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***Viewpoint* - Paradigm Shift of Water Services in Finland: From Production Mentality to Service Mindset**

Ossi Heino

Tampere University of Technology, Department of Chemistry and Bio-engineering, Tampere, Finland;
ossi.heino@tut.fi

Annina Takala

Tampere University of Technology, Department of Chemistry and Bio-engineering, Tampere, Finland;
annina.takala@tut.fi

ABSTRACT: In this article, the current management paradigm of water services in Finland is conceptualised. For this purpose, the managers of water utility in ten Finnish municipalities were interviewed. Consequently, the ways in which water services are perceived and managed are also described in this article. In addition, it is argued that the current paradigm produces systemic behaviour that can be considered to give rise to unsustainable ways of developing water services. Based on the problems of the current paradigm, an alternative paradigm is drafted that rethinks the value-creation logic. This alternative paradigm implies that one should be aware of the interactions between systems in which water services play a crucial role, and act accordingly.

KEYWORDS: Paradigm, value creation, water services, Finland

INTRODUCTION

People's practices, routines as well as economic life are dependent on the functionality of infrastructures such as the transportation systems, communication systems, and basic public services and facilities. Water services, as an essential part of shared infrastructures, are shaping our lives, relationships, opportunities, and the environment we share with one another (Frischmann, 2012). Thus, water services contribute to fluency, security, predictability, and the comprehensive comfort of everyday life. It is evident that the continuity and sustainability of water services in societies must be ensured.

This is where the question about the current paradigm in the management of water services comes into the picture. People hold a system of thought patterns, a worldview, through which they see and structure the issues in question. Thus, the dominant paradigm has an essential effect on the future developmental paths of the service as it limits our ways of thinking and formulates solutions to the problems we face. Physicist David Bohm emphasised that our thoughts have us rather than we have them, which indicates that our actions and decisions have been tied to the current paradigms (Bohm, 2004). It is both interesting and important to pause and look a little closer at what and how we really see water services.

Generally speaking, water services could be characterised as a reliable, rigid, standardised, and relatively introverted field of operation that relies on massive physical systems and operates as a monopoly. It is thus interesting to explore how goods, services, customers, and the nature of value-creation are seen from the perspective of water services management and leadership, and then pose a question about their relevance to the nature of water services. In this regard, we are going to

conceptualise a current, dominant paradigm of water services, and show some systemic contradictions in its thought pattern. Finally, we are going to form a basis for a different paradigm – an alternative way to see the essential elements of water services, which may help to transcend contradictions, and take the higher values better into account in the management of the water services.

However, the main idea of this article does not reside in factual details. Instead, it initiates a debate on water services. The main contribution of this article is that it questions the current ways of seeing water services and offers alternatives.

IDEA OF THE ARTICLE

In this article, we analyse mental structures observed in management, leadership and development of water services. Based on it, we conceptualise the current paradigm. In addition, we discuss the basic premises and elements of a new paradigm for the water services. The empirical part is twofold. First, we visited 11 Finnish municipalities and conducted 74 street surveys. We spoke to 'ordinary' water users to understand their views on water services (see Heino and Takala, 2015 for more on the research approach and results). The results of the street survey were utilised as an input in the second part of this study, where we interviewed water utility managers in the same municipalities.¹

The next section presents a reconstruction of the interviews with the water utility managers. Analysing these interviews, we identified underlying similarities in the thinking patterns that seem to form a paradigm. Based on these observations, in the following section, we conceptualise the current paradigm.² The current paradigm seems to embody contradictions and unsustainable patterns that are unresolvable. Thus, in the last section we draft possibilities for a new paradigm that would resolve or transcend the contradictions and provide an alternative way to look at water services so that service production would comply better with public interest and 'ethos' of water services. But before this, it is necessary to look at what is meant by a paradigm and what a paradigm shift is about.

Paradigm shift

A paradigm is a system of thought patterns, a representation of worldview through which the world is seen, interpreted and explained in certain ways (see Göktürk, 2005 for details on the history and definition on *paradigm*; see Kuhn, 1962 for *paradigm* in science). It is a framework in which problems are identified and formulated. Problem identification and formulation are essential because they limit the set of possible solutions and determine whether a problem is solvable at all.

Through paradigms, people are able to filter relevant information from the irrelevant. This enables one to build and organise the system of one's thoughts. As a result of this organisation, many problems and challenges can be solved routinely and efficiently. Then again, a paradigm represents only one way to see and understand the world, thus, it limits the way problems are perceived as well as the options for solutions.

