Competing Values in the Era of Digitalization

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Abstract

This case study examines three different digital innovation projects within AutoInc – a large European automaker. By using the competing values framework as a theoretical lens we explore how dynamic capabilities occur in a firm trying to meet increasing demands in originating and innovating from digitalization. In this digitalization process, our study indicates that established socio-technical congruences are being challenged. More so, we pinpoint the need for organizations to find ways to embrace new experimental learning processes in the era of digitalization. While such a change requires long-term commitment and vision, this study presents three informal enablers for such experimental processes: these enablers are timing, persistence, and contacts.

1. Introduction

The increase of digitalization in previously hardware driven organizations is nothing new; recent research has increasingly explored the different possibilities [1, 2], and indeed challenges with digital innovation [3]. We know that embracing digital innovation includes complex processes such as engaging in digital ecosystems [4]. It is also true that different industries face different challenges. Tripsas [5] point out identity challenges in the camera industry, Ihström et al [6] discusses interdependency in the newspaper industry and Hylving et al [7] explores the influence of dominant designs in the automaker industry. Thus, digitalization introduces both challenges and possibilities [8, 9].

With the increased digitalization of the automotive industry [10-12], the necessity to understand how to utilize available resources in a fast-changing world is crucial. The possibilities to develop and explore internal and external resources, which come with digitalization, are dependent on existing organizational processes, routines, and practices. This is what [2] refers to as a “capability search and redeem process”. In such a process, organizational structures are developed to accomplish specific tasks [13] that are closely connected to the product or service the organization develops and produces [14]. Routines necessary for specifying a feature, for example a navigation service in a car, include attending certain meetings, talk to specific people and using a predefined template. A practice is the actual application or use, the task to accomplish something. For example filling the template with information, making use of a tool or operating a system. The links between the product design and tasks to accomplish and realize product design have been called the fundamental isomorphism [14] while in software development the concept of Conway’s law [15] or socio-technical congruence [16] are often used. These links can be considered the glue that binds together the social structure and the product structure. When these links are disturbed or challenged, tensions occur in the development process [3].

Processes are either analytical or experimental. The concept of dynamic capabilities articulates the difference between these two types of processes [17]. Eisenhardt et al. [18] explain that analytical processes belong to moderately dynamic markets with stable industry structures. An industry that fits those characteristics is the carmakers’. Cars have for long had the same look, the same functionality and plenty of dominant design that secure quality and effectiveness in many ways [17]. Experimental process has its place in high-velocity markets where industry structures are blurring. Examples of experimental processes are the Unix-project [19] or how Apple have changed the telecom industry with their software development kits for 3rd party development [20]. Experimental processes are simple, “unstable processes that rely on quickly created new knowledge and iterative execution to produce adaptive, but unpredictable outcomes” [21, p. 1106].

The automotive industry has a legacy of cumulative development, with set boundaries, and little competitive change. That is, all stakeholders belong to the same paradigm and other automotive
brands are known and benchmarked. With increased digitization of the car, this is changing. No longer should an automotive brand only consider other automotive brands as competitors, but they also have to relate to consumer electronics and infrastructures providing digital services [1]. For one, new possibilities arise with digital touch points that can affect the user experience throughout the cars lifecycle. Also, possibilities for non-traditional automotive services, such as Spotify, Google and software updates, influence if a car will be sold or not. Furthermore, today’s digital services, for example different navigation services such as CoPilot, Waze and Sygic, can be something different tomorrow. This kind of dynamism requires processes that emphasize the experimental approach.

Drawing on Quinn and Rohrbaugh’s [22] competing values framework (CVF) in which the studied organization belong to an organizational culture that emphasize control and stability, we ask the following question; How do dynamic capabilities come about in organizations emphasizing control and stability? We explore this question by engaging in a qualitative interview study at the research and development (R&D) department at AutoInc.

3. Innovation and Dynamic Capabilities

Fast movements and changes in a digitalized world affect organizations, and brings an increasing interest in how, when, and where to innovate [23]. However, within this fast-paced work-context many organizations are likely to experience stress. For example, the camera industry was challenged when both product logic and business logic changed [5].

