

# Success and failure?

## A complexity perspective on an organizational innovation blockage

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### Abstract

This paper examines the dynamics in organizational innovation processes, and in particular, the role blockages. The case covers the process of designing a joint-stock enterprise that is partly owned by the employees and partly by the federation of municipalities, and is to deliver primary health care services to a set of municipalities. After a promising start, the process is now stuck before it has reached the implementation phase. The purpose of the paper is to examine the dynamics in the organizational innovation process, and in particular, the role of blockages and failures. By highlighting the value of complexity theoretical thinking, this paper seeks to contribute to our understanding of the nature of organizational innovation in the public sector and the analytical power of complexity. The data consists of interviews with the key actors in the process and is analysed by applying theory driven content analysis. Preliminary results suggest that the organizational innovation process is characterized by an active use of relational potential and a sequence of unexpected events resulting in emergent patterns. The space of possibilities not only frames the system but also enables co-evolutionary dynamics to emerge. Contrary to the fitness (or performance) landscape models, where the (organizational) structure is seen as an important determinant of the innovation potential, it does not seem to play a central role in this particular case. Results suggest that the innovation itself emerges in the complex responsive processes of relating between key actors, long before the end result of the process is realized. A structural failure might turn into a relational success.

### Introduction

The purpose of the paper is to examine the dynamics in organizational innovation processes, and in particular, to study what role blockages play in an innovation process. We draw on complexity theory in order to interpret the different dynamics that shape the evolution of an organizational innovation. The interest is, particularly, in examining the failures in the process. The paper seeks to contribute to our understanding of the nature and dynamics of organizational innovation and to highlight the potential of complexity theoretical reasoning and research design in the study of public administration<sup>2</sup>. In doing so, we adopt a purposely relational, interaction oriented perspective<sup>4,3</sup> so as to avoid excessively structural, planning oriented perspectives of much of the organizational innovation research<sup>5,6,7,8</sup>.

We have had the opportunity of observing a real time case of organizational innovation developed in collaboration between a group of municipalities in Central Finland. Originally, the innovation was a cooperative of general practitioners, owned jointly with the public utility currently producing the health care services. Due to legislative obstacles, the cooperative could not be established, and the decision was to set up a joint-stock enterprise. This will be partly owned by the employees and partly by a federation of municipalities, and it is to deliver primary health care services for a set of municipalities and their citizens. This is a novel and innovative organizational format in public services production in Finland, where primary health care services are predominantly publicly produced. On the other hand, the Finnish municipalities have been fairly free to organize their operational processes and organizations. The legislation, based on the Act of Social and Health Care Planning and State Grants, gives them freedom to organize the services themselves or together with other councils, or they may purchase services from yet another service provider, for example, the private or third sector. What currently seems to be at the same a primer and an obstacle of innovation in health care organizations is the on-going process of structural reconstruction of Finnish health and social service system. The need for innovation and reconstruction stems mainly from the combination of aging population, aging workforce, increasing service needs and problems in public economy<sup>9,10</sup>.

### Research design

The case study method was a natural research design to employ in this study<sup>11</sup>. We were able to observe an innovation process developing in real time, focusing on contemporary events but also tracking the history of the case at hand after the blockage in the process appeared. Our aim was to build a holistic picture of the process, appreciating the diversity and complexity inherent in an organizational innovation<sup>12</sup>. The case study approach also aligns well with the complexity theoretical perspective, when we understand organizations as being complex co-evolving entities far from equilibrium. Far from equilibrium, the behaviour of an entity may become very specific, and hence there is no need to look for generalizations but to gain an

depth understanding of the phenomena at hand<sup>1·13</sup>. The research question applied in this case was:

*How does complexity present itself as part of an organizational innovation process in a public sector organization?*

We set out to analyse whether complexity theoretical reasoning helps to make sense the dynamics behind an organizational innovation blockage and helps answer the question ‘why does the blockage occur after a promising start?’ What was encountered during the process was the paradoxical, co-evolutionary nature of complexity.

