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Patterns of Strategic Flexibility

In increasingly turbulent business environments of today's globalizing economy, where strategically relevant changes in the context of industrial organizations are no exceptions anymore, the dominant approaches to firm strategy, like sustainable competitive advantage and strategic fit, have to be explicitly complemented by the notion of strategic flexibility. This paper is identifying and analyzing patterns of strategic flexibility in a firm's strategy when this firm is facing significant changes in its environmental context. Based on the analysis of 35 interview sessions with senior executive managers of 25 companies and 116 incidents, this research is identifying distinguishable forms environmental turbulence, which companies are perceiving in their business environment and corresponding patterns of strategic flexibility in the strategy of these organizations.

1 Introduction

"Technological change demands an even greater measure of adaptability and versatility on the part of the general management of a large organization. Unless management remains alert, it can be stricken with complacency – one of the most insidious dangers we face in business." (Watson T. 1963: 63).

Many incumbent firms in the manufacturing industry of western high-wage countries, which operate in international or global markets, face a dilemma situation in today's business environment. To successfully compete with emerging firms from so-called low-cost countries, these companies have to increase their efforts for technological innovation, either to maintain a competitive cost base or to differentiate their products. Either way is often increasing technology intensity of these firms, and therefore competitive advantage of these companies is increasingly based on technology and technological knowledge and innovation. Additionally, already established positions of technological advantage are becoming less sustainable.

In a global analysis of interviews with 1000 chief executive officers (CEOs), a recent IBM study identifies a so-called change gap (IBM 2008: 14). While 83% of all interviewed CEOs expect substantial change in the business context of their organizations, only 61% could confirm that their companies were able to handle substantial change successfully in the past. On the one hand, companies are facing a more dynamic and complex technology environment, which increases uncertainty for technology decisions, but also limits durability of these decisions. At the other hand, the overall criticalness of technology as a strategic variable is increasing.

Fine argues that in this new environment, a firm needs the ability to continually redesign itself and its strategy for chains of temporary technology-based competitive advantages (Fine C.H. 1996: 5). The ability to change quickly and successfully when facing increasingly substantial and also unexpected changes in the business environment is proposed to become more critical than ever (IBM 2008: 18). It is exactly

this ability to change and reconfigure an organization and its strategy when confronted with significant changes, which is summarized by the notion of strategic flexibility (Evans J.S. 1991: 69ff). The qualitative data for the conclusions in this paper was collected in Austrian, German and Swiss manufacturing companies by conducting semi-structured expert interviews with senior executive managers of these organizations.

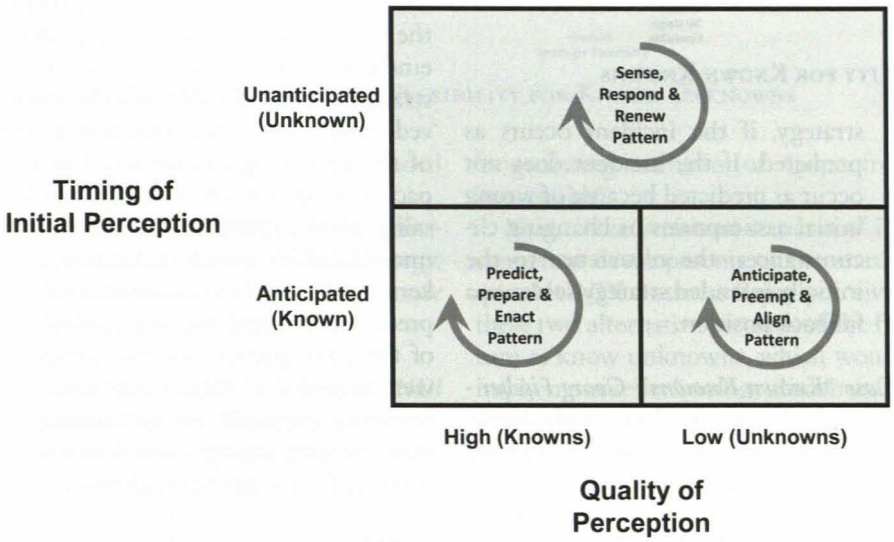

FIGURE 1: DYNAMIC PATTERNS IN STRATEGY DEPENDING ON TIMING AND QUALITY OF PERCEPTION OF AN INCIDENT OF ENVIRONMENTAL TURBULENCE