Logics suitable for product innovation differ for digital innovation [12]. Digital innovation with its re-programmability and homogenization of data [8] offer new capacities not possible in the product innovation paradigm. Product innovation, with hierarchical organizational logics and long time established analytical processes is advantageous when managing slow movements in the market and gentle change [18]. Considering its traditions of developing physical products and development cycles that stretches over four to five years, the automotive industry is steeped into the product innovation paradigm. However, it is also an industry that is changing where more than 80% of all new innovations in cars of today belong to the digital innovation paradigm [11]. For instance, the increased use of software allows new combinations and recombinations of components in a fast pace. While the automotive industry is much influenced by dominant designs [7], attention on adjusting processes, tools, knowledge and maintenance is required to take advantage of digitization [10].

Although dynamic capabilities are increasingly important for many industries due to digitalization, it is challenging to nurture and support dynamic capabilities for industries with institutionalized processes and well-established design-task linkages [24]. To enable dynamic capabilities, the long-standing processes and linkages need to be reconfigured to achieve new resource configurations to cope with markets that emerge, collide, split, evolve and die [18]. These reconfigurations can be done on a resource level or on an organizational unit level that is either internal or acquired [25].

The experimental approach emphasize external resources and communication [18], and alliances with external stakeholders [4]. External relations are necessary for effective knowledge creation and informal relationships with external resources are often as good as formal. Any organization, in particular a conventional industry as the automotive, struggle with breaking established boundaries and create relations with new stakeholders [26].

A key challenge for the automotive industry today is the wide and diverse market, including cars as well as consumer electronics and service innovation. Comparing the automotive industry with the consumer electronics industry shows differences in organizational, architectural and business logics [12]. The automotive industry has a stable industry structure, defined boundaries, clear business models, and identified players, linear and predictable change. Consumer electronics, however, often have ambiguous industry structures, blurred boundaries, fluid business models, ambiguous and shifting players and nonlinear and unpredictable change [4, 20]. These differences are pointed out by Eisenhardt and Martin [18] when they present the differences between moderately dynamic markets and high-velocity markets.

However, to be able to change, or adjust, an organization, it is necessary to understand the culture and values that it employs [27]. The next section describes the Competing Values Framework (CVF) that can be used to understand and change organizational culture.

4. Competing values

The Competing Values Framework originates from empirical research focusing on what makes organizations effective [22]. It showed that many of the assumed critical conditions for financial success [28] were not valid for many of the most successful US firms. Instead, a clear, shared, communicated and
executed culture seemed to be the foundation for the ability to handle challenges and to be successful.

Culture is enduring and not easily changed [29] and includes core values and interpretations on how things are. The values are the invisible and unspoken reasons why people and organizations behave in a certain way and constitute the foundation for the policies and norms in the organization that govern human interaction. Policies and norms are based on assumptions on how to enable successful performance, how to coordinate work, and how to reward employees [30]. Artifacts are visible parts of the organization that stems from the underlying values. The most obvious manifestation of the values is the behavior of members of the culture.

The CVF explains individual and organizational value orientations, especially the underlying value assumptions that are usually competing or contradictory to each other. The basic framework consists of two dimensions where the end points on one dimension are internal and the opposite is external and the others are control and flexibility. Together these dimensions yield four characteristic cultures, namely; Adhocracy with create culture, Market with compete culture, Hierarchy with control culture, and Clan with collaborate culture.

Figure 1: Competing values framework based on [22]

All four culture types are important, and interestingly it seems that leaders who are considered the most successful have developed skills in all four quadrants, i.e. they can be entrepreneurial and controlled simultaneously. However, the goal is not necessarily to develop a balanced profile in each quadrant, instead the most profitable profile is the one that most adequately meets the vision, takes good care of existing skills and values, and meet the demands from customers and markets. Interestingly, it seems that over time companies tend to gravitate towards a hierarchy and market culture [27]. The automotive industry with long traditions, well-established and controlled processes can be considered to have ended up in the hierarchy quadrant. Thus, some carmakers are starting to expand in other quadrants, for example with enabling third party development opportunities [31], which means more focus on external resources and increase the flexibility.

Quinn and Rohrbaugh [22] discovered how organizations showing a distinctive organizational culture with which employees easily can identify, are more successful than others; acknowledging the cultural values as prerequisite to succeed with any type of organizational and behavioral change. Put differently, they observed that a clear and shared culture, in terms of balancing the competing values at the present marketplace, and constantly looking ahead is key to organizational success.

In sum, CVF is a structured way of discussing how people evaluate organizations, process information and learn about their environments, but also how they organize and lead others, including what kinds of value created for customers [22, 27]. In section 6 we apply the framework on the studied case.