New, creative thoughts and solutions require the ability to see the same thing from a different point of view. It necessitates courage to question prevalent ways of thinking and the ability to position oneself in another's place. There is the need for problems to be redefined. This is what paradigm shifts are about; redefining problems can be used to solve and transcend previously unsolvable problems.

¹ We were not able to interview the water utility manager in one of the eleven municipalities. Thus, the second part consists of ten interviews.

² When we analysed the thought patterns and mental models in the interviews of the utility managers, we found resonance in the dichotomy of Good-Dominant (GD) logic and Service-Dominant (SD) logic. Hence, our analysis on the current paradigm is largely built on the works of Robert F. Lusch and Stephen L. Vargo, and Irene C.L Ng and associates.

Because paradigms are interwoven with the established ways of thinking and acting, paradigm shift is considered to be difficult, painful and time-consuming (see Schulz and Gnoth, 2008). However, this is not necessarily true. Meadows (2008: 163-164) maintains that for a single individual, a paradigm shift can occur in a heartbeat once one sees a thing from a new perspective and understands the system logic anew. The same situation or phenomenon is framed differently, thereby altering the meaning and rules of the situation, inducing a move from the puzzle-solving of the old paradigm into a new worldview. In this sense, a paradigm shift opens up problems closed by one's mindset.

For bigger communities, such as organisations and professions, a paradigm shift and implementing a new paradigm can be overwhelming as it would require effective organisational learning and the ability to unlearn practices and thought patterns of the old paradigm (Kowalkowski, 2010). The shift can be incremental, learning through experimentation in which activities are examined, and processed from the new point of view (Barr and Tagg, 1995).

The need for a paradigm shift is acute when the current paradigm is proving to be problematic: the ability to solve problems is weakened and it is questionable whether it can be sustained in its operational environment. A paradigm shift can begin by observing a fundamental contradiction. Anomalies – deviations in a paradigm – function as change agents because they result from an inherent problem in the paradigm (Meadows, 2008: 164). A paradigm shift can, thus transcend contradictions inherent in the old paradigm. The water services contradictions that are discussed in this article are typically open-ended problems that are ill-defined and have potentially many right answers – that is, the basic problems have different formulations (Mitroff and Mitroff, 2012). Therefore, it is worthwhile to insert stimuli into the discussion in the management and leadership of water utilities that is forced to consider the sensibility of the current paradigm.

The research questions

Keeping in mind the starting point discussed in previous sections, we aim to cover the following questions in this article:

1. How does the current paradigm structure water services?
 - a) How does it show?
 - b) How does it operate?
2. How would the new paradigm structure water services?
 - c) How should the new paradigm be in order to tackle and transcend the problems facing the current paradigm?
 - d) How should water services, its profession and operational environment be viewed so that the new paradigm could be adapted in conceptual manners?

RECONSTRUCTION OF THE INTERVIEWS WITH THE WATER UTILITY MANAGERS

In this section, we present a compiled reconstruction of the thematic interviews conducted with water utility managers. The compilation is written to reflect tensions and contradictions between the views of water users and utility managers; we have chosen the most expressive excerpts that reflect the characteristics and impacts of the current paradigm.

Conversation with the utility managers

Water utilities are experiencing some rough, yet interesting, times. Infrastructure is ageing and the investment pressures are increasing accordingly. Furthermore, this sets pressure for water pricing:

utilities need to collect more money from the customers. What should be done with this financial problem?

Financing is, it is in order. We do have money, this is after all a monopoly and it is the job of the manager to know how to price and tell in such a way as to keep the tools working and ensure the level of service. Customers have the money, but you are not allowed to take it before you have the targets that you start doing. (Municipality 4)

Yes, if you look at it that way, it seems quite simple. But isn't this somehow connected to the consumption and the way of life? Home appliances have been developed so that they consume less water and this makes sense. People care about their lifestyles. If you can get the same chores done with less water and energy consumption, for example, it is a step in a more intelligent and sustainable direction. This is in their interests. What is the connection between water pricing policy and people's lifestyles, taking water consumption as an example?

