

Dynamics and stability in growth of values based food chains: Understanding organizational evolution in organic food systems

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Abstract: When analyzing the capacity for growth in midscale values based food chains one question seems unavoidable: How can we understand why some organizations flourish while others survive when they are operating within the same structural conditions? This question is central, not only in order to understand specific empirical problems but also because the question has theoretical implications. This is because the answer is not, as we will argue, to be found where one intuitively would search for it; in the social dimension, as bad management, but must be sought in the temporal dimension and in how these organizations observe the difference between the past and the future in the present. In order to understand how such different developments occur we develop an analytical approach based on systems theory as it has been put forward by German sociologist Niklas Luhmann. We then proceed to analyse two cases that despite their development under the same structural conditions experienced direct opposite evolution paths. By analyzing these cases we demonstrate the theoretical insights derived from systems theory usefulness in analyzing midscale value based food chains.

Keywords: organic food chain, Niklas Luhmann, temporality, evolution, organizational studies

Introduction

Much contemporary debate is focusing on how sustainable development can be obtained and if it is possible to combine growth and quality. One argument is that a larger degree of organic production plays a significant role in this development. If this change is to be market driven then the growth of value based food chains are of special interest. Is it possible combine growth and quality?

When aiming at understanding such a development then the organizational perspective seems unavoidable. This is because growth in food value chains is intimately linked to organizational evolution. If the involved organizations do not grow, either by expanding or allow for growth by coupling more organizations to the chain, the chain does not grow. In this respect the growth of a chain is a process that takes place over time as a process of selections and can thereby be described as an evolutionary process. Such a process is not a process of either change or planning. An evolutionary process follows, but is not dependent on the structures the organization is embedded in. At the same time an evolution is a two way process. An evolutionary process does not by definition mean that the involved parties thrive and prosper. Some evolutionary processes have the opposite and sometimes unwanted outcome where the result is that the involved organizations close down instead of growing. This poses the question why organizations developing under the same structural conditions follow different paths: Why do some organizations manage to turn into successful stories when other organization operating under the same structural conditions experience failure? The answer to this question can be sought in different areas. One possible path is in the social dimension, as management issue or, as discussed in this paper, in the temporal dimension. By focusing on the temporal aspect the analysis can reveal the structural aspect of evolution and thereby generate insight into the temporal mechanisms that links and syn-

chronizes different social events. The aim of this paper is to analyze how different organizations handle the challenges of growth from a temporal perspective. Do two organizations that are operation under the same structural conditions actualizes this potential in similar manners and to what degree are their operations affected by their individual perception of time.

The paper constructs its analytical frame on the basis of Niklas Luhmann's systems theory, which has a strong focus on the temporal aspect of social phenomena. The first part of the paper introduces this theory and develops an analytical approach applied in the paper. Then an oversight of two cases is provided. The paper then proceeds to compare and analyze these two cases on the bases of systems theory before finally concluding.

Systems evolution

Luhmann defines evolution as an increase in the number of preconditions on which an order can depend (Luhmann, 1997/2012). But if the number of preconditions increases without any means of organising the increase, there would be a high probability that the communication would break down in an overwhelming complexity. Therefore evolution requires some form of structure in order to evolve. Luhmann describes five features that allows for evolution to take place. In order to avoid that the communication breaks down in an overload of complexity any changes must begin with distinctive structures. At the same time, evolution must allow for mistakes and deviations to take place since transition cannot depend on insight into the superiority of new solutions. In order to do so, the changes must comprehend the already present possibilities because the system cannot create something new out of nothing. Even though evolution takes place within a system, it can lead to bifurcation that can establish the starting point for a differential history. In this way new subsystems can emerge from already established systems. Finally, following these four features the fifth point is that evolution presupposes some kind of deviation that can allow for the coding of evolution to apply to itself and thereby increase the bifurcation. The consequence following this argument is, according to Luhmann, that evolution is neither a structural determinant nor purely chance. Evolution selects systems that are structured so that they can change themselves in a way conditioned by changes (Luhmann, 1990). This understanding of evolution corresponds to the definition of social systems as being autopoietic systems. Autopoietic systems are defined by the fact that in the reproduction of its structures the autopoietic system can only rely on the system itself (Luhmann, 1984/2000). An autopoietic system cannot make use of structures or processes that take place in other systems.