5. Methodological approach

In this study an interpretative approach is used to increase the understanding of the challenges and possibilities an automaker faces by operating in an increasingly digitalized business environment [32]. With an interpretive approach we aim to learn from the empirical case and improve the understanding of the complexities that emerge [33]. As an engaged scholar [34] we have been taking part in discussions and documentation, conducting workshops and completed 19 semi-structured interviews. Being aware of the interaction between us and the respondents, according to Klein and Myer’s [32] principle number 3, helped us to critically reflect on the empirical data.

5.1. Case setting

Automakers traditionally focus on how to develop, produce, and sell a transportation product to safely move its passengers from one physical point to another. This way of looking at the product of cars, as a physical means of transportation, is now changing due to digitalization. Customers now use the car as an office, for example, to make business phone calls or for recreation; listening to music or an audiobook or watching a movie. Further, the driver and passengers can get information; about the car
itself, about weather conditions, or about how to get to a certain location. As a consequence, how people use, relate to, and experience their cars, has changed in the last few years with the increased presence of digitized artifacts. This forces the automakers to direct their attention to innovate solutions for a more intense and emotional driving experience that is not purely related to the transporting artifact itself but to the entertainment and information services it offers.

AutoInc, where the empirical data was collected for this study, is a large automaker with traditions that goes back to the late 1920ies. With this as a background, we believe the chosen case context is relevant to the research inquiry.

5.2. Data collection

19 semi-structured 1 ½ hour interviews were conducted during fall of 2013 and spring of 2014. All respondents worked at the R&D department and represented different organizational units within the R&D department as well as different levels in the organization; e.g. interactions designers, directors for user experience, and technical project managers. By interviewing people working in different areas on different levels we collected empirical data that was more generic than if we had focused on one specific organizational unit within the organization.

5.3 Data analysis

To analyze the data a qualitative software package was used (ATLAS.ti). The initial phase consisted of iterative reading of the data and open coding of the interviews following a grounded approach [35]. The open coding process involved naming and taking segments of the data apart. In accordance with Charmaz [35] a categorization of the codes help to focus on a few specific topics. With the focused coding a search for emergent core categories in the material [35] was completed. At this time, a first sign of different organizational cultures could be identified. Identification of different organizational cultures helped us move up to a more holistic and general theoretical level [35]. As a result, the codes from the empirical data could be matched with the competing values framework categories. In addition, by writing “thick” case stories [36] for the case we got a solid overview of the findings. We also sent the description back to the organization to validate our observations and get feedback.

6. Dynamic capabilities in a hierarchical organization

Well-established design-task linkages can be seen at AutoInc where the organization is divided into different physical car components or functions. There is one organizational unit taking care of the engine and another unit responsible for chassis. However, with the increased presence of malleable and volatile software in both the development process as well as in the product itself, this organizing needs to be adjusted. A manager describes this;

“When we talk about functions, for example chassis, it is a function area with its own function responsibility. They [the organizational unit] own the function of adaptive curve control. To realize this function in a modern electrical system requires distribution on many different steering units. Some owned by Powertrain, some by the Electrical unit, Body and Trim owns some and that makes it really complex. For Chassis to get their function to work they need other organizational groupings to contribute. It [functions] is very, very distributed now, it creates a complexity and it will change our organizational structure”

Organizing based on the physical product architecture, and an internal process model is entrenched at AutoInc, and so is the aim for stability and control. However, at the time of increased digitalization and AutoInc’s work with establishing a new vision focusing on user experience (UX) as a Unique Selling Point (USP), organizing with the aim to reach full control and stability creates inertia. Possibilities to use digital touch points to enhance and boost a user experience are endless for AutoInc. Forthcoming strategies within AutoInc aim to boost user experience not only in the physical car via the user interface on digital displays in the driver compartment, but also by communicating via different digital channels throughout the lifecycle of the car. Today, there are frequent discussions about other interaction points to the total car experience. This is much based on a new concept called long lasting appeal. Long lasting appeal is used to emphasize the prospect that the user of a car will keep feeling that the car is modern and new. In other words, the feelings a user have when buying a new car should last for years instead of weeks. However, the organizational structure does not currently support the work of UX, digital touch points and long lasting appeal. Even though higher management discusses cross-organizational issues in a newly established UX forum, the discussions are about a specific car project and not on a holistic organizational level. If there is a problem in the car project that cannot be solved in the project itself, the problem is brought up to the UX forum to be
discussed and solved. Even though there is a high understanding of emerging challenges due to digitalization of cars, existing processes hinder AutoInc to do otherwise. For one, working cross-functional is very difficult as expressed by a group manager responsible for developing UX strategies;

