...] in our tennis racket factory [...] we had cracks in the aircraft component. You can imagine how enthusiastic our customers were about that. [...] We did not answer the phone for 2 weeks as we feared legal actions that would have destroyed us” (FACC CEO: 793-800).

In follow-up orders it also became obvious that FISCHER SPORTS’s processes were too complicated in order to fulfill the aircraft industry’s orders that came in at short-notice. FACC’s CEO characterized their working style at that time like this, “We were known as fire brigade. FACC was brilliant at spontaneous projects for example when someone urgently needed spare parts or custom-made solutions” (FACC CEO: 35-37). Besides, the order volume at the beginning was too small to profit from functional separation. Therefore, the R&D department was responsible for both—developing and producing new components for aircraft assemblers. Main products were Fairings, Engine Components, and Interiors.

As the aim of diversification was to minimize the risks by serving different markets, the aircraft components initiative (“FACC”) became increasingly unpopular inside FISCHER SPORTS. Large investments were necessary to finance this initiative and the possibility that a failure threatens the existence of the firm as a whole rose. Therefore the CFO wanted to stop efforts in the aircraft industry, but new market opportunities in the U.S. prevented this attempt as the CEO kept the faith in the endeavor, although “[the CEO] had no idea. [The CFO] said, ‘It seems suspicious to me, but if [the CEO] says ‘We do it’, then we do it.’ But [the Head of R&D] did not have a direct support” (FISCHER SPORTS Division Head 1970s: 536-538).

Anyhow FISCHER SPORTS wanted to gain more control over the increasingly separating FACC-initiative. As FACC was only a work group within the R&D department unit that point also having full access to the R&D budget, the TMT did not have an exact overview over investments and outcomes of the initiative, “the tenor of the others, the division, was that we did not effect performance, but blow their money [...] if you run a R&D department of 100 people, I mean, you possible do not have cost transparency [...] I mean it was an absolutely lovely start in a new field, when you have 100 people that you can withdraw [from other projects] if you need them” (FACC CEO: 583-589). To enhance the TMT’s control over the initiative FISCHER SPORTS decided to found FACC as fourth division and run it as profit center in the end of the 1980s. As soon as this was achieved FISCHER SPORTS started another attempt to close the business unit, but failed because of the Head of R&D’s efforts in raising funds and orders. That time FACC prepared itself for getting spun off. They developed business plans in order to be able to find better investors.

Separating sports and aircraft industries: FISCHER SPORTS spins off FACC (1989-)

1989 FACC got spun off and the former Head of R&D became CEO of FACC, although FISCHER SPORTS planned to introduce the former FISCHER SPORTS CEO as new CEO of FACC. 1999 FACC was transformed into a public limited company. Whereas FACC made its way to an international leading supplier for composite components, FISCHER SPORTS was negatively affected from knowledge drain to FACC. The sports industry suffered severely from the crises and the other divisions forced FISCHER SPORTS to pursue cost-cutting activities throughout the corporation. FISCHER SPORTS further stemmed its innovative capacity by massive cost-cutting programs. In the sports business FISCHER SPORTS reduced a substantial number in personnel and relocated parts of its production (cheap, low-quality plastic skis for the “masses”) to Ukraine. In 2008 FISCHER SPORTS finally sold its FACC shares to invest the resources in its sport business.

Insert Table 1

about here

A process perspective on path evolution

The processual lens on FISCHER SPORTS's and FACC's evolution allows bridging the streams of path dependence, path creation, and path separation: The path dependent process was interrupted through the creation of a new path. As the deviation was too radical for the organizational context of FISCHER SPORTS, the new path of FACC emerged and paralleled the existing one. However, as paths were diverging over time, paths finally separated (see Figure 1 for an overview). Thereby the initial organization FISCHER SPORTS acted as "incubator" and facilitated the emergence of a new path, but at the same time gave up the chance for path breaking as knowledge and innovative forces left at time of separation. This confirms Sydow et al.'s (2009) insight that path dependence and path breaking could offer a great contribution to the field of process studies.