To allow the system to reproduce itself and to evolve, an autopoietic system cannot be a static system. The development or evolution of the system requires two features. On the one hand, the system needs a certain degree of dynamic in order to create the elements necessary in the reproduction of the system. On the other hand, the system needs a degree of stability in order to allow for the reproduction to take place. Without some degree of stability, a system's evolution would generate more complexity than the system would be able to handle, and the system would break down in an overload of internal complexity. The state of such a system can therefore be described as one of dynamic stability (Luhmann, 1984/2000). In requiring both dynamics and stability, such systems are to be understood as temporalized systems. This is because such a system can only generate stability through the replacement of transient elements by new elements (Luhmann, 1997/2012). The process of replacement is a process that requires time in order to take place. Some structures are dispatched while new ones are developed and put in place. Both processes require time, which then generates a unique understanding of the concept of time relating to each individual system. Therefore, each system operates with its own time-binding. A time-binding binds the system by giving events structural value, by creating links between different operations

that constrain each other. In this respect a time-binding does not bind time itself (Luhmann, 1991/1993, Esposito, 2011).

From this basic insight into the theory of autopoietic systems, such systems can now be described as a *form*. Following Spencer-Brown (Spencer-Brown, 1969), Luhmann defines a form as a distinction which, following this definition is a condition for observation. A form is established by fixing a boundary and thereby separating the two sides. Crossing from one side of the boundary to the other requires an operation and hence, like all other operations, this requires time. Since crossing the boundary is possible, a form must be described as a unit containing the two sides it separates (Luhmann, 1999). The form of an autopoietic system can therefore be described as the unity of the difference between *dynamics* and *stability* with a preference for *dynamics*. In order to observe an autopoietic system as a system of *dynamic stability*, the observation would have to maintain a preference for *dynamics* with *stability* as the unmarked side of the distinction. Only by observing an autopoietic system from this point of observation is it possible to maintain a focus on the evolutionary processes of the system. This is possible because this distinction allows for *dynamics* to use *stability* as the reflective side of the distinction, and by crossing the boundary between the two sides of the form *dynamics* can be kept at a level where it does not overtake the system in an overwhelming self-reference. It follows then that a system can only maintain itself as long as both sides are present in a unit being the system itself.

That the state of an autopoietic system is one of dynamic stability does not mean that the system oscillate between development and stand still. The stability of a system is not an expression of nothingness. Stability is not static but temporal. The stability of a system comes about as a functional equivalent of the systems time-bind, the temporal process of the system performing operations. In performing its operations an organization-system make use of the codes of several functions systems. An organization system couples to different functional systems and by doing so it can make use of the different functional systems time bindings in performing its own operations. By coupling to the different functional systems an organization can use economic codes, legal codes, political codes, organizational codes and so on. Each of these codes has its own time bind and by using the different codes in a polyphonic communication the organizational system can at the same time be both stabile and dynamic. The achievement of a temporal stability allows the system to operate dynamic at the same time.

Legal contracts are one example of such temporal stability that allows for dynamic operations to be carried out. A legal contract allows for a communication to be both legal and economic at the same time. The point is that the contract functions as a structural coupling between the legal and the economic system (Luhmann, 1991, Luhmann, 1993/2004). When engaging in legal contracts an organization can stabilize some expectations to the future in one area that then allows for dynamic operations to take place in another area because the system now can put the stabilizing part of the contract a side as long as the contract runs. This does not mean that the system can ignore the content of the contract, on the contrary. The stabilizing effect of engaging in a contract comes about because the involved parties not continuously has to synchronize there mutual expectations but can put them aside in the contract and focus on fulfilling the contract. The expectations about future payments are stabilized legally.