The data consists of five interviews with eight key actors in the process. In addition, participant observation and preparatory documents (e.g. minutes of meetings) were used in order to gather the relevant background information for the case. The case study covers a period of ten months starting from March 2014 until the end of 2014, but the organizational innovation process has been ongoing for approximately one and a half years. Interviews were conducted using a snow ball method starting from the originator of the process, the former CEO, and proceeding from there so that each interviewee appointed the next key actors from his/her point of view. This was in order to simulate the process of an idea spreading in an organization and to catch the evolving nature of the organizational innovation at hand.

The former CEO was the first interviewee, and he identified as the next key players the municipal leaders of the federation of municipalities, the chairman of the committee of the federation of municipalities and the chairman of the board of the public utility. He also identified the chief physician as being part of the process, as did the other interviewees, but unfortunately the chief physician left for other duties in another organization, and we were unable to reach him for interview. None of the aforementioned actors appointed any other actors as being central in the process, and saturation point was reached surprisingly quickly, implying that the process of forming an idea is carried out among a very limited set of actors. The four municipal leaders were interviewed as a group, since that was the most feasible way of getting their contribution. One municipal leader was unable to attend the interview, so four out of five actors in that group were reached. Outside that group we selected one additional interviewee. She was the acting CEO, who replaced the most central figure in the process, when he was selected as a Member of Parliament. The acting CEO also played a dual role, being at the same time responsible also for the duties of the HR-Manager of the public utility.

The data was analysed using a theory-driven content analysis framework derived from previous literature of both organizational innovation and complexity theory. Theoretical concepts were broken into condensed meaning units consisting of the most central of their characteristics. Those meaning units were then used as descriptions of theoretical phenomena when put against the interview data<sup>14·15·16</sup>. Examples of the analysis process are provided in the appendix 1.

## **Complexity and organizational innovation in theory**

Organizational innovation has been defined in many texts as being the adoption of an idea or behaviour new to the adopting organization<sup>6·7·8</sup>. In this case, the original novel idea was to establish a new organization inside an existing public service organization in order to allow more freedom of choice to the general practice — both for the doctors and for the patients, or clients. In Finland, health care is predominantly organized by the public sector, and for years there has been a challenge in attracting practitioners especially to the rural health centres. Our case organization set out to ease the problem by creating a new business-oriented organization, either a co-operative or a corporation, inside the existing publicly funded organizational structures. The premise and need for an organizational ‘innovation’ was put simply by one of the interviewees: “the basis for this arrangement had no other objective than to attract general practitioners”. Simple enough. But how the actual idea of the precise way to attract the doctors came about is a lot more accidental than that, as will be indicated in the results.

Strategies for introducing organizational innovation to public service organizations have been studied from the systemic management perspective<sup>17</sup>. Strategies such as visibility creation, complexity reduction and formation of objectivity and construction of legitimacy were found to be connected to successful organizational innovation. It was concluded that “the greatest challenge in implementing an organizational innovation lies in the construction of connectivity between the innovation and the existing organizational system”<sup>17</sup>. This holds true in the analysed case as well, in that it has not reached the implementation phase at all. However, it appears that the relationship, or connectivity, between the implementation and the existing organizational system is not the most important factor in the blockage. The reasons behind the development of an innovation and its success or failure in the (pre-)implementation phase are more far reaching and complex.

Complexity of organizations and innovation processes has often been seen in relation to organizational structure — the number of units and subunits, the number of personnel, the number of services or products etc<sup>5·18·6·19·20</sup>. This has the risk of reducing complexity into numbers alone, forgetting the ‘complex responsive processes of relating’ that emerge between actors in any given system, at any given time<sup>3·21·22</sup>. Yet the very essence of complexity lies in the understanding of an organization as a complex system in which individual elements are difficult, or impossible, to separate and where interactions create non-linear, unpredictable, emergent dynamics<sup>23·24·25</sup>.