"Cross-functional work is impossible. The financial system is overly controlled. It is almost impossible to be flexible and get someone to work in another team. The resources are extremely planned, but in real life nothing is so strict. It needs to be more flexible. We need to find a solution where people don’t guard their money and start co-creating. But if you have money you have power and you don’t want to lose it [the power]."

A grouping within AutoInc focusing on new innovations was established in 2012. They too identified the difficulties of cross-functional organizing. Even though the initiative was to increase the amount of innovations within the company and there was support from higher management to implement a new innovative solution, it failed to be implemented. The explanation is similar to the quotation above;

"We have to open up. We cannot be so rigid. We have to learn to see our friends and together focus on the customer. [...] It is a very harsh situation; there is no slack in the organization, no time slack unfortunately. And time slack is actually a precondition for innovation. It is more like a tennis game. When I have hit the ball I have five seconds to get something done, so I am happy as long as many as my tennis balls are on the other side of the net."

In sum, task structures at AutoInc are based on the old analogue car without digital components and the task-design linkages are rigid. Further, there are organizational silos within AutoInc that limits cross-functional communication and the possibilities to develop digital solutions to boost UX. The quotations above also show how structures can hamper possibilities for dynamic capabilities. Existing process at AutoInc emphasizing control and stability has been established over a long period of time. Possibilities to experiment, be flexible and involve new stakeholders into the process are limited. However, there are some examples of groupings that have left the current paradigm and show evidence of dynamic capabilities within AutoInc.

6.1 The Adhocracy example

As the focus on Human Machine Interaction (HMI) grew within the organization, HMI managers began to grasp how HMI can affect user experience as well as end-users expectations that stem from experiencing good design in consumer electronics and digital services. In addition, top management within AutoInc started to realize HMI’s potential and got more involved in the development by testing simulations and evaluating different solutions. In other words, more and more people understood that HMI had more potential than “just being the last make up for a function”. With this increased awareness and focus on HMI, both within the HMI group as well as in top management, a direct communication link between the HMI group and top management was established. This communication link allowed people in the HMI group to directly contact top management to discuss new ideas.

In 2010 a new car project started and it was decided to make the Driver Information Module (DIM) cheaper. Current DIM used included two small black and white digital displays with limited space to write short text messages and presenting few symbols. The two displays were far from how information was presented on tablets, telephones and computers. To accomplish a cheaper DIM, one digital display was removed. The result of this removal was disastrous. To overcome this the HMI manager decided to use an advanced engineering project that was in the final phase of the process, yet not finished. The HMI manager explains:

"We had an advanced engineering project that we saw potential in and thought that maybe we could start using it before it was completely finished."

Advanced engineering projects evaluated technology and development tools that were new to the organization. While many of the advanced engineering projects failed for various reasons, this one project was taken forward. With insight into the advanced engineering process and good relation to the people involved, as well as the timing of the advanced engineering project made it possible to industrialize the not yet finished project.

The process of changing the DIM was dependent on a few people who bypassed the established processes and decision structures. The HMI manager recounts:

"[We] forced a new DIM into the project even though it was not included from the start. We saw a customer need. We were late, but raced the project, with a completely new technological solution, we challenged the supplier enormously."

The people involved in implementing and realizing this DIM project fulfilled their organizational duties, for example, presenting the technological solution and design along with the benchmarking with other competitors. But they also performed tasks that were outside of their limit, for example, the overall business case analysis.
"We violated all sorts of processes and went all in, and succeeded. I think we made really good documentation and there was a potential, but no one had calculated on it or thought in those terms. The only focus [for the rest of the organization] was to do something cheap. 'It is a small car and we have to do something cheap’. It was a great project from start to finish. But we had to sell it [internally], get it into the project, and go to Japan to secure that the supplier actually could do it.”

They worked with the external supplier in an unconventional way, much more focusing on cooperation than on setting requirements for the supplier to implement. For one, they developed simulations in conjunction with the supplier and had one resident supplier sitting on site at AutoInc for quick and agile interactions between the supplier and AutoInc. That way of working made the development process both efficient and flexible.