When you raise tariffs that will have an impact on how the behaviour and habits of people change. So, people will consume less water. (...) Of course, they renew some household appliances and that decreases the water consumption. But these prices are, after all, I mean, after you've built an expensive house and have loans on top of it, then you look at all expenses and think how you could impact it. (...) This is a somewhat schizophrenic situation if you think that the more you raise the tariffs then people will react to it by changing consumption. And we still have the networks ageing and we're building new, meaning that we have more to take care of. So, we have to raise tariffs to survive with our goals. (...) It starts from the very spirit of the Water Services Act (...) that we have to cover the costs with income. (Municipality 1)

When we interviewed the common citizens, it seemed that water consumption is a very heated topic. People feel they are treated unfairly if they curb their water consumption feeling that they are doing something good, and then they are told that because of their behaviour, water prices are increased. People feel bad that they are not rewarded for the good thing they are doing.

Well, in water services we have that problem with fixed costs. If your water sales drop your costs can nevertheless grow. And still, you should maintain the level of service and drive water into the networks that have probably been oversized. The diagrams are pointing to a wrong direction. The message should be such that the more you consume, the cheaper the unit price. If you remove the additional costs, you will get the same income and the cost for the customer will be the same. So, this thing that everyone is saving water and our sales are going down, but our costs go up is an equation that doesn't make sense. I have also suggested that we should move into a new kind of pricing, flexible pricing. This means, if you consume more than a set amount of cubic meters, then the price is cheaper. In the end, this would mean that it is the same for us and the same for the consumer, but it would not guide the consumer behaviour into water saving. (Municipality 4)

Well, yes it makes sense if you think from the point of view of economic continuity within the current institutional environment. But what if public values assume adopting more sustainable and reasonable consumption behaviour? It feels odd that we have a public, municipally-owned organisation whose viability contradicts societal values. Based on our interviews with the citizens, this kind of business idea is against the values people have. Whose responsibility should it be to look after shared values and common good, if water utility is acting like this?

I think that the municipality as a whole has environmental protection [as its theme] and they have a kind of energy group that is thinking about these things. So, I'm sure it comes through that. Whether or not a water utility should play some kind of role in this, is another question. In my opinion, it is the municipality that has this environmental point of view and for me, that makes sense. (Municipality 6)

This brings us to the relationship between the water utility and the customers. Based on our interviews, people felt that water utility is very distant. It seems that people are just passive recipients of goods

who pay the bills. Especially people living in apartment houses did not feel the connection to a water utility as the contributor of their well-being.

People living in apartment houses are not our customers, but the housing corporation is. (...) And I think that the residents will contact the property manager if there's something. It just is a normal way to think that water comes and water goes. They don't think about it beyond that. (Municipality 1)

That's quite true. You don't think about water services every time you open the tap or flush the toilet. It's just there making things possible. But despite this, should a water utility try to connect better to people and try to sense the atmosphere to be able to develop services so that they would better contribute to the societal well-being?

I think we should [give people] basic information about water and its use, like those logics because often people are quite... how can I put it... they are quite inept, they don't think more than just getting water from the tap. (Municipality 6)

This whole equation seems impossible. We have the municipality whose aim is to bring welfare and promote better lifestyles. But, inside the municipality we have the public water utility whose continuity is not in line with this greater purpose. People are seen as a mere monetary resource that should be educated about water production so that they would understand why the water prices are going up. Or have we misunderstood something?

Well, it does seem like a race. The amount of water sold is going down so we have to increase the prices. The regulations are getting tighter and costs are going up. It is very difficult to find a balance. (Municipality 5)

But isn't balance impossible if the incentives in the system are like this? Water services are thought about in ways that actually cause racing. It seems it is becoming increasingly difficult to fulfil the very purpose of water services and to create such systemic behaviour that ensures sustainability of water services in an increasingly demanding operational environment.

Yes, at the heart this is an environmental matter, and we cannot just think about the economics. We should, in everything, think 500 years ahead, thinking how this thing can still exist after 500 years. And it is a bit so that these generations are behaving sort of headless. Doing things that we know we cannot continue doing. (Municipality 5)

THE CURRENT PARADIGM

From the interviews with the water utility managers, certain thought patterns can be identified. It needs to be noted, however, that the managers implement utility strategies and the accepted practices of the profession. Thus, the paradigm mediated by the managers is not limited to certain water utilities or their managers. In other words, the thought patterns of the utility managers are combined into a worldview in which water services are structured. The worldview creates behaviour and shapes the institutional environment. As will be expressed, the current paradigm leads to dead ends and trouble with the ultimate purpose of water services. The water utility managers seem to be aware of these issues. However, the current paradigm limits the possibilities of trying to overcome these problems. Now we move on to conceptualising the current paradigm.