Some recent research on innovation has focused, for example, on complex adaptive systems (CAS) models and fitness or

performance landscape models in public service innovation<sup>26·2</sup>, path dependence approaches in management innovation<sup>27</sup> or the effects of environmental complexity in organizational innovation<sup>28</sup>. We would be more inclined to use the term complex co-evolving system (CCES) to describe the organizational innovation processes<sup>13</sup>. This is because we observe that organizations do not merely adapt to changes in their environment, but the process is reciprocal and they possess a set of interrelated characteristics that influence each other and create a new order, i.e. they co-evolve<sup>28</sup>. Co-evolution incorporates both systems and individual actors in the systems, hence enabling a holistic understanding of innovation processes. When analysing the case at hand, it became obvious that different systems affecting the innovation process interpenetrate each other in a way that it is not meaningful to differentiate “inside” from the “outside”, but to understand the system as a co-evolving entity<sup>23</sup>.

The idea of an innovation process as a complex co-evolving system opens up the possibility of analysing the case by concentrating on relations, interactions and connectivity that all seem to be interrelated at some level; see table 1. CCES's exist in a space-of-possibilities that forms boundaries, but instead of seeing boundaries as confining, they could be understood as actually constituting that which is bounded, in a way that they are enabling and connecting instead of separating the elements from each other<sup>23</sup>. This is a shift in the traditional perspective in boundaries and fits well with the notion of CCES. Other constituents of the CCES perspective in organizational innovation are emergence and self-organization<sup>13</sup> that are at the very core of complexity theory<sup>29·30·21</sup>. Path dependence in a form of revealing the historicity of any process and the bifurcation points in it was also found to be a useful concept in analysing and understanding the complex nature of an organizational innovation<sup>1</sup>. Table 1 provides an overview of the concepts that were used as the basis (condensed meaning units) in the theory-driven content analysis.

Table 1

Theoretical framework used in the content analysis			
Phenomenon	Theme / upper category	Concept	Defining features of the concept (used as condensed meaning units in the analysis)
Co-evolution = “the evolution of one domain or entity is partially dependent on the evolution of other related domains or entities; involves reciprocal influence and change within a co-evolving ecosystem”. <sup>35·21</sup>	Time and space	Space of possibilities	Exploring the environment, exploring possibilities, encouraging variety, no single optimum strategy for all times and spaces <sup>1</sup>
		Path-dependence	Identification of bifurcation points or key incidents, dependence on the history, one event leading to another <sup>30·1</sup>
	Relations (between actors and elements)	Connectivity	Strength of coupling, degree of connectedness, interdependence, interaction, network of relations, the inter-relatedness of individuals within a system, as well as the relatedness between social systems <sup>1·24</sup>
		Relation(s)	Inter-relationships, inter-connectivity, interdependence, ties <sup>24·35</sup>
		Interaction	Elements co-determine their future states, interdependence <sup>24·35·25</sup>
	Process (of 'coming into being')	Emergence	Properties arising from the interaction of individual elements, coupled and context-dependent interactions, non-reducible, “more or less than the sum of its parts”, spontaneous (order), unpredictable, non-linear <sup>41·1·21·32</sup>
		Self-organization	Happening for internal reasons, driven by internal dynamics <sup>21·32</sup>

Another defining feature of complexity is paradoxes<sup>31·32</sup>. Cameron<sup>33</sup> simplifies the meaning of paradoxes into “mutually exclusive elements that are present and operate equally at the same time”. This might, for example, mean that at the same time the system is self-organizing (internally driven dynamics), exploring its space of possibilities (depended on external stimuli) and co-evolving<sup>1·21</sup>. All the ‘elements of complexity’ are present and exist simultaneously. This can also be seen if we look at complexity from the perspective of conscious complex systems and contrast it with the framework of order (see Table 2).