6.2 The Market example

In 2011, a new organizational group was established; the Content Acquisition Group (CAG). It is a purchasing group that differs from the established purchasing organization within AutoInc in many aspects. For one, it is not a part of the purchasing organization but is a group directly below the director of the Electrical and Electronics System Engineering division. The group is supposed to buy or negotiate what applications that can be downloaded in the car. One of the great tasks that had to be accomplished was new documentation regarding collaboration between AutoInc and the firm of interest. The CAG manager explains the situation;

"We [the carmaker] are usually on top of the food chain and we can put pressure on our suppliers. But if we want to collaborate with for example Google, the relative strengths are the opposite. It is different. So we have done a different structure of negotiation and contract, completely different. The normal contracts we use [in the automotive industry] are very one-sided. That is how it looks in the automotive industry. You want strong requirements regarding warranty and quality and stuff like that, but when you talk to Spotify those warranties are not valid on such a service.”

The establishment of the CAG shows an understanding of the increased digitalization of the world and that it requires new ways of doing business. However, the traditional structures of who is in charge, set the limits, deciding the rules and has the power are still the mindset. Consequently, the group faced a difficult task when they started their work in 2011. Not only did they have to develop new agreements with new stakeholders foreign to the automotive industry, they also had to do it in an environment where the acceptance of, and possibilities to, leaving established paths were limited.

When the CAG was installed, project management from an ongoing car project contacted them. The project management required to know what digital applications the specific car project was going to get at SOP (Start of Production), which is three to five years after project start. The established process required control and stability. However, after intense work, the group began to embrace a different way to deal with digital applications;

"We have received greater acceptance that we have to take certain design decisions much, much later. I can get questions about what apps we will have in 2017 but there is no one to say what cool apps exist in four years, it is impossible. And people understand that now. There was a lot of screaming in the beginning from car projects, like “what apps do we have in three years in that week”. It doesn’t work that way. So it is more of an agile approach now, both from the business side, purchasing and on the technical side. It is a big change because AutoInc follow the waterfall process.”

It was advantageous for the CAG that they were a newly installed group with many people coming from outside of AutoInc. Because of their novelty, both as a group and as individuals, not yet fully aware of all established process at AutoInc, they could start from scratch when setting up new processes, routines and practices for purchasing and negotiating about applications. Thus, they accomplished to establish necessary processes to continue the digitalization process of AutoInc. However, some still think they need to be more rigid and controlled;

"Some people think we do it like the Wild West; we don’t follow the traditional processes. We don’t do any RFQ’s for example. It is more of a flexible process and we use act term sheets, where it is described in a short way what our agreement is [...] We have a process that works really good and it is accepted by the organization. It is not as formal as the traditional one.”

The CAG is small compared to other groupings within AutoInc, however efficient in terms of finding ways to deal with the new and external stakeholders as well as established stakeholders within AutoInc. The reason why they can accomplish so much in a short time period is explained as follows;

"I think it has worked this good because we are individuals who have a cross-organizational understanding. I have a technological background and have been working with sales and I can..."
understand Marketing and Service part of the business as well. And one person I have contact with at Marketing has very good technical knowledge and has an understanding of what we are doing and can ask good questions. There is an understanding of each other’s competence and area of responsibility. I think that is the key.”

In addition to the internal contacts that enable new applications to be used in a car, continuous networking with all external partners is crucial. The dialogue with external partners is necessary to reinforce relationships with key actors, for example Google;

“A lot is about networking and to have a dialogue about where are you heading, where are we heading, what is happening in the vicinity and what are the options”.

Actively seeking new partners to cooperate with, and networks to be a part of, is one of the CAG’s main goals. That is, making contacts with people outside of the traditional boundaries.

6.3 The Clan example

Before 2012 was the group working with HMI considered to be a service group with no official responsibility or budget. In order to become an official group within the Product System Structure (PSS) at AutoInc the group needed to take responsibility for at least one physical part of the car. Within the division responsible for electrical components a separation of responsibility is divided in terms of function, system and attribute. Function refers to what the product do, system is a collection of components and functions that is required for a certain system solution, for example navigation, and attribute describes how the car is experienced, that is, composition, performance and behavior. Attribute has to do with how the customer experiences the car.