Supplying the goods and the service in the light of the current paradigm

The current paradigm structures water services through production parameters and the value of water services are seen to be tied to the supply of the goods. The water utility creates value through raw

water acquisition, water treatment, and water distribution.³ The customer's role is to destroy this value by consuming the water (Wieland et al., 2012). From the utility's point of view the crucial moment in the creation of value is when the good is exchanged: the moment, when ownership is transferred to the consumer (Ng et al., 2014). Usually, the supply chain is referred to, and the supply chain ends from the water utility's perspective when the customer has bought the good (Gummesson, 2008). Thus, it can be said that one essential characteristic in the current production-oriented paradigm of water services management is the linearity of value-creation; customer consumes the value that the utility has created. The consumer can be seen as the beneficiary. Because of the linearity of the value-creation process, the beneficiary's value is equal to the value created by the water utility.

According to this value-creation logic, it is the job of the producer to define the value, which in practice is expressed in monetary terms (Lusch and Vargo, 2014). "We do have money, this is after all a monopoly and it is the job of the manager to know how to price" as one of the interviewed water utility managers put it. If perceived this way, the value of water services can be measured in the price received in exchange, the level of the costs or what the consumer is willing to pay (Vargo et al., 2008; Williams and Aitken, 2008). Based on this paradigm, structures are formed that not only guide the behaviour of the actors but also entangle them strongly with the mindset of the current paradigm. For example, the idea of water pricing according to the current paradigm is strengthened by legislation as the water utilities are obliged to adhere to cost recovery and financing through customer fees. Accordingly, the decrease in water consumption shows as a challenge to the continuity and the pricing of the activity (see Chappells and Medd, 2008). Incentives of water services and the principles of a sustainable way of living are then on a collision course. The following excerpts show how water services management is locked up in the current paradigm:

[Emphasis] on the volumetric fees, yes, because to save the world, people need to pay attention. But then again, as the utility manager I hope that people would use a lot of water. (...) It is a fact that all water appliances develop so that they consume less water. And that is a healthy direction, even though it is not quite so for the utility's purse. But it makes sense in all other ways. (Municipality 6)

And we still have the networks ageing and we're building new, meaning that we have more to take care of. So, we have to raise tariffs to survive with our goals. (Municipality 1)

The message should be such that the more you consume, the cheaper the unit price. (Municipality 4)

When examining the value-creation logic inherent to the current paradigm, we cannot help but wonder what or where the *service* is in water services. After all, in the current paradigm goods and service are separated. Goods are mainly seen as physical and material, whereas services are immaterial and intangible. Simply put, services in the water services business are everything that goods are not. This means that the role of services is to fill the void in business that cannot be done by goods (Ballantyne et al., 2008).

The customer in the light of the current paradigm

Because water service is perceived mainly as a production process in the current paradigm, the customer has a twofold impact on the success of the service. On the one hand, the customer is the source of income for a water utility and, in this sense, an important resource for production to continue. On the other hand, a customer is a burden for the utility: as the current paradigm is largely based on the water sector's shared understanding and ways of defining problems, alternative ways seem misleading and wrong. The customer's lack of professional knowledge is an obstacle for the

³ For the sake of simplicity, in this article we will only refer to water supply as a value-creation process by the water utility. However, it should be noted that the same logic applies to sanitation.

development and optimisation of water services. This lack of knowledge should be tackled by informing customers about the instrumental reality of service production in the water services: "I think we should [give people] basic information about water and use of water, like those logics because often people are quite... how can I put it... they are quite inept, they don't think more than just getting water from the tap". Informing and educating customers are expected to lead to a higher approval and acceptance, for example, in the case of the need to increase water prices. Emphasising the production side of water services means to emphasise on the expertise and expert knowledge. Thus, the opinions, views and knowledge of customers and lay people in general are undervalued. More active participation would just confuse, delay and complicate operations (Denhardt and Denhardt, 2007).