But the stability is not static but temporal, so even though an organization experiences a large stability, by making a stronger coupling to some functional systems than others, this does not necessarily give that particular system an evolutionary advance. This understanding of autopoietic systems as systems that at the same time both operates as stabile and dynamic systems provides us with a guiding distinction as to observe how some organizations strive under a given structural condition while other organizations operating under the same conditions struggles to the degree of closure.

The case of Thise and Økomælk⁹³

When understanding organizational evolution as a temporal process that requires both dynamics and stability a better understanding can be achieved of how different organizations evolve differently under the same structural conditions. This insight proves valuable in analysing the development of the two dairy factories 'Thise' and 'Økomælk A/S'.

Thise

The dairy factory 'Thise' was established as a cooperative in 1988 by eight farmers from North West Jutland. The first years of its life Thise was a part of the marketing cooperative NaturMælk. This cooperative ceased to exist in 1992 leaving Thise with a serious challenge in finding a new channel of distribution. After experiencing a lengthy struggle Thise engages in long term cooperation with Danish high end supermarket 'Irma' in 1994. This new cooperation has proved central to the long term survival of Thise for several reasons. Irma is a part of the supermarket cooperation 'COOP' containing the supermarket chains 'Kvickly', 'Brugsen', 'SuperBrugsen' and 'Fakta'. By engaging into the cooperation with Irma, Thise also gained access to the other supermarkets in the cooperation COOP. But this only came about after Thise had established a successful cooperation with Irma.

The cooperation between Thise and Irma differs from many other food chains. The relationship between Thise and Irma is not thought of as a simple supply demand relationship by the involved parties. Both Thise and Irma describe their relationship as a relationship that goes beyond the traditional supply/demand relationship. The relationship is portrayed as a form of partnership where both parties share mutual goals. A partnership differs from contract in how the future cooperation is understood. A partnership can be described as a second order contract, as a promise about future promises (Andersen, 2006). A partnership is defined by its mutual duties contrary to a contract that is defined through its mutual rights. The duties Thise accepted in this partnership were the duties to develop new products that Irma in turn obliged itself to promote. A partnership can in this respect 'push' the limits of the cooperation further into the future than a contract. In order to make such a push engaging in a partnership demands a higher degree of trust and reciprocity than a contract. Both parties must share and acknowledge the mutual vision in order to make that partnership function. In a number of public statements the manager of Thise has described the partnership with Irma as a 'marriage' and Irma has described the relationship as a close friendship. The different wording does not seem to mark a fundamental difference in the perception of the relationship, but is more likely to be seen as a result of different corporate communication traditions.

The potential that allowed for a partnership between Thise and Irma is to be found in the expectations to the future the two parties were trying to actualize separately. The aim of Irma was to deliver products of a high quality with a high degree of customer service. Irma defines itself as a high end supermarket that provides a serious opposite to the discount ideology. The ambition is to provide quality products that are healthy, social and environmental responsible and innovative. Another differentiation strategy that has been applied since the 1970ies is to have different artists designing the packaging of the own brands and shopping bags. These strategies help defining Irma as an innovative and visionary supermarket. Irma's self-understanding seems very well suited to fit the self-understanding of Thise.

⁹³ The following analysis is a tentative analysis based upon a previous case study and public available information such as newspaper and professional journal articles, press releases and webpages. In the coming year the analysis are going to be further developed with interviews and a profound case study.

When Thise was formed in 1988 the main motivation was a wish to produce organic milk. This was in the very beginning of the organic production in Denmark. The first law on organic marketing was introduced in Denmark in 1987. So when the first products left Thise the concept of organic branding was almost unknown. The motivation to start Thise rested on a strong commitment to independent organic production. The vision was to establish an independent organic alternative to the large conventional companies. Self-determinacy was and is a strong driver and growth strategy for Thise. Thise is a cooperative which means, that in order to supply to the dairy one has to be a shareholder. Today Thise has grown from 8 shareholder to 80, but the growth is not to take place at all cost. The defined growth strategy is 'some growth – but not for the sake of growth'. Thise stresses that growth has to be sustainable to the organization. This means that growth in the production scale, the distribution opportunities and the increase in new stakeholders must happen in a modest pace. Though at the same time Thise has had a continuous focus on developing a range of different products ranging from a number of fresh milk products, sour milk products, butter and a number of cheeses. All in all Thise is producing more than one hundred different products. Together with the strategy of supplying a number of different products Thise has also aimed at spreading its distribution on several different markets even though Irma together with COOP accounts for more than 50 % of the total demand.