Insert Figure 3

about here

Path dependence

Whereas early studies of path dependence highlight one-sided investments as constituting factors for path dependence, organizational studies are restricted to decisions instead of considering a combination of cognitive, normative and resource-based (Giddens, 1984) dynamics that might result in a lock-in. Also in our case we found a combination of the mentioned factors constituting FISCHER SPORTS's path. FISCHER SPORTS grew by relying on established materials and technologies and the founder's idea of automatizing traditional work processes (introducing "Fordism" in the ski industry). Decisions were made based on low-risk strategies. The founder himself actively suppressed efforts to search for new materials and new technologies for producing skis. The success factor of FISCHER SPORTS was seen as lying in the volume business, where quantity instead of quality is the essential factor. The organizational identity that time was shaped being the largest ski producer in the world by applying methods of scientific management. Thus, rationalization- and downsizing-efforts were always present in FISCHER SPORTS's early years.

Breaking path dependence

Breaking path dependence was triggered by the founder's death (and eased due to his gradual retirement before), as he acted as a restricting force towards new technologies. Further, the boom of leisure industry led to sufficient slack resources. An excess of resources allowed FISCHER SPORTS to allocate resources to R&D in order to diversify its business and to escape the threat of relying solely on one climate-dependent business field (see also the diversification-literature for the strategy of risk minimization through engaging in multiple business areas; Rumelt, 1982). The success of FISCHER SPORTS's innovation activities—both in terms of market success and success with its top athletes (first in the alpine racing World Cup, later also in the Nordic events and in tennis) shaped a new identity. FISCHER SPORTS at that time had little to do with the “Fordism” company it was at the beginning, as a mix of scientific methods and trial-and-error activities characterized its learning behavior.

In line with Koch's (2011) notion that not all parts of the organization are directly affected by the a new strategic path (Koch, 2011), some of the “old” principles survived throughout the organization's history - even as materials and technologies as well as the management changed. One part of the organizational identity remained constant over time, even as attempts towards new markets were made, “No matter what. We are a sports equipment manufacturer”. At no point in time FISCHER SPORTS considered quitting the sport business and reallocating all resources to aircraft industry. This part of the identity - that was largely determined by the founder and his son - forced FISCHER SPORTS to fall back in the old path, although it seemed as they already broke the path (see also the closely related literature streams on imprinting and cognitive inertia; Schreyögg and Sydow, 2011).

Path creation

Pierson (2000, 2004) mentions the importance of contextual factors for path dependence. On the contrary, Koch, Eisend and Petermann (2009) suggest only an indirect or weak influence of context on path-dependent processes and lacking empirical exploration on that issue. By looking at the combination of internal and external influences on new path creation out of an existing path we empirically fill this research gap. External trigger for the creation of the new path was the crisis of snow that caused a collapse of ski market and as a consequence an immense over production. The whole industry sector was trapped in crisis and the fear for survival rose the more competitors have been acquired.

Due to this threatening external conditions FISCHER SPORTS followed the strategy of recruiting externals as Head of R&D twice in order to facilitate change and innovations (Raisch and Tushman, 2011). The Heads of R&D had little or no knowledge about the sports industry. However, this recruiting strategy is a double-edge sword as externals can really contribute to innovation as long as their socialization has not been completed, but on the other hand they lack organizational commitment. In FISCHER SPORTS's case the later CEO of FACC was fully commitment to the product and driven by the ambition of probably most researchers of finding out something new, but organizational commitment was missing.

The big advantage of this form of commitment was that it led to huge efforts in searching for new technologies and procedures for calculations. The search focus was going far beyond the scope of the path (Katila and Ahuja, 2002). Collaborations with firms in various industry sectors and universities served as means for running computer-based calculations, offered access to basic research methods and findings and to compare the knowledge to the knowledge of others. Thereby, FISCHER SPORTS realized that in terms of material and adhesive technologies they were far ahead not only in the sport industry sector but also in the aircraft business.

Although FISCHER SPORTS applied its technology to use it for different markets, it was not able to adjust its structure and culture in order to allow for exploiting the new business field of aircraft industry. For instance, production facilities have never been adjusted to the requirements the aircraft industry's quality standards were calling for. This inability to both, re-integrate or sell the FACC-initiative can be seen as "critical junction" (Sydow et al. 2009). FISCHER SPORTS tried to take control by tighter coupling FACC to the organizational structure of FISCHER SPORTS in order to be able to have at least a financial overview over FACC's activities. FACC has never been part of FISCHER SPORTS's official strategy and therefore FACC itself was responsible for gaining access to external financial resources.