Then again, water services are a part of the transformation of the whole public sector, including a new perspective on the customers.⁴ Accordingly, new customer-oriented and centred concepts and approaches have been implemented also in the field of water services. These include, among other quality management systems, customer orientation, customer relationship management, and customer satisfaction surveys. Despite these approaches, highlighting the role of customers, they are still largely in line with the current paradigm. The need for these concepts and approaches is grounded in the way customer relations are understood in the current paradigm and their role is to try to fix the flaws (Vargo and Lusch, 2006; Vargo and Lusch, 2008a, b). These fixes do not, however, change the value-creation logic and the customer's perspective inherent in it. This is why these concepts are, in the end, only ways to adjust, frame and solidify the current paradigm (cf. Lusch et al., 2006).⁵ Put another way, the problem does not lie in the concepts mentioned above or their use 'per se', but in the ways the service and its ethos are viewed.

It is apparent, that the current paradigm can be seen in the ways water services are produced, the ways water services are spoken about and the ways the relationship between the water utility and the customer are understood. At the same time, the current paradigm is further established and strengthened through these structures and practices. Therefore, in many cases the problems are not solved, but actually worsened. One of the interviewed water utility managers described the current trend as "(...) a race. The amount of water sold is going down so we have to increase the prices. The regulations are getting tighter and costs are going up. It is very difficult to find a balance".

To understand and transcend the contradictions inherent in the current paradigm it is worthwhile taking a look at an alternative paradigm; a paradigm that examines water services from the point of view of co-creating value with people. Now, we turn our attention to a water services paradigm which is actually sensitive to *service*.

TOWARDS A NEW PARADIGM

What could a new paradigm look like? How could water services be seen in an alternative way? We argue that the core of the new paradigm is a different way to understand value-creation logic, inspired by the dichotomy of GD and SD-logic (Good-Dominant logic vs. Service-Dominant logic), and service science. It should be noted that the new paradigm is not the opposite of the current paradigm in all aspects. It is not that, so far, things have been done 'wrong' or in contradiction to the new paradigm. The new paradigm will have many elements in common with the current paradigm. One could say that in a paradigm shift nothing changes, but at the same time, nothing remains the same. For example,

⁴ In this development, *New Public Management* is a significant driving force (see more in Denhardt and Denhardt, 2007).

⁵ These concepts highlighting consumers' needs have also been criticised from the point of view that these can place the emphasis on the short-term wishes of the consumers instead of the overarching notions of societal need and public good (Buchanan et al., 1987; Laing, 2003).

service that is the most essential element from the point of view of water services has existed this far, but it has been understood differently through the current paradigm (Lusch and Vargo, 2014).

The role of the new paradigm is not to offer direct solutions to concrete problems, but to liberate thinking from the dead ends and impossible problems that have been caused by the current paradigm. In other words, the new paradigm helps not only to reformulate and reframe perceived problems in alternative ways but to identify problems that are invisible in the current paradigm. Thus, it does not fix the means, but forces to re-examine the purpose of all activities. The new paradigm challenges the status quo.

Supplying the goods and the service in light of the new paradigm

The new paradigm tackles the core of the value-creation: the value-creation logic of water services is seen as a co-creation process. There is an interactive relationship through which water services are executed and developed (Ballantyne et al., 2008; Payne et al., 2008; Vargo and Lusch, 2008b). Value is, thus, not in the numbers representing production, distribution or sales, but in the interactional experiences enabled by the water utility's production, distribution and sales activities (Ballantyne et al., 2011). It is about serving people; the *service*, through which all structures and activities of water services are perceived. The key question is how water services can enrich value-creation processes through its own activities.

As implicitly presented in the depiction of the current paradigm, many elements perceived to be the goal or purpose in the current paradigm, are seen as a means to achieve some bigger goals in the new paradigm. In that sense, the new paradigm sheds light on, and challenges the relation between, the means and the ends. One of the main roles of the new paradigm is to enable viewing water services from the point of this central idea. This implies a shift into an orientation in which the value creation in water services is seen as a social process, and in this process goods are not the end products but intermediates that are used by beneficiaries integrated with other resources to create value in their system⁶ (Spohrer et al., 2008; Williams and Aitken, 2008). In the current paradigm, goods and production processes are at the focus, whereas, in the new paradigm, service is at the core of the value creation.

However, it is important to understand that the new paradigm does not undermine the goods or the production process (Lusch, 2011). On the contrary, in water services, goods are essential as resources to be integrated with other resources. Goods are thus a part of a service, so called *service appliances* (Ballantyne and Varey, 2008; Ng et al., 2014). When resources are examined from the point of view of value co-creation, it can be seen that resources *are not* but they *become*, meaning that resources that are useless in one context can be useful in another when integrated with other resources (Lusch and Vargo, 2014).