Økomælk A/S

The cooperation between Thise and Irma is not the only case in Denmark where a contract between a dairy factory and a supermarket chain has had a central impact up on the evolution of the dairy factory. The dairy factory 'Økomælk A/S' developed under similar circumstances as Thise but experienced a different evolutionary path.

Økomælk A/S was established in 1995 as a private limited company. Its main production was fresh milk and cheese. The main contract was with the Danish supermarket conglomerate 'Dansk Supermarked'. After the startup period Økomælk experienced a period of growth that meant that the dairy had to expand its factory. August 6 1998 the new production facility opened. The main reason behind Økomælks growth was the lucrative contract with Dansk Supermarked. Dansk Supermarked bought between 65 % and 70 % of the total production being mainly fresh milk. At the millennium the company seemed prosperous. But on the first of June 2001 Dansk Supermarked announced that the contract with Økomælk A/S would not be renewed by the first of October the same year. This left Økomælk with only three months to find another buyer for nearly three quarters of its total production. Despite various efforts Økomælk A/S did not succeed in finding a replacement for Dansk Supermarked and was left in a struggle that lasted for the following two years. Despite the efforts made to find new buyers Økomælk found them self also in an almost constant battle to keep their suppliers. The economic situation meant that nine of the farmers left Økomælk A/S. In December 2002 it was finally decided to accept the buying offer made by Scandinavian dairy conglomerate 'Arla'. Økomælk A/S ceased to exist.

It can seem surprising that Økomælk could not manage to maintain a stable business model. The company entered the market at the time where the ecological development took off in Denmark. But the key to the short lived success of Økomælk might be what paved the ground for their initial success. Økomælk focus primarily on delivering fresh milk products. These products are the most profitable products among the dairy products, but they are also the least differentiated products. Fresh milk from one dairy is as a product difficult to tell apart from similar products. The consequence is that the competition in this market becomes a competition almost on price alone. This in itself made Økomælk vulnerable to 'attacks' from competing dairy companies, especially from such large companies as Arla that by its sheer size holds an advantages when it comes to price competition.

A contract is not only a formalized agreement about transactions. The contract is bilateral with binding reciprocal obligations (Luhmann, 1993/2004). The contract enables both parties to develop stable expectations to the future based on this reciprocal commitment. The contract binds the two parties together in a mutual arrangement that at the same time presents the parties with a freedom (Andersen, 2006). What constitutes a contract is the communication that follows the contract (Andersen, 2006). Following a systems theoretical understanding of communication meaning cannot be established individually but must be established in communication. This means that a contract only can be a contract between discourses (Teubner, 2000). The contract has to be read and given meaning by both parties in the communication. This posed a challenge to the contractual cooperation between Økomælk and Dansk Supermarked. On the one hand price played a central role in the breakdown of the relationship between the two parties. But on the other hand a number of other factors also became important. The narrow focus of Økomælk on the fresh milk production meant that there were no other branding opportunities to build expectations around. Explaining why the cooperation was brought to an end, Dansk Supermarked pointed at a number of factors: quality, the skills to develop new products, marketing and the price. The critique Danish Supermarked rises at Økomælk point's attention to how the possibilities and limits of the contract were read by Økomælk. The narrow focus on fresh milk seems like an almost opportunistic pursued of easy profit. This can of course have its place but the strategy of having only a very limited number of parameters to compete on made the company vulnerable to competition. What the contract did for Økomælk was to generate stability in the present in the form of stable, but short termed expectations to the future. But the stability did not generate any dynamics. Økomælk did not manage to turn the stability into dynamics in the form of product development and consolidation. The reason is partly to be found in the contractual cooperation. A contract does not support mutual development but allows for symmetric developments. When the cooperation becomes too asymmetric, as in the case of Økomælk and Dansk Supermarket, the individual benefits becomes too limited and contract is stopped. Due to the narrow product focus of Økomælk this meant that when the contract was cancelled Økomælk A/S did not have any products that in turn could generate dynamics in other systems. They could not offer any products to other supermarkets that these supermarkets could not already obtain from the usual suppliers. Despite several attempts to enter into new contracts with other supermarkets, Økomælk A/S failed in establishing new relations that allowed the company to continue.

