Beyond agility, evolutionary IT-systems and business processes

What organizations can do to 'survive' and why agility does not work.
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The Financial crisis of 2008 and 2009 has strengthened the idea that in order for organizations to 'survive' they should be able to quickly adapt to new market circumstances (Heifetz, Grashow & Linskey, 2009). This ability to adapt, is called 'Agility' (Hugos, 2009). Agility however, will cause an organization eventually to fail and go 'extinct' (Douma & Schreuder, 1998).
Instead of looking at agility we should take an Evolutionary Approach to organizations. We know how organisms survive. Applying the same theory to organizations, will explain more about their survival (Hannan & Freeman, 1989; Nelson & Winter, 1982).
Applying the theory of evolution to IT-systems and business processes tells us what organizations can actually do to stay alive (Davenport, 1993; McAfee, Brynjolfsson, 2008). As a result, an organization's survival depends on successfully implementing evolutionary IT-systems and business processes.

Evolutionary approach to organizations

The evolutionary approach to organizations uses concepts from evolutionary ecology to provide us with new insights and concepts into organizational development. At first it might seem a little strange to be borrowing from ecology, as it does not seem that organizations have much in common with jellyfish and woolly mammoths. However, biological organisms do something similar as organizations. They 'survive' or 'go extinct'. The similarity is that they both share a struggle for survival in both competitive and changing environments (Hannan & Freeman, 1989; Nelson & Winter, 1982). The Evolutionary approach tries to apply theories from biology to organizations to see if these theories allow us to better explain organization

behavior. This does not mean we can simply say that what works for organisms should work for organizations. However applying theories from ecology to organizations allows us to develop better theories about the cause of success or failure in these organizations (Douma & Schreuder, 1998).
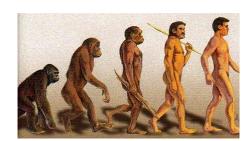One of the things that applying the theory of evolution to organizations can tell us is how organizations survive in competitive and changing environments. Applying evolution theory explains that agility does not work. Fortunately it also tells us what does.

Why according to the Evolutionary Approach Agility doesn't work.

The idea of 'Business' Agility looks promising at first. By maintaining flexibility, organizations are able to quickly adjust to new market circumstances, which as a result makes them more resilient to change (Arthur 1996, Hamel & Välikangas, 2003; Heifetz, Grashow & Linskey, 2009; Hugos, 2009). Evolutionary Economics however gives three reasons why organizations cannot maintain this flexibility in a competitive environment. These are efficiency, reliability and accountability (Douma & Schreuder, 1998). These three reasons cause agile organizations to be replaced by other more competitive organizations in the current environment.

Efficiency

Evolutionary economics assumes a tradeoff between efficiency and flexibility. If an organization is more flexible it is less efficient. Second it assumes that if another organization is more efficient in satisfying the same customer needs, the less efficient company will eventually go out of business. This last assumption is supported by research by Buzell and Gale (1987) on the 'Profit Impact of

Market strategies', which used data from over 3000 business units. Their research shows that efficiency is one of the most important success factors of organizations.

Reliability

The second cause that makes embracing agility difficult stems from the fact that a society does not want companies to be agile and change. First of all when we interact with an organization we expect the organizations to behave in a reliable and consistent manner. Consistency can be difficult for an organization that models its strengths around the ability to respond quickly and frequently to demands (Hannan & Freeman 1989).

Accountability

Third, we want to be able to hold organizations accountable. Organizations have to provide logical explanations for their actions and provide documented routines when dealing with issues regarding regulatory compliance, the hiring and firing of employees and production quality. Being reliable and consistent is the raison d'être for companies to exist over ad-hoc groups (Hannan & Freeman 1989). Taking reliability and consistency away favors other companies and causes organizations to fail.

How do organisms 'survive'?

Biological organisms survive by variation in the genes it transmits to the next generation and the natural selection of successful genes. A general misconception about evolution theory is that 'survival of the fittest' means that the organism that is best at 'adapting' to its environment will survive. Evolutionary theory instead means that the organism that happens to be 'most fit' to its environment will survive. The addition of 'happens to be' might seem small but has a great importance. It means that organisms do not actively adapt to their environment, but that selection processes result in the current existing organisms to being most fit (Darwin, 1895; Gould, 1977). A second

misconception is that organisms themselves evolve in order to adapt to a changing environment. Organisms themselves do not evolve. Humans, for example, are not further evolved apes. Humans and modern apes are variations of a common ancestor that they both replaced.

Instead of adapting themselves, organisms use variation in offspring to create new variations next to the original variation (Gould, 1977). The big advantage of this is that an organism remains competitive in the current environment while also potentially being adapted to a changed environment. The original organism remains the same until a new variation automatically replaces it as a result of natural selection. This happens either because the new variation is more adapted to the same environment, or (and more importantly) because the new variation is better adapted to a changed or new environment. Variation in genes and offspring make species both fit for the current competitive environment and resilient to change (Darwin, 1985).

Applying the theory of genes to organizations

The evolutionary approach to organizations perceives an organization's routines as analogous to the genes of an organism. Routines are not a form of explicit bureaucratic sets of procedures but the actions that everyone in an organization performs every day, either consciously or unconsciously (Douma & Schreuder, 1998). The approach of organizations has been greatly popularized by Gary Hamel and C.K Prahalad in their book Competing for the Future (1994). They present a hierarchy of routines, which they call competences, in which new competences are developed based on a few-core competences. Hamel and Prahald define these competences, or routines, as the skills that exist within the organization in which skills are the actions taken by the organization to do a task successfully. All the routines necessary to produce a product or all the routines to manage the logistics are examples of these competences. Routines should

therefore not be confused with the 'formal' business processes themselves that are actively put in place by an organization. As stated above they are all activities, formal and non-formal to complete a task successfully.