In addition, different interpretations of external conditions led to a conflict within the TMT. Whereas the CFO tried to cut expenses in R&D in order to react to market conditions, the CEO saw a chance to partly escape the situation by developing new technologies. As this conflict was not resolved on the TMT level it appeared again on the level of business units, which were reluctant to use new technologies. This conflict was used by the Head of R&D to bring his issue of creating a business as composite components supplier for aircrafts to the strategic landscape.

Path separation

By dealing with path separation we specify what Koch (2011) introduces as organization context. In our understanding organizational context subsumes internal factors (power relations, group dynamics, leadership style, organizational culture,..) and external factors (economic conditions, crisis, network relation,..) that are interrelated and offer or hinder the chance for path breaking initiated by individuals that try to put their personal issues on the organizational landscape. Koch (2011) stresses organizational context to define fast selling, contested, challenged and excluded issues. Beside the context, we emphasize the individual's skills in selling the issue to the TMT and the relevant group.

The R&D department found a patron in the CEO and granted wide autonomy for R&D, which contributed to the divergence of paths. However, the timing of presenting the plans for engaging in the aircraft industry ("snow crises" and realization of advantage in knowledge) was one critical for the emergence of the FACC-initiative. TMT's attention is seen as the goal of an issue selling process and always perceived as positive in the existing literature. However in the case of FACC it was an advantage that the initiative could grow, before getting the full attention of the TMT.

The Head of R&D utilized this autonomy to sell his issue – i.e. entering into the airline industry – to a group of people within R&D, which was completely separated from the rest of the R&D department. Feeling the pressure from the rest of the organization that tried to close the initiative as they realized that integration could not be successful anymore, the cohesion in the group got stronger and encapsulated from the rest of the organization, which resulted in further divergence of paths. Initially founded in order to minimize the risk of being completely dependent on the sports industry, this group developed a completely different approach to risk-taking than the rest of the organization. It became a core competence of FACC to manage projects that competitors refuse due to uncertainty, short time-frames or that are perceived as too risky.

As identities of FISCHER SPORTS and FACC became increasingly incompatible, consequently FACC got spun-off in 1989.

Discussion & Conclusion

This paper applied a longitudinal case study design to reveal, how the aircraft supplier FACC emerged from FISCHER SPORTS, a sport equipment producer. The reconstruction of this extraordinary case's history allows shedding new light on path dependence, path creation and finally path separation. Thereby, this research contributes to the literature in at least three ways.

First, the case shows how organizations deal with tensions between divergent paths such as "we are a sports equipment manufacturer" on the one hand and "we are a supplier of high-tech products to the aircraft industry" on the other hand. Although FISCHER SPORTS, being path dependent in the early years, was able to reconsider its trajectory (volume business vs. high-tech skis), successfully explored new technologies, and thus actually broke its path, it fell back into path dependence decades later again. FISCHER SPORTS always had the option to sell the sport equipment business (as NOKIA did it by selling their mobile devices business unit) and focus on the more promising airline industry, but chose to stick with its origins (identity of being a ski manufacturer), and finally sold FACC to keep up its original business. Koch's (2011) notes that dissonant strategic issues that conform or deviate the path can coexist within an organization. In our case study business development into the direction of aircraft industry was a strategy deviating the organization's understanding of „our focus is and should stay on sports equipment“. After a period of coexistence the paths increasingly diverged and separation was inevitable. FISCHER SPORTS's successful path creation efforts in the aircraft industry paired with its inability to leave its old path, allowed the rise of FACC.

Second, we show that the coincidence of opportunity, ability and motivation enables path breaking. The TMT's ambiguity of how to proceed with the overstaffing in the R&D department and how to continue the aircraft business, opened the opportunities for the Head of R&D to lead the slack labor into the new business field and was therefore able to drive his personal issue forward. Kunow et al. (2013) emphasize temporary incompetence as an opportunity to escape from lock-in situations. In order to deviate from the strategic path organizational slack resources, that allow for exploration and loosely coupled structures (Nohria & Gulati, 1997) are necessary. Ability on the organizational level was gained by the employment of the Heads of R&D who together with their teams developed the knowledge on composite construction, which was the prerequisite for entering the new market of aircraft industry. Motivation was built by negative motivation due to the threatening of the core business because of external conditions (decreases in leisure industry and lack of snow). In particular employees in the R&D department feared losing their jobs and the Head of R&D losing

budget and therefore power and resources to pursue his personal plan.