Comparison

When comparing these two cases both similarities and differences appear. Both dairy factories are among the first movers on the Danish market for organic milk products. What marks the point in time where These manages to establish itself as in a stable position on the Danish dairy market is its cooperation with Irma started in 1994. Økomælk did not experience the same troublesome startup period as did These. Økomælk started to deliver milk to Dansk Supermarket only months after it was established in 1995. So to both dairy factories the consolidating phase in the stabilization of their organization can be placed in the mid 1990ies. A stable demand due to an overall lack of organic milk on the Danish market at that time benefitted both dairies but in different ways. In the following analysis the effect of this stable demand upon the dairies are being analyzed from the temporal perspective by understanding their development as an oscillating relationship between dynamics and stability. Taking into account that both dairies experienced their "takeoff" under practical the same structural conditions it seems rather surprising that after eight years These was well consolidated while Økomælk have had to close down. But when analyzing the development from a temporal perspective it might not be as surprising as it seems at first glance.

The first point is to focus on how the stability that both dairies obtained through the cooperation with the two different supermarket chains is to be understood. The first central point is that stabil-

ity does not mean static. A temporal stability is a stability that changes over time. Every expectation to the future can only be made in the present and since the present disappears in the very moment it is actualized, the present stability has to be continuously re-stabilized. Stability is the precondition for establishing experiences (Andersen, 2006). These experiences can then be used in the present to develop expectations to the future and it is by actualizing these expectations that the organization gains a dynamic. There is of course no warranty that the expectations are met. They can either be fulfilled or disappointed, but in both cases the actualization generates new experiences (Koselleck, 1976/2007). In order to understand how this re-stabilizing comes about it is necessary to move from the level of organizational system to the level of functional system and understand how the different organizational systems, in this case dairy factories, make use of the communicative codes and time -binds provided by the different functional systems.

The dairy factories are organizations that reproduce them-self, or die, through decisions. Decisions regard a social dimension: who is involved, a material/factual dimension: what is involved and a temporal dimension: before/ after the decision is made. By making decisions the organization can stabilize the three dimension of meaning. Organizations are in this respect to be understood as decision machines (Nassehi, 2005). In making decisions organizations make use of the functional systems codes that they couple to. In the case of Thise and Økomælk the most central functional codes are the economic code and the legal code.

Økomælk A/S

When Økomælk engaged in a contract with Dansk Supermarked the stabilization of expectations came about through a legal coding. The contract provided Økomælk with a stability in the form of a legal guaranteed stable demand. The question now is how Økomælk interpreted this stabilization. The experience that Økomælk made was that the stability the legal coded contract provided would be re-stabilized in the future due to the shortages of organic milk at the time. From the perspective of a second order observer Økomælk did not understand stability as a temporal stability. Rather Økomælk observed the contract like a form of static expectation and hereby generating a blind spot that prevented Økomælk from seeing their own limits. By understanding stability as static Økomælk did not become aware of their vulnerability in the market. Their main asset, fresh milk, is a product easily copied. Fresh milk taste like fresh milk more or less no matter what milk carton it comes from. In this respect it is a product with a very limited differential potential. This does not mean that it is an unattractive product to produce. On the contrary it is quite attractive due to low production costs and a relative high profit margin. So from the perspective of the present it seemed like Økomælk had found an attractive niche producing organic fresh milk. But as mentioned the problem with the present is that it disappears as soon as it is actualized. Therefore an organization operation in the present must at the same time try to observe what potential future presents are likely to be actualized. In order to do so the present stability must generate a present dynamics as well, and this can only be done by observing stability as temporal and not static.