If routines are considered to be the genes of an organization, we should look at the development or evolution of routines when we think about the development of an organization and not the organization itself. Like organisms, in which it is the genes of organisms that evolve and not organism itself, so too the routines of organizations will develop and evolve and not the organization itself. Looking at routines independent of the organization is however not enough. When trying to decipher what organizations can do to assist their survival and also how IT-systems and business processes can assist in that endeavor, it will be unsuccessful to just look at an individual routine. If this routine can exist both outside or inside the organization it is not a very good predictor of an organization's success. The right view would be to look at organizational routines within an organization compared to the routines outside of the organization (the routines in other organizations).

How do organizations survive?

By using the concepts of evolutionary economics and in particular the survival of routines within the firm, the problems surrounding an organization's survival can be posed in a different way. Instead of asking what organization can do to survive, we can ask instead, what can organizations do to assist the variation and survival of routines within the firm in relation to its environment? Following the evolutionary model, the answer to this question is to create independent parts within the organization and to foster variation in "offspring" from the parent company. The parent company can remain optimized for the current environment and competitors whereas the independent subsidiary can be agile, flexible and develop new routines. All successful innovative companies like

Apple, CNN, DELL, easyJet, IKEA, MTV, Swatch (to name just a few) use this strategy (Markides, 2002). For example, both the Macintosh computer and the iPod were developed in independent parts of the main Apple organization. Another example is Midland Bank, which set-up its telephone banking unit, First Direct, as an independent subsidiary. When the newly developed routines in the subsidiary become more successful than the routines in the parent company those new routines replace the old routines. This can either happen through active intervention or just by the fact that the subsidiary becomes larger while the parent company shrinks or remains the same. Currently 60% of Apples revenue comes from iPod and iPhone related products compared to 30% from computer sales (Apple, 2010). By doing this, organizations foster selection of routines within the firm instead of leaving the selection up to the unforgiving market that in the end will favor only firms with successful routines and force unsuccessful firms into extinction.

Evolutionary IT and business processes
To more specifically state what organizations can do to 'survive', formulating strategy is not enough. It is about what processes are actually in place to implement this strategy (Davenport, 1993). When looking at organizations and in particular its processes, IT systems have to be included. IT-systems have been one of the most important success factors of organizations and the implementation of business processes of the last three decades (McAfee, Brynjolfsson, 2008). In order to assist in a organization's survival, IT-systems and business processes should have the following features and characteristics within an evolutionary approach to IT and business processes.

Don't be afraid to create cannibalizing subsidiaries
Organizations should not be afraid to create cannibalizing subsidiaries. In

order for the selection process to work, new subsidiaries with new types of IT-systems and new types of routines have to be created. Some of these IT-systems and routines could even cannibalize on the parent organization. For example, products are created that compete with products from the parent organization. Or the parent organization cannot be as efficient as possible, because shared resources are not used. For example a subsidiary buys a completely different IT-system even when the parent company has a system ready, including the license to use it for a subsidiary. Buying a new system limits the efficiency potential for the use of the system that is already in place at the parent company.
If however the new IT-systems and routines of a subsidiary are limited, its variety is also limited, increasing the chance that market selection will take place outside of the organization's boundaries. Instead variety of business processes and IT-systems between different subsidiaries, regardless of their (potentially) cannibalizing nature, should be promoted.

No one-size-fits all solution
When applying IT-systems and business processes there is no one-size fits all solution for the entire business. Sometimes there is the desire to create one centralized IT-department that governs the entire organization. This in many cases stems from an idea that centralization provides efficiency benefits or from the misconception that aligning and organizing IT with its strategy means using the same general IT-strategy for the entire business. When an organization is looking to implement business processes, it runs the risk of assuming that best practices regarding the business process from one part of the organization are likely to be best-practices in another part of the organization. Instead it should be recognized that different parts of the organization have different needs and require different approaches. IT-systems and business processes should be tailored to individual parts of the organization. From a Business

Intelligence perspective, because different parts of the organization operate in their own environment these different parts of the organization have their own version of the truth. Forcefully implementing one version of the 'truth' is undesirable for creating diverse and independent parts of an organization. Instead a process should be implemented that can translate these different 'truths' within the entire firm when various parts have to communicate with each other.

Environment determines level of agility
When choosing between efficiency or agility for an individual part of an organization consider each part's environment and maturity. Efficient systems and processes are more suitable for a competitive market with established routines. Agile versions are better for fostering variation and flexibility. Agile systems and processes are thus in general more suited for new subsidiaries in which new routines are tested for selection and for subsidiaries created for new product or market development.

Using Business Intelligence for selecting routines instead of high-level advanced analytics
Business Intelligence (BI) can play an important role in selecting new routines over established ones. As Olivia Parr Rud (2009) states in her book Business Intelligence Success Factors most current BI or Analytics systems are designed to provide clever analytics to high-level management from a stable point of few. Instead successful BI systems should create an adaptive system in which short-term feedback is provided on the actions or routines performed by the organization. The key is to have many feedback loops throughout all levels of the organization that allow people to better routines over their current ones.

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