By shedding light on the organizational context we follow the call of Dutton and Ashford (1993) and Dutton et al. (2002) to analyze how the context creates opportunities and barriers to issue-sellers that influence their motivation to grab their chance for setting a new agenda. Issue selling can be seen as emergent form of resourcing. „The value that issue sellers bring to their organizations lies in their knowledge of, and often passion for, a new issue that has potential strategic consequences“ (Howard-Grenville, 2007, p. 574). In our case it enabled the creation of FACC.

The case also questions the assumption that external managers help organizations to explore new fields supplementing their existing business (e.g., Raisch and Birkinshaw, 2011), as their lack of commitment to the original business (but commitment to the new field) may also lead to explorations of new paths that are incompatible with the organization's plans and thus lead to path separation.

Third, in order to show how agents ensure that their deviation is fruitful we introduce the concept of issue selling into the path dependence literature. We thereby follow the call of Sydow et al. (2012) for a better conceptualization on multiple actors intentionally influencing the path by recognizing the chance to match the firm's abilities with external and internal opportunities to enter novel territories. We highlight the importance of timing in issue selling as new ideas potentially threaten established capabilities and power structures (Valorinta, Schildt, and Lamberg, 2011). Therefore protecting them in an early stage against conformity pressure (e.g. NIH-phenomenon) and to reinforce them in a later stage is important for the success. Also Djelic and Quack (2007) argue that it is not single interruptions leading to change but a series of incremental changes that can lead to path breaking (in our case to path creation). The Head of R&D followed his plan with persistence and surely profited from a close relationship to FISCHER SPORTS's CEO, as both shared the fascination for new technologies. The more the content and framing of an issue is inline with the TMT's expertise the more likely the issue will be considered as important and feels control over it (Dutton and Duncan, 1987). A close relationship with the TMT and good knowledge of how things work around in the company, are important success factors for issue selling (Dutton et al., 2001). The later CEO of FACC not only had a good feeling for internal but also for external dynamics in the aircraft business. „Just like a seismograph which detects the earth's rumblings, managers who are alert to the winds of change in conditions may see more opportunities for issue selling“ (Dutton, 1997, p. 420). Additionally to his strong focus on

external partnerships, he profited from internal competitive and economic pressures and was therefore able to easily mobilize a group of people from the R&D department to support his initiative.