When the HMI group became its own PSS unit in 2012 they received DIM as the physical component responsibility. With this came a function owner and a system owner for DIM. Thus, the attribute responsibility was put into another grouping. The organizational change included removing all HMI attribute responsibility from the PSS HMI group to an HMI attribute group.

The HMI attribute group was responsible for all customer-focused functions within the electrical department including connectivity and infotainment. In their work of establishing a foundation for working with attribute for HMI, connectivity and infotainment, they decided first of all to make a difference, to make change. Existing processes and routines for working with attributes did not fit the increased focus on user experience and digitalization. One of their strategies to make change was to demonstrate it in practice;

“We will make change, not by explaining what we will do, but by doing what we do. It is like a mantra in our change process. We are proactive, a step ahead, showing the way. [...] I don’t think it is efficient to describe what needs to be changed. To create change you have to do it, you have to show a way of working. An alternative of doing something. Same money and same time, but doing it differently.”

Indeed change is an important aspect in running a service group and it is clear that following existing processes limit possibilities to meet internal and external demands. Since there is no obvious solution as to how to handle change, individuals start to improvise actions. As the director for HMI attributes states:

“There is no choice for me; it takes the time it takes. I am a trigger-happy person. Someone told me, ‘Pete, you can’t shoot from the hip all the time because one day you will shoot yourself’. But if you look at the competition, you have to move fast.”

Digitalization affects, and is mostly dependent on, different external organizations, functions, products, and different organizational units within AutoInc. Because of this, the attribute group puts effort into building internal as well as external bonds. For instance, the attribute group has managed to establish a meeting point together with a local university and manufacturing organizations outside of the automotive industry to promote learning and knowledge sharing;

“Our hope is to find a cross functional way to create something; with other organizations producing consumer products [...] We want more dynamism and create a new sphere of insights. With all due respect, we chose not to include the old stakeholders, we said no to them. We added from the digital domain instead. [...] We also added sustainability, care and human center and that we care about people. Above all, we have to build on trust, we trust each other.”

It is clear that trust is important when working across boundaries. To be able to trust each other, however, there needs to be an understanding and respect of other people’s competences and responsibilities. In case of AutoInc, where the organization is very much divided into separate isolated silos, trust across professional boundaries is difficult to achieve. This inevitably influences the propensity to adopting change, exemplified by the “not invented here”- syndrome. To reduce the risk for this type of behavior, a focus on the delivery from one part of the process/organization to another, is
deemed important. Tasks need to overlap each other as described in the following quote;

"The "hand over", the delivery, well you know everyone can run but in a 400*4 race it is the task of handing over the stick to the next sprinter that counts. So how can we practice this? Do you just stand there and throw the stick or sit down and describe how to hand over the stick? No you don’t, you practice. We need to practice the hand over so we meet. And the optimal hand over is not linear. Sometimes you have to follow to here, sometimes to here and sometimes very far and then we follow the race together all the way through.”

This shows how the attribute group consciously tried new ways to improve and change current stable and controlled processes. For one, inviting organization from the digital domain and trying to find ways to work and find common interest is different from what has been done before.

7. Discussion

The organizing at AutoInc reflects the physical structure of the old analogue car. Processes are stable, controlled and efficient when dealing with tangible components. However, the inertia that very same structure brings is like a “frustrating tennis game” as one respondent declared. Consequently, new organizational structures need to be established to render possibilities for dynamic capabilities in a fast changing world [8]. In this paper we use dynamic capabilities to emphasize how important it is to be able to adjust and adopt in a digitalized world. Drawing on the competing values framework [22] we see how the different dimensions more or less represent different dynamic capabilities connected to the elements of flexibility/control and internal/external.

The hieratical culture fits AutoInc in many ways. However, currently, the organization needs to improve their skills, such as, establish new contacts that are more prevalent in adhocracy, clan and market cultures. The three examples in the empirical section describe initiatives that belong to other organizational cultures [22] and show instances of dynamic capabilities; the Adhocracy example where novel technology is used and where they establish new processes. The HMI managers are entrepreneurs that try new things with enough confidence and support to do it. The Market example illustrates how people in the CAG understand that business logics are changing in the digital paradigm. AutoInc not only competes with other automotive brands, but with for example the consumer electronics industry. They strive to find novel ways of doing business with new stakeholders and to ensure that AutoInc can get a share of the market. The Clan example is doing change by working together across boundaries. They try to establish a platform for communication as a means to enhance in collaboration and produce something together; ‘racing together’ as the manager for HMI attributes articulates it.