Table 2

From order to conscious complexity	
Orderly world <sup>30</sup>	Conscious complexity <sup>30</sup>
Order: given causes lead to known effects at all times and places	Partial order: systems exhibit both orderly and chaotic behaviours
Reductionism: the whole is the sum of its parts, no more and no less (system is reducible to its parts)	Reductionism and holism: some phenomena are reducible, others are not (always more or less than the sum of its parts)
Predictability: once global behaviour is defined, the future can be predicted by applying the appropriate inputs to the model	Predictability and uncertainty: can be partially modelled, predicted and controlled
Determinism: processes flow along orderly paths that have clear beginnings and rational ends	Probabilistic: general boundaries, but within these boundaries precise outcomes are always uncertain
	Emergence: systems exhibit elements of co-evolution, adaptation and emergence
	Interpretation: actors are aware of themselves, the system and their history and strive to interpret and direct the system

Complex systems are paradoxical in that they exhibit both orderly and chaotic behaviours. Some phenomena in complex systems are reducible and some are not; this leads to the notion that phenomena in complex co-evolving systems are always more or less than the sum of their constituent parts — or the exact sum of their parts. They are also probabilistic — acting under general boundaries, but within these boundaries exact outcomes are always uncertain<sup>30·1·21·32</sup>. As stated earlier, these boundaries are not only confining and separating but also enabling and connecting<sup>23</sup>. The process of organizational innovation in this case study is understood as following the paths of conscious complex systems, instead of the more traditional, planning oriented framework of order. This premise opens up the route to understanding organizational innovation as a 'complex responsive processes of relating', where success and failure are not mutually exclusive elements of the same process, but inherently intertwined.

## Complexity of an organizational innovation in practice

Results of the deductive, theory driven, content analysis can be summarized into three upper categories (see Table 1 and Appendix 1):

1. time and space, which includes the concepts of space of possibilities and path dependency,
2. relations (between actors and elements), which includes the concepts of interaction, connectivity and relations and
3. process (of 'coming into being'), which incorporates emergence and self-organization.

The bulk of the original meaning units concentrate around the concepts of co-evolution and exploration of the space of possibilities. This is seen in how the original idea – the innovation – came about, how it evolved over time, how and why the process is blocked, and what might make it move ahead again. *Co-evolution according to this case study can be understood as an overarching theoretical phenomenon describing and defining an organizational innovation process* Co-evolution presents itself in relation to all other analysed theoretical concepts and will be elaborated further in discussion and conclusions. Next, we will discuss the results according to the three afore mentioned categories.

## Time and space

A complex co-evolving system, as the one in this case, is always far from equilibrium<sup>13</sup>. When far away from equilibrium, the behaviour of a system becomes very specific and unpredictable. Yet at the same time, systems do not constantly balance on the edge between chaos and order. They possess reasonably robust structures and boundaries<sup>23·34</sup>. This is illustrated in our case when tracking the process leading to so-called innovation blockage. Looking back, using a path dependence metaphor, there are bifurcation points that have changed the course of the process. Two distinct events occurred at the same time. The committee of the federation of municipalities passed the proposal to officially move ahead with the preparations for the

corporation, and at the same meeting they bid farewell to the CEO, who had been assigned the role of being the founder of the innovation. The robustness of the system presents itself in the form of backup when the new acting CEO, the former HR-manager stepped forward. On the face of it, everything was business as usual. Small changes in initial conditions were visible in at least two ways. The reason that triggered the exit of the original CEO originated in the European Parliament, far away from a single public health care organization in Finland. A member of the Finnish parliament was elected as a representative to the European Parliament. It so happened that the CEO was the next in line to replace the newly elected EU representative in the national parliament. No-one in the local system could anticipate the change in the global system to have the effect it had. All interviewees pointed this out as the one single event — bifurcation point — that changed the course of the whole innovation process.