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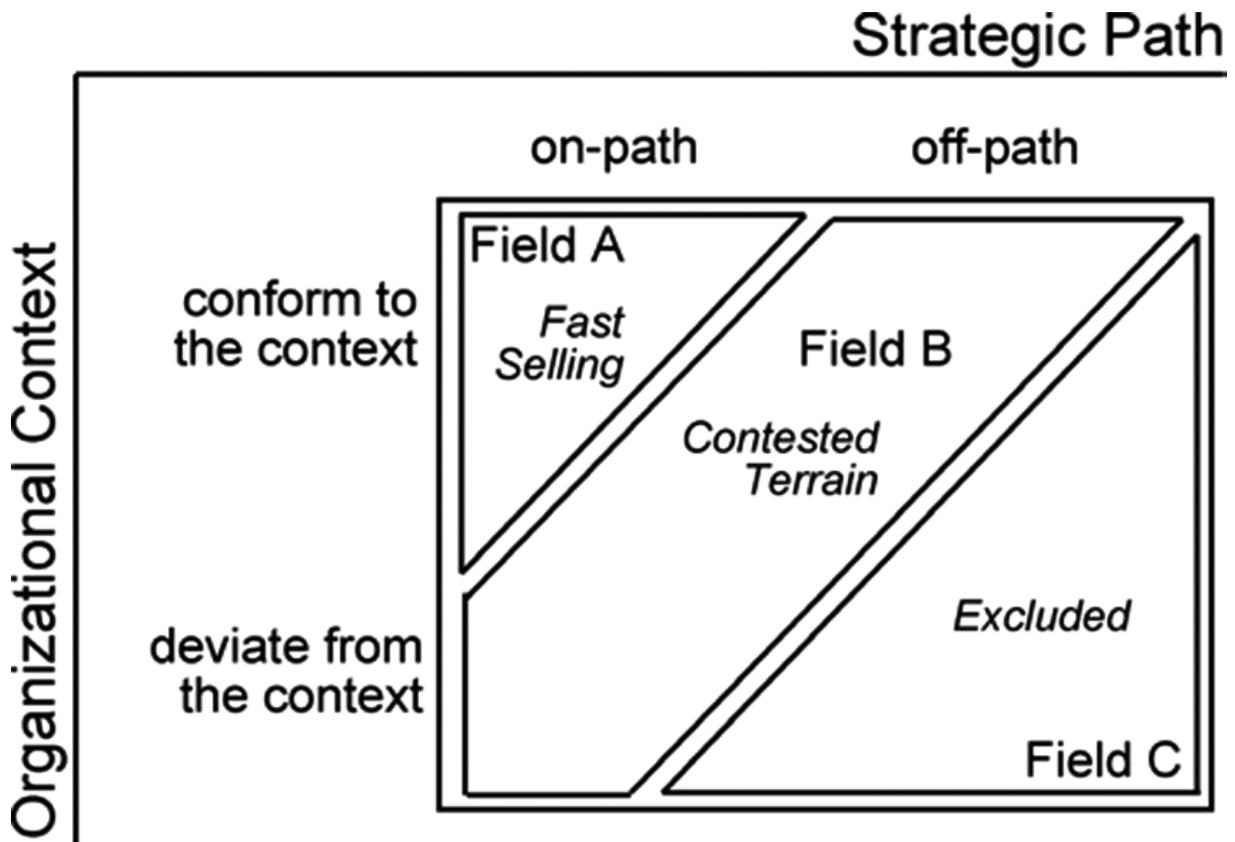
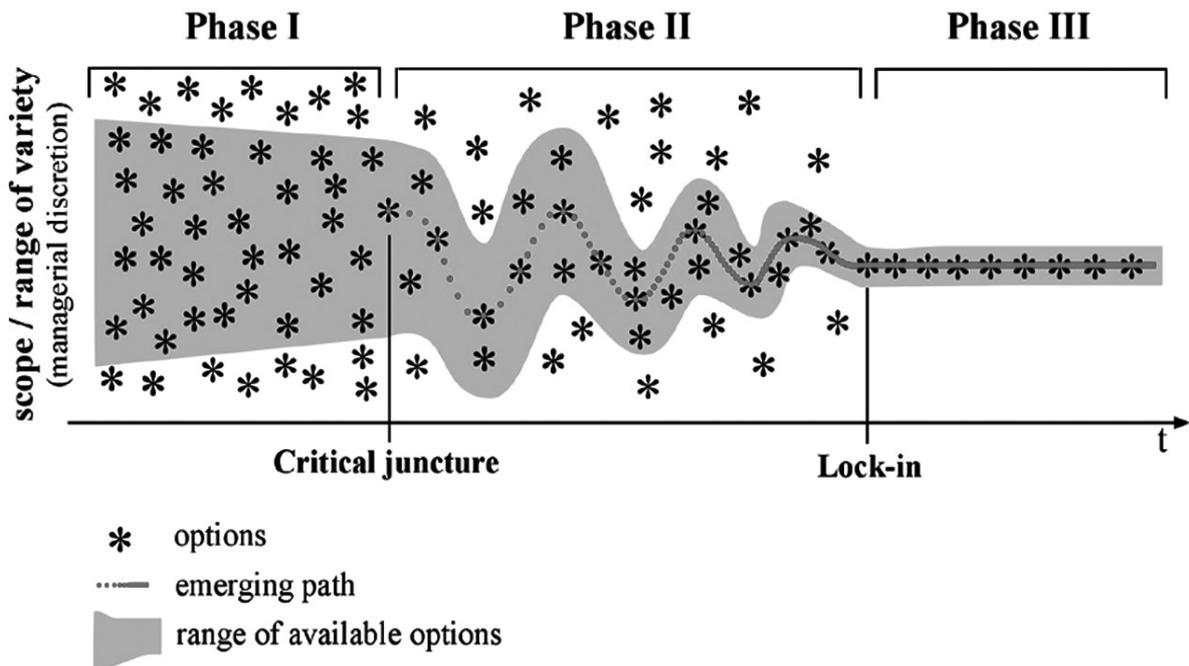
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	1924-1960	1968-1977	1978-1988	1989-
Environmental conditions	Few <i>Mittelstand</i> firms dominate ski market Traditional construction (wood ski) outdated by new technologies (alu-steel skis with plastic running surfaces)	Booming ski market (more than 10% a year) Emergence of the composite technology for high-quality skis and foam technology for low-quality skis	Market recession due to the snow crises (sales drop about 50%) Overestimation of market in the past decade lead to massive overproduction Competitors fail and are mostly acquired by larger sport equipment suppliers	Sales in ski industry stay at low level Aircraft industry increasingly trusts in FACC
Individual actions	Founder prevents the organization to use new materials or technologies Founder's son takes over the business, after unexpected death of the founder	Founder's son encourages heavy R&D-investments and paves the way for new materials and technologies Head of R&D (1970s) introduces scientific methods and applies new technologies	CFO proposes cuts in R&D-staff, but founder's son sees search for alternative use of technologies as alternative way New Head of R&D (1980s) suggests aircraft industry as promising business field and focuses search effort for application possibilities to this industry	Founder's son withdraws his patronage for the FACC-initiative Head of R&D (1980s) leads FACC as new CEO
Strategic choice	FISCHER SPORTS grows through increased production volume	Acquisition of a competitor Diversification to lower risk of depending on winter conditions FISCHER SPORTS invests heavily in R&D	Application of FISCHER SPORTS's technology (composite and adhesive technology) outside of the sports industry FACC intends to grow FISCHER	FACC grows rapidly FISCHER SPORTS (as co-owner) still intends to keep risk low and prevent FACC from growth FISCHER SPORTS rationalizes to