2 The Concept of Strategic Flexibility

Although the literature and contributions to strategic flexibility are highly diverse, some common and central elements were identified, which serve as a basis for a construct of strategic flexibility. For this work the following approach to strategic flexibility is adopted:

Strategic flexibility is a state of intended or intentionally endured strategic misfit between the currently attained or pursued strategic positions of competitive advantage, the current business context and the current resource and capability base of an organization. A state of strategic flexibility is created by strategic options on the future adoption of alternative or additional forms and sources of competitive advantage.

In stable business environments where competitive advantage is sustainable, current firm successes and superior performance is a sufficient criterion for sustainability and survival of a firm. In business contexts, which are affected by strategically relevant change, tomorrow's economic performance of a firm may be completely independent from today's strategic fit, as all competitive advantage is only temporary. There is a conflict of goals that does not exist in stable and predictable business environments and which has to be resolved by an adequate balance between strategic fit and strategic flexibility.

Strategic fit is an organizational state of optimal alignment between the current business environment and a company's resources, capabilities and positions, which realizes or maintains competitive advantage.

Strategic flexibility can be interpreted as the organizational state of alignment between a company's resources, capabilities and positions, the strategically relevant change in its environment and its strategic options on new forms and sources of competitive advantage. Strategic flexibility in this sense is some form of intentional static strategic misfit or dynamic strategic fit with the business environment.

Parallel to strategic fit with the current conditions in the business environment, strategies of firms in increasingly turbulent environments also have to support an adequate state of strategic flexibility. An optimal strategy creates an adequate balance between strategic fit and strategic flexibility depending on the degree of turbulence in the business environment.

3 Empirical Analysis and Results

3.1 Perception of Turbulent Business Environments

The interviewed experts reported on 116 historical and recent cases of strategically relevant changes in their business environment. Despite significant differences in industry context and the heterogeneity of the studied companies, it was possible to cluster these incidents into three generic categories by identifying relevant dimensions:

- Known Knowns (48 cases): Strategically relevant incidents in the business environment were anticipated by the organization before they actually occurred and were sufficiently understood by the organization before they showed any impact.
- Known Unknowns (42 cases): Strategically relevant incidents in the business environment were anticipated by the organization before they actually occurred but were initially not sufficiently understood.
- Unknowns (26 cases): Strategically relevant changes in the business environment, which were not anticipated before their occurrence and showed direct impact on the organization.

Figure 1 shows the underlying logic of this categorization. While the first dimension distinguishes between anticipated and unanticipated incidents (timing of initial perception), the second dimension differentiates the quality of existing knowledge and insights related to the incident and its consequences within the company (quality or perception).

3.2 Identified Patterns of Strategic Flexibility

By analyzing how companies manage incidents of turbulence in their business environment, it was concluded that the perceptions of environmental turbulence by senior managers trigger dynamic strategic decisions. The notion dynamic implies two phenomena: First, these patterns evolve and change over time and are not discrete events at a certain point of time, and second, the patterns have a cumulative and path-