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*But then it changed, probably when (the former CEO) went away and (the acting CEO) was left to fill his position. — One never knows, he might come back, and then this whole thing will change again. But we'll have time to worry about that later. — chairman of the committee*

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It is easy to pin point at least three complex systems co-evolving together in the example above: The European Parliament, the national parliament and the local public service organization. A seemingly small change in one of the systems escalated, and due to the co-evolving nature of all complex systems, this led to unexpected events in several related contexts. This also reveals the connected nature of CCES. The whole is not in its individual parts, but in the interconnections, interrelations and interactions that in turn create new order, as emergence implies<sup>35</sup>.

Paradoxes are also present when looking at the innovation process from the space of possibilities perspective. This is linked with the notions of path dependence and sensitivity to initial conditions. Analysis illustrates the interpenetration of several systems so that they could be defined as being one CCES of health and social services. The national context involves the everlasting national reform of health and social service structures. For example, new laws were on the table at the time of the development of the organizational innovation at hand. Those both enable and constrain the space of possibilities. The national context affects the regional level development, such as hospital districts and municipal structures, which, in turn, are related to our case organization. None of these 'subsystems' is independent of the other, but they interpenetrate each other and co-evolve together<sup>23</sup>. Changes in one system will affect all the others, and, in turn, those changes affect all other interrelated entities. The boundaries of inside and outside become blurred. It is not a mere adaptation to external stimuli, but co-evolution.

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*And then on the other hand we have this situation with the social and health structure reform, and for example I am part, I will have to be part, of many working committees — and if this reform delays further, and they will not pass the law, and we get new elections and a new government and what all might happen after that..." — acting CEO*

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CCES is always far from equilibrium, not necessarily at the edge of chaos<sup>34</sup>, but far from being stable. When a system is far from equilibrium, its behaviour becomes very specific. And this in turn leads to severe sensitivity to initial conditions, as described in the above example. In other words, even small changes in the initial conditions of the innovation process may lead to very far reaching and unexpected outcomes.

## Relations

It can be inferred that a great deal in the process of an organizational innovation rests on relational potential and interactions between, firstly, key actors, but also with actors outside the inner boundaries of the system. When developing the innovation further, all key actors in the process used connections outside the natural organizational boundaries, such as acquaintances working as lawyers or private health care providers. These relations could be described as being the weak ties in a network of relations. According to the original idea of the strength of weak ties these are precisely the relations that are needed in order to achieve novel information<sup>36</sup>. This can be seen together with the notion of boundaries being enabling and connecting, instead of being debarring<sup>23</sup>. On the other hand, the lack of relations was brought up by the former CEO, the most focal actor in the process, in a very interesting manner: "was this so smooth until now because I was quite a bit of a loner..." At the same time, he and the other interviewees described how important the role of discussions and interaction (formal and informal) with several actors was in the process.

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*I went over the issues with different experts. Layers I knew, private health care service providers I knew, and I discussed with all kinds of people like this. — former CEO*

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Relations are at the same time enabling, but also restricting. That is the inherent paradox in complexity and complex systems. Complex systems are paradoxical in that they necessarily involve contradictory and mutually exclusive elements at the same time<sup>33·31·37·32</sup>.

But relations do not present themselves just between individual actors. This is best captured in the data by the concepts of connectivity and interaction, as, by definition, connectivity not only refers to the inter-relatedness of individuals within a system, but also to the relatedness between entire systems, or subsystems, or parts thereof<sup>1</sup>. The interviewees describe how the process has largely been affected by the national health and social service structure reform:

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*But the current law doesn't allow for that, since it states that it has to be a federation of municipalities. And the Local Government Act defines that a federation of municipalities has to have political decision-making structure and ... well, time will tell. — former CEO*

*One may wonder whether this is the right time to promote a thing like this before the bigger framework with the service structure reform is clear, and we will have to take that into account as well. — municipal manager*

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Interviewees also make reference, for example, to the interplay between local political system and public administration, regional health and social service systems and the development of individual municipality's economic structures. They see all these systems acting together in the process of developing their own particular organization, but do not, of course, use the terms of complexity theory in their language. As such, it is hard to separate co-evolution from connectivity and interaction. By definition "the evolution of one domain or entity is partially dependent on the evolution of other related domains or entities"<sup>35</sup>. In other words, they are interconnected and interact to create new order.