Given the low potential for differentiation on fresh milk products one is left wondering why Økomælk did not generate a dynamic in the form of product development in order to differentiate their potential in more products. But by observing the stability their contract provided as static the time horizon of Økomælk got postponed to fare into the future. Even though cooperation between two organizations is stabilized legal the collaboration is also an economic transaction and a transaction that operates with another time-bind than a legal communication. When Dansk Supermarked got an offer from Arla on supplying fresh milk at a lower price than Økomælk could provide, Økomælk got into trouble due to their low degree of product differentiation. They were not attractive enough because their only parameter of competition was fresh milk, a product that Arla could quit easy replace with an almost identical product.

Thise

Thise experienced a relative long and troublesome starting period before they managed to establish a stable relationship with a retailer. When Thise succeeded the relationship was, as described, based on a partnership. That the cooperation was a partnership as to a mere contractual relationship allowed Thise to actualize the potential within a different temporality than Økomælk. The stability Thise experienced as a result of the partnership with Irma was understood as a temporal stability. Even though Thise was the sole provider of organic milk to Irma, the dairy continued to develop a whole range of different products ranging from fresh milk products, sour milk products, butter and a selection of cheeses. The process of developing this variety of products was an ongoing processes that occurred over a number of years. By using the stability of the partnership with Irma to generate new innovations Thise developed a dynamic present. This dynamic made Thise attractive to Irma in more respect than just as a fresh milk provider. The dynamics of Thise created an ongoing product differentiation that managed to turn Thise into a leading organic brand. This again meant that the stability in the organization was re-produced over time by keeping Thise interesting to Irma as more than just a supplier of organic milk.

Thise also contributed to the stabilization process by adopting a modest strategy of growth. Growth, innovation and continuation is thought of as three aspects of an overall organization evolution. But even though Thise seems to be very aware of the relationship between stability and dynamics this does not mean that the future is free from trouble. Even in a partnership both parties does not observe the future from the same point of observation. The growth Thise has experienced has had the consequence that Irma and Coop no longer has the capacity to buy the same amount of Thises products as they previously had. To Thise it was always a strategy not to depend solely on one retailer. But when the production capacity of Thise increased and the products got available from more retailers Thise begun to lose some of its exclusiveness that made them attractive to Irma in the first place.

The relationship between dynamics and stability in an organization is not just an internal affair. As any other system an organization is structural coupled to its environment which means that the system receives a number of irritations that it has to deal with. A partnership is one form of such a structural coupling and, just as marriage as a metaphor of for the partnership between Thise and Irma illustrates, a partnership as a structural coupling is read different by the involved parties. The risk is that a number of conflicting interests ends up breaking the partnership. The potential on the other hand is that the parties manages to synchronize their present observations of the future and thereby manages to develop expectations that complement each other instead of conflicting. This again points our attention to the relationship between stability and dynamic because the distinction between the two has to be reestablished over time.

Conclusion

The present paper has argued that in order to understand organizational evolution in relation to growth in organic value based food chains the temporal dimension is a central component. The temporal dimension allows for insight to be generated into how different organizations handle couplings to other systems and thereby manages to grow. The paper also demonstrated that contracts and partnerships functions as different couplings with different potentials. These different potentials became actualized differently resulting in different evolutionary paths.

The temporal dimension provides us with a possibility to analyze organizational evolution in a more nuanced manner than it would be if the focus was solely on the management dimension as social meaning. Different evolutionary outcomes are as much a result of the different organizations understanding of temporality as it is an outcome of bad management. After all we must remember that most managers actually attempts to manage. They do not aim at driving their organizations into problems and death. Every decision they make usually makes very good sense to them in that particular moment in time when it is made. Only by applying a framework that can incorporate the concept of temporality can an analysis open such a case up and gain insight into the temporal mode of such an organization.

This analysis indicates that by focusing on the temporal dimension, when analyzing organizational evolution, insights into how these evolutionary processes develops can be generated. Further empirical research into these mechanisms are needed as this will provides new insight into how the different organizations in a values based food chains are coupled and develop over time.

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