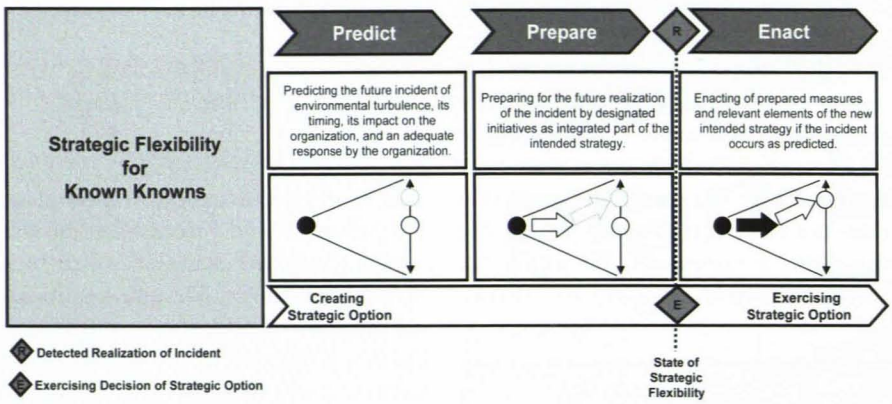

FIGURE 2: PATTERN OF STRATEGIC FLEXIBILITY FOR KNOWN KNOWNS

dependent character of commitment and take into account additional or changing insights and assumptions. Depending on timing and quality of perception, three general dynamic change patterns of strategy change were identified. Figure 1 applies this distinction and shows these dynamic change patterns depending on timing and quality of perception of a reported incident.

If a future incident is perceived as a known known, a predict, prepare & enact pattern was identified in the strategy of the involved company. If an incident is anticipated but there is a significant residual ambiguity on the incident and its consequences for the company (known unknowns), the involved organization shows decision patterns in their strategy, which can be interpreted as anticipate, preempt & align pattern. If the incident is not anticipated at all (unknowns), a purely reactive sense, respond & renew pattern in the strategy of studied industrial organizations was identified.

3.2.1 PPE-Pattern (Predict, Prepare & Enact) for Known Knowns

This pattern of strategic flexibility where incidents of environmental turbulence are predictable and sufficiently understood as known knows, show three phases (see Figure 2):

- Predicting the future incident of turbulence, its impact on the organization and an adequate strategic response.
- Preparing for the future realization by designated initiatives as integrated part of the intended strategy.
- Enacting of prepared measures and relevant elements of the intended strategy, if the incident occurs as predicted. If the incident does not occur as predicted because of wrong initial assumptions or changing circumstances, the recurrence to the initially intended strategy serves as a fallback position.

Case "Known Knowns": Georg Fischer - Partial substitution of core product technology by alternative and improving process technology [1]

One of Georg Fischer's business units is producing precision machinery and automation equipment for tool and mould making. Wire and die-sinking electric discharge machines were initially one of Georg Fischer's core products and are still part of its current product portfolio. The production process provided by Georg Fischer's technology was basically without alternative for the applications of Georg Fischer's customers. In their very beginning, so-called high-speed or high-performance milling systems were regarded as inferior to the provided electric discharge machines until technological innovations and continuous improvements of this technology enabled the application of high-speed milling for tool and mould making of Georg Fischer's customers. Although high-speed milling and its future potential was regarded as massive threat of obsolescence to one of Georg Fischer's core technology and flagship product, this partial substitution process between competing process technologies was perceived as foreseeable change and was therefore expected and prepared by the company as a known known.

Georg Fischer was preparing and initiating merger and acquisition activities to get adequate access to intellectual property and know-how in the emerging substitution technology, which was threatening one of the company's products.

When analyzing 48 incidents which were perceived as known knowns, the predict, prepare & enact pattern emerged as a dominant sequence in strategy change. In all cases the involved companies were completely aware of the upcoming turbulence. The impact, timing and the underlying causality of the incident was sufficiently understood by involved decision makers. As the eventual occurrence of the predicted incident and the realization of the consequences for the company were regarded as highly probable, the company prepared by formulating a new intended strategy, which took into account the predicted incident.

Although these incidents were perceived as highly probable, their eventual or complete realization in the future creates a residual uncertainty, whether the prediction turns out right. The complete commitment in form of full enactment and adoption of the prepared measures takes place, if the probable prediction is realizing. Georg Fischer enacted a full commitment to the intended strategy by realizing major acquisitions in the competing technology, when they were completely confident it is necessary.