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*But our local politicians cause this difficulty and that is one of the problems there. One should never politicize there at the (name of the service district). — chairman of the committee*

*But policy-makers are not very innovative in changing their course of action. They have their own, that struggle for power always on the agenda and they tend to forget what they are there for, and this kind of thing had probably never originated from there. — chairman of the board*

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## Process of 'coming into being'

Emergence and self-organization are particularly clearly seen in the early phases of the innovation process. This is when the actual innovation 'emerged' due to several forces acting together over a longish period of time — the phase could be called the co-evolution of an innovative idea — or co-evolution of an organizational innovation when it is understood as being the adoption of an idea or behaviour new to the adopting organization<sup>6·7·8</sup>. It clearly was not a planned set of actions following each other in a sequential manner, but rather an emergent process, where interactions and relations played a crucial role.

The need for innovation was internally driven. The organization started to show self-organization in order to adapt to external pressures that were mostly due to the lack of general practitioners, but also connected to the wider national health and social service structure reform. From the interview data, it is not so easy to infer this self-organization, but emergence in the later stages of the process is clearly visible.

The data suggest that the idea new to the organization, i.e. the organizational innovation per se, emerged out of interactions and the use of relational potential. The process is successful in a sense that the organization did come up with a novel way to deal with the lack of doctors in health centres. The organizational innovation did not follow a clean, linear process of planning, or innovating as the word is sometimes used. This is demonstrated in two direct quotes from the interviews:

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*...well, this brimmed slowly over with time... — chairman of the committee*

*... I can't say what was the moment, or what started, it's like, like an outcome of some kind of a process, more like it... — former CEO*

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Emergence can be seen in the overall direction of the organizational innovation process. This is to be found in the descriptions that interviewees give about the innovation process and the situation at hand, the blockage. It is difficult for the research subjects to identify single reasons that could be behind the blockage, or behind the early success of the innovation process. The descriptions are vague and they include a lot of uncertainty. They use phrases like 'I don't really know', 'then there was also this that might have been part...', 'it just came about', 'don't know what's going to happen or where this is going to...' etc.

## Concluding remarks on the analysis

It can be summarized that, in the deductive analysis of the interview data, the concept referring to “time and space” — space of possibilities and path-dependency — were the easiest ones to find correspondence in the reality. Concepts referring to relations — connectivity, interaction and relation(s) — were also visible in the raw data, but the relations between the concepts often became blurred. The concepts are partly overlapping and the same original meaning units can be seen to reflect several of the defining features of each category. Connectivity, interaction and relations also overlap with some of the original meaning units that are can be mostly associated with the “time and space” category. What were most difficult to detect were emergence and self-organization, which all in all refer to the actual process of the organizational innovation “coming into being”. Co-evolution as an overarching concept was everywhere in the data, and organizational innovation can be described as involving reciprocal influence and change within co-evolving ecosystems<sup>35</sup>. Another focal attribute of complex systems is paradox. In the discussion following we will draw insights about the nature of organizational innovation as paradoxical, co-evolutionary process of relating.

## Discussion: Success and failure

Is the case analysed success or failure? It would be tempting to state that this depends on the perspective employed. Our frameworks are always compromised to some extent, and “dealing with complexity is a little messy”<sup>34</sup>. Given that complexity is inherently paradoxical, then organizational innovation process can be at the same time a success and a failure.