In this study we identified three informal enablers as a preliminary answer to the question of how dynamic capabilities come about in organizations emphasizing control and stability.

Persistence signifies continuous work in spite of fatigue or frustration and is often connected to an individual’s skill. In the Adhocracy example we illustrate how the group proceeded with a project that was not yet completely tested and evaluated. They diverted from established formal processes and do tasks that are outside of their responsibility, for example calculating on the business. In the Market example we observe how being a new employee can assist in pursuing things the newly established group believe in, the lack of legacy seemed key in pushing new ideas. Not being involved in existing processes helps when trying to establish a new way of approaching an old task, in this case the purchasing process. The Market example shows how few people can make big changes through hard work such as establishing relations with non-traditional stakeholders. Further, the Clan example emphasizes action, rather than description as the most efficient way of instigating change. Instead of sitting down and analyzing and planning how to implement changes they do the changes along the way, ad hoc. Essentially, working together and having a strong sense of vision on where they are heading is underpinning their motivation.

The second enabler contacts, includes the importance to connect with the right people in helping out to break with current practices. In the Adhocracy example it is evident how newly established links with higher management help the two managers to get their new DIM proposal approved. Also strong connections with the supplier help the project to move forward more effectively. For the Market project the internal contacts in other parts of the organization seemed instrumental for reaching their goal. Put differently, working cross-organizationally with people that have different skills and experience is beneficial. This cross-organizational work structure was also valid in the Clan example. Making new contacts along the way in a very conscientious manner enabled for innovative ideas and created a dynamic environment. For example, they actively start cooperating with
organizations outside of AutoInc to create a communication platform for sharing ideas together.

Last was the timing enabler. The Adhocracy project was fortunate to have an advanced engineering project that could be used for the new car project that required a new DIM. Even though some other solution would have solved the problem, it was all about the timing of how far a specific advanced engineering project had proceeded to be ready enough for implementation. For the CAG, timing had to do with AutoInc’s negotiations with suppliers about new digital services. If the CAG had been established too early, or too late, the acceptance of the new way of working with applications may have been fraught with more difficulties. The Clan example illustrates how timing can be about “shooting from the hip” to cope with the fast-paced changes. Even though there is a risk to shoot oneself in the foot, it is a risk worth taking to keep up with the pace.

8. Contributions and Future Research

This paper contributes to the ongoing discourse about digitalization following Yoo et al’s (2010) call for more research on organizational issues connected to digital innovation and digitalization. The identified informal enablers, timing, control and persistence, are key in transforming and enabling hierarchical organizations in becoming more dynamic. This relates to previous research on institutional theory and the difficulties in changing institutionalized work processes. The enablers render possibilities to establish new relations to novel stakeholders, internal as well as external. More flexible processes, compared to the controlled processes in the hierarchical organization, are concurrently created ad hoc. That is, the processes become more experientially than analytically founded [18]. An organization like AutoInc, where digitalization is becoming increasingly important, should focus on these enablers and raise the question of how to establish structures that take them into account.

However, these enablers need to be further explored both individually as well as in conjunction with one another. The relation between timing and innovation has been studied briefly in regards to when and how to introduce a new innovation [for example, 37], but not, to our knowledge, in relation to the development process. Persistence has been studied in relation to usage of information systems [38] but needs to be further explored. This study shows how persistence can be considered as a personal skill and can be described as an individual’s drive and confidence to continue to work on an idea even though existing structures don’t support the idea. Some research has been done on contacts, for example the use of contacts in the establishment process of an entrepreneurial network [39]. Yet, to our knowledge has there been limited research focusing on how an organization can establish a foundation where the three informal enablers can help groups and individuals, in a hierarchical organization, to explore new ways to proceed in an increasingly digitalized world. In this study we demonstrate how these enablers render possibilities for dynamic capabilities within hierarchical organizations and allow people to divert from controlled and stable processes and create openings for other more dynamic organizational cultures.

Further research could focus on the conditions that may trigger these, and other, enablers to render possibilities for more intense diversion from current organizational culture. This is especially relevant in the age of digitalization where dynamic capabilities are central. Organizations need to adjust and adapt continuously and rapidly to new organizational, architectural and business logics to survive in the era of digitalization.

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9. References