In all cases of identified known knowns, the companies immunized themselves for the predicted change by specific creation of strategic options.

3.2.2 APA-Pattern (Anticipate, Preempt & Align) for Known Unknowns

This pattern can be described by three phases (see Figure 3):

- Anticipating a future incident of turbulence without full insight on its potential impact and an adequate response by the organization.
- Preempting the incident of turbulence to create additional insight by actively or passively following its

1 The author is grateful to the interviewees at the studied companies for the permission to publish the cases.

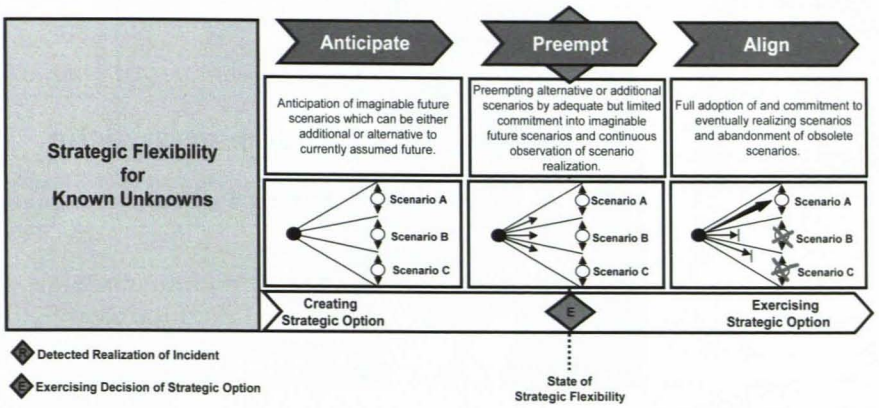

FIGURE 3: PATTERN OF STRATEGIC FLEXIBILITY FOR KNOWN UNKNOWNS

further development in the intended strategy.
- Aligning of the preempting activities within the intended strategy, if resolving ambiguity allows more specific commitments.

Case "Known Unknowns": MONDI Business Paper – Diverse substitution and obsolescence scenarios for uncoated fine paper

MONDI Business Paper is a global manufacturer of uncoated fine paper of different quality. Depending on local conditions, the integrated paper mills of MONDI Business Paper use different technologies and resources for its production processes by eventually producing a certain portfolio of homogenous products.

The actual production process of paper is considered to be a mature industrial process with many incremental improvements but with a stable dominant design in process and architecture. One imaginable future scenario for MONDI Business paper is the complete substitution of paper by bio-plastic made of renewable organic resources. Plastic extrusion technology could be used to produce paper-like plastic films, which could substitute the entire product by using less energy and creating less environmental emissions over the whole production process.

Additionally to the substitution of conventional paper by plastic, another imaginable scenario is the obsoleteness of paper, because of breakthroughs in mobile electronic devices like e-books, flexible displays, touch screen technology, improved infrastructure and information & communication technology could eventually realize the long-existing scenario of "paper-free households".

Next to the preferred scenario of incremental developments of the status-quo, MONDI Business Paper perceives these two alternative pictures of the future as know unknowns, which would imply massive technology discontinuities in the case of their realization.

By analyzing reported behaviors of companies triggered by 42 incidents that were interpreted known unknowns, the anticipate, preempt & align pattern was identified. In these cases, technology turbulence is perceived as either alternative or additional scenario for the future. Although anticipated, it creates ambiguity for the organization, because different versions of the future are imaginable.

MONDI Business Paper could imagine its own future obsolescence, as its product may become substituted. Although a scenario is a consistent and plausible picture of the future, the ambiguity on if, how, when and why a scenario realizes, keeps these companies from full commitments. Instead, the studied companies preempted the known unknowns with parallel initiatives of limited commitment. MONDI Business Paper prepares a specific involvement into sustainable organic resources and the necessary process technologies.