As far as the innovation is concerned, the case is a success. But yet, nothing has happened since the meeting where the committee approved that there will be an official account in order to prepare for the implementation of the corporation model for service production. The process is blocked. It is stagnant, even to an extent that the interviewees were speculating whether the approval of the committee should be officially withdrawn. This is a failure, but it is an implementation failure, not an overall innovation failure<sup>38-39</sup>.

Applying the complexity perspective, we were looking for the dynamics behind the blockage, i.e. why the process failed. It would appear that the reasons are found mostly when exploring the space of possibilities in which the system is operating, and the co-evolving nature of several intertwined complex systems. All three categories that were identified on the basis of the content analysis are also in a co-evolutionary relationship with each other — all of them depend on each other.

The exit of a focal person is a single event can have a major effect in the process of the blockage. But alone it should not be enough to block the whole process so totally, since the acting CEO is also dedicated in solving the problem and moving ahead. The national structural reform in health and social services frames the space of possibilities for the single organization — it might be that the new law makes it impossible for units this small to work alone anymore. Bigger units and more centralized service structures prohibit local organizational innovation. At the same time, this innovative endeavour got negative media coverage along with some nationwide problems concerning the way in which some doctors are circumventing the normal taxation procedures by using income from dividends, a procedure that would have been part of the new corporation. This had an enormous effect on the local politicians and their willingness to support the innovation implementation. For reasons still unknown, the doctors currently in office were also against the idea of changing their occupational status, the opposite of the first impression that the key actors in the process had been given.

None of the aforementioned reasons alone would be enough to block the situation. But all of them together bring us to a situation where a whole is everything but the sum of its parts. From the innovation perspective, the whole is less than the sum of its parts (the blockage), but from a CCES perspective it is a lot more than the sum of its parts — the escalated, emergent properties evolving out of the co-evolution of several entities. The failure can be associated with co-evolution of interpenetrating complex systems. Cameron<sup>33</sup> used the term schismogenesis to describe a process similar to this. Schismogenesis refers to a process of self-reinforcement where one action, attribute or element in a system perpetuates itself until it becomes extreme and therefore dysfunctional (ibid.). No-one could foresee at the beginning of the organizational innovation process the multiplicity of interacting systems that would come into play. No-one could predict how many different contexts would intersect with each other. No-one was prepared to take into account the complexity, but kept on interpreting the situation from his/her own framework, which inevitable neglects the complex nature of organizational innovation<sup>23</sup>. The paradigm of order, the planning school, was put against the reality of a paradigm of conscious complex systems<sup>30</sup>.

The perspective of conscious complex systems highlights the nature of organizational innovation (see table 2). Some parts of the process follow an ordered path, some emerge as more chaotic. The process can be partially modelled, predicted and controlled, but never in its entirety — inside general boundaries are exact outcomes always uncertain. The process of organizational innovation clearly exhibits elements of co-evolution, adaption and emergence. An interesting notion in itself is the bottom right hand cell in Table 2, interpretation. During the process, all actors are aware of themselves, the system and their history and strive to interpret and direct the system, based on their own interpretation of the system. Although the interviewees were only eight in this case study, this was enough to pinpoint the variety of perspectives and interpretations.

## Conclusions

The purpose of the paper was to examine the dynamics in organizational innovation processes, and in particular, to study what role blockages play in an innovation process. The study shows that, if organizational innovation is understood as a structural end product of creating new organizational forms or ideas and behaviour new to the organization<sup>7,8</sup> then a blocked organizational innovation process could be described as being an innovation failure. However, if we were to apply a more co-evolutionary, interaction and paradox-oriented conceptualization of innovation, such as those proposed by Collm & Schedler (2014) from a systemic management perspective, and Fonseca,<sup>3</sup> Floysand & Jakobsen<sup>4</sup> or Jalonen<sup>37</sup> from the complexity perspective, the situation could be interpreted differently.