			SPORTS intends to keep risk low and prevent FACC from growth	meet changing market structure and finally sells FACC shares to sustain ski business
Learning	Optimization and rationalization to lower costs (reason for quality issues)	Scientific methods combined with “hands on”-mentality (trial and error-learning) Collaboration learning with athletes, universities and other basic and applied research institutions	Learning from failures during handling first contracts in new markets (esp. aircraft industry)	FACC refines its knowledge through dense cooperation with leading customers FISCHER SPORTS suffers from knowledge drain and reduces R&D activities
Milestones	FISCHER SPORTS starts producing alpine skis Focus on traditional construction (wood) and quality issues lead to focus on lower-quality skis Era ends with the founder’s death	FISCHER SPORTS enters in the Nordic ski market and the tennis racket market Establishment of FISCHER SPORTS in the world of ski racing; quick success in the alpine ski world cup and dominance in the Nordic ski world cup	Contract R&D and production for the automotive, aircraft, and medical devices industry Quick focus on producing parts for the aircraft industry; establishment of FACC as division	Spin-off of FACC FISCHER SPORTS sells shares in FACC
Path evolution	Path dependence	Breaking path dependence	Path creation	Path separation

Table 1: The process of path dependence, path creation, and path separation at FISCHER SPORTS/FACC

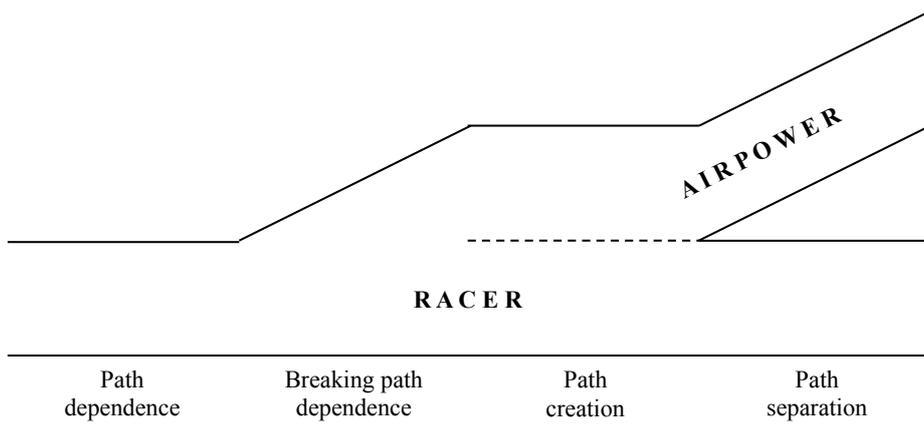


Figure 3: Evolution of Fischer Sports's and FACC's paths