While these steps initiate an involvement into these known unknowns, which somehow correlates with perceived probabilities and level of urgencies related to these scenarios, these involvements are of limited commitment and specificity. If a known unknown is realizing, the preemptive actions allow to align strategies by gradually changing the intensity and specificity of commitments.

3.2.3 SRR-Pattern (Sense, Respond & Renew) for Unknowns

The identified dynamic change pattern in strategy when organizations are facing the unanticipated occurrence of environmental turbulence consists of these three distinguishable phases (see Figure 4):

- Sensing the actual realization of an incident of turbulence and its impact on the organization.
- Responding to the occurrence by immediate and designated initiatives to address resulting threats and opportunities in the currently realizing strategy.
- Renewing the initially intended but obsolete strategy by considering the occurrence of and immediate response to the unanticipated incidents of turbulence.

Case "Unknowns": ANDRITZ – Unanticipated breakthrough of substitutive product technology

A business unit of ANDRITZ is providing metal and steel processing facili-

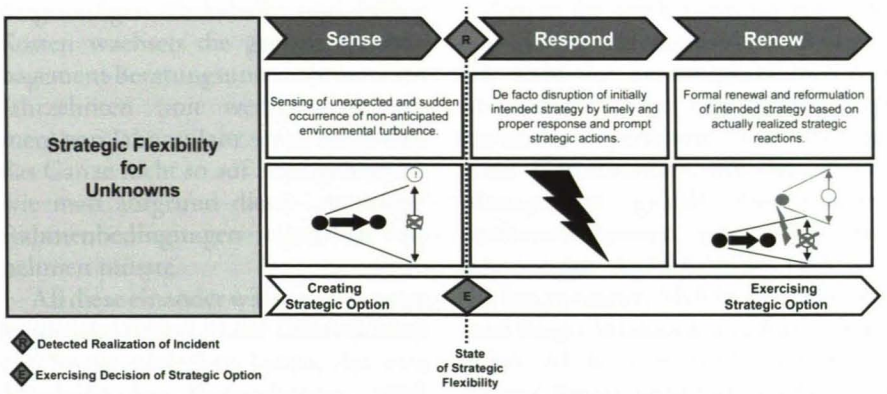

FIGURE 4: PATTERN OF STRATEGIC FLEXIBILITY FOR UNKNOWNS

ties to their customers. One of the core products and technological know-how of this business unit are galvanization facilities to process steel for high-quality demands of the automotive industry. The galvanization technology by electrolytic zinc coating, provided by ANDRITZ, was considered to be the most reliable process, which was able to fulfill the highest quality requirements.

An alternative galvanization process, hot dip galvanization, which allows for lower investment and operation costs, was inferior in quality and was initially not used for any high quality application of ANDRITZ' customers.

Process innovations made the hot dip technology a reasonable and cheap but unexpected alternative also in segments with higher requirements. With only low anticipation, ANDRITZ was confronted with technological improvements of this substitutive technology and interpreted it as an unexpected and massive threat to one of its core businesses.

Additionally to the cost advantages in investment and operations, it was recognized that there was also a potential for further technological improvements. In all 26 cases, where an unanticipated incident occurred, immediate attention and a timely and proper response was required. ANDRITZ responded by prompt strategic actions, which eventually disrupted the existing intended strategy. They did initially not intend to enter hot-dip galvanization technology, but they immediately started external sourcing of technological competence via merger and acquisition activities when hot-dip galvanization became an obvious threat.

4 Concluding Summary

Goal of this paper was to study the phenomenon of strategic flexibility in firm strategies of incumbent firms in turbulent business environments. Depending on when and how good companies perceive these incidents, different patterns of strategic flexibility are changing firm strategies.

This flexibility value of adequate strategic options is embedded in their functionality of creating a potential flexibility of choice and to create strategic flexibility before it is actually needed.

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