This case study shows that the innovation itself has actually emerged in the complex responsive processes of relating along the way, but has not reached the structural implementation phase. The innovation, the idea of a new way of doing things, had emerged in the relations and discussions of several actors. It evolved further with both deliberate preparation and unintended occurrences. The evolution of the innovation is highly dependent on the space of possibilities of the focal system and all its related systems. International, national, regional and local systems overlap and interpenetrate each other in countless ways. This does not only frame the focal system, but also enables properties and opportunities to emerge out of those interactions. Applying the complexity lenses and treating organizational innovation as a co-evolving process of relating opens up interesting streams of understanding the nature of organizational innovation processes in the public sector.

Regardless of the interpretation of the situation as being either a success or a failure, the relevance of error or failure in innovation is an interesting elaboration to the complexity theoretical perspective. Innovation processes are described as being inherently contradictory and complex — they are paradoxical and serendipitous<sup>40,37</sup>. Hence, they are also inherently error-prone. Innovation is also an exploratory process, and sometimes experiments just do not work out. But at the same time, the errors, or failures, themselves lead to exploration, which in turn may lead to innovation<sup>40</sup>. This is an example of emergence and co-evolution in practice.

Our findings imply that organizational innovation is essentially a co-evolutionary process. The results suggest that the organizational innovation process is characterized by both an active and accidental use of relational potential. It is a sequence of more or less unexpected and paradoxical events resulting in emergent patterns. In this framework, the innovation could best be described as “complex responsive process of relating” or “uncertain process of reflexive and dynamic interacting actors operating in a given time-spatial context”<sup>4</sup>.

## Appendix 1: Illustration of the content analysis process

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Phenomenon	Theme	Concept	Defining features of the concept (used as condensed meaning units in the analysis)	Illustrative examples of original meaning units in the data
Co-evolution	Time and space	Space of possibilities	Exploring the environment, exploring possibilities, encouraging variety, no single optimum strategy for all times and spaces <sup>1</sup>	“But the current law doesn’t allow for that, since it states that it has to be a federation of municipalities. And the Local Government Act defines that a federation of municipalities has to have political decision-making structure and... well, time will tell.” “And then, on the other hand, we have this situation with the social and health structure reform, and for example I am part, I will have to be part, of many working committees — and if this reform delays further, and they will not pass the law, and we get new elections and a new government and what all might happen after that...” “Why couldn’t we use the same as the private sector does? — Why is it always only that they have the chance of doing things like this? It would be nice to be the pilot municipality.”
		Path-dependence	Identification of bifurcation points or key incidents, dependence on the history, one event leading to another <sup>30,1</sup>	“But then it changed, probably when (the former CEO) went away and (the acting CEO) was left to fill his position...” “We got to the point where we only had to start to work out how to make it happen...” “It could be that they have been evolving in time — so that this has been running alongside everything else all the time.” “I think that no-one has the interest to take this any further right now. That it is easy to bury this under the reform and behind the idea that this was the project of the (former CEO)...” “One never knows, he might come back, and then this whole thing will change again, But we’ll have time to worry about that later.”
	Relations (between actors and elements)	Connectivity	Strength of coupling, degree of connectedness, interdependence, interaction, network of relations, the inter-relatedness of individuals within a system, as well as the relatedness between social systems <sup>1, 24</sup>	“And those are the times when we sit in a car and drive around the district and we have time to unofficially discuss all kinds of issues...” “I went over the issues with different experts. Layers I knew, private health care service providers I knew, and I discussed with all kinds of people like this.”
Relation(s)		Inter-relationships, inter-connectivity, interdependence, ties <sup>24,35</sup>	“And those are the times when we sit in a car and drive around the district and we have time to unofficially discuss all kinds of issues...” “I went over the issues with different experts. Layers I knew, private health care service providers I knew, and I discussed with all kinds of people like this.”	
Interaction		Elements co-determine their future states, interdependence <sup>24,35,25</sup>	“It could be that they have been evolving in time — so that this has been walking along with everything else all the time.” “We were already having the discussions in the board. And I had been making preparations for the	