In the new paradigm, the whole system of production (that is, production processes, goods and overall structures of the system) is viewed from the perspective of the *service* (Laitinen et al., 2013). In the current paradigm, production processes, customers, the operational environment and economics are perceived as separate points, whereas in the new paradigm, *service* connects these points into a nexus. It is then the contribution of these points to the nexus and their relationship with it that is relevant, not the function of the points analysed separately. In other words, points are connected with each other through the nexus, and service is the key to perceive the bigger picture thus formed.

Being sensitive to service implies also a new attitude towards people as a part of the service system. The significant question is how does the service create value in a person's systemic world of experience? For example, person as a customer of the water services does not consume water for the

⁶ Vargo et al. (2008) define value as an improvement in system well-being.

sake of water consumption, but to create value in their own contextual system in which water services have direct or indirect impact. Value creation can be based on satisfying some needs through water consumption, but value can be created just as well through emotional experiences. As can be seen, the question is mainly that of integration of services into the daily practices of people, and how new, emergent values and meanings are co-created through the interaction (Shove, 2003; Korkman et al., 2010). Then again, practices also condition and formulate value co-creation processes⁷ (Payne et al., 2008; Vargo and Akaka, 2012; see also Korkman et al., 2010).

The role of the water utility is to contribute to the systemic value-creation processes of people. So, the water utility serves its purpose by serving others. To be able to serve better, emphasis should be placed on the co-learning process between the water utility and people. This would help to better understand the value-creation processes in water services. Understanding practices helps to conceive the service organisation so that it can contribute better, in the value-creation processes (Demirkan et al., 2011; Vargo and Akaka, 2012).

The customer in the light of the new paradigm

What about the customer in the light of the new paradigm? From the point of view of the value-creation logic, it is essential that the customer is perceived as a co-creator and in this sense an equal actor with the water utility (cf. Vargo and Lusch, 2008b; Williams and Aitken, 2008; Vargo, 2009; Regev et al., 2011; Vargo and Lusch, 2011; Wieland et al., 2012). The customer integrates water services with other resources to create value in their own world of experience (Payne et al., 2008; Williams and Aitken, 2008; Ng et al., 2011). This integration is not necessarily conscious or visible, but it is often embedded in mundane practices (Lusch and Vargo, 2014).

Thus, the value of service is always determined uniquely and phenomenologically for each beneficiary (Spohrer et al., 2008). Value creation is not only limited to the techno-economic aspects, but includes physical, emotional and spiritual aspects that form the experience system in which water services are integrated (Pine and Gilmore, 1999; González, 2011). When in the current paradigm "people living in apartment houses are not our customers, but the housing corporation is", in the new paradigm the one being served is always an experiencing human. This is why service should not only be premised on the visible structures, but attention should be paid on both the individual and collective experiences (Williams and Aitken, 2008; Frigidis and Tarabanis, 2011). The mission of the water services is, thus not built on the production processes, but around the meanings experienced by the customers and communities.

As contextual meanings are emphasised, it can be argued that water services do not have an absolute value irrespective of their environment, but value is constructed in the systemic contexts⁸ that are affected by the service. In other words, none of the individual actors have all the resources to create value, but value creation is a collaborative process in which the resource integration by the beneficiary plays a crucial role (Lusch and Vargo, 2014).

Furthermore, the new paradigm does not abandon or invalidate the importance of economic transactions in supplying a service, but its value-creation logic is not based on the transactional orientation. If the service is reduced to a transaction between the water utility and the customer, it does not represent the nature of the service because the systems that condition and formulate the service are neglected (Laitinen et al., 2013). It is evident that understanding water services using the

⁷ In this sense, practice theory supports the new paradigm by giving it empirical grounds to understand the integration of water services into value-creation processes (Korkman et al., 2010).

⁸ The contextuality and context-dependency of service mean that it is significant how, where, for whom and when the service is produced.

new paradigm illustrates the economic complexity of water services. In this sense, the paradigm shift will also change the nature of economic challenges in the water services.⁹

Considering the new paradigm, one must note an additional scope of explanation which takes into account that services adjust and enable daily practices. In the case of water services, the *availability* of the service plays an important role in the value-creation processes.¹⁰ The fact that water services are available impacts practices and choices made by people. That is, people who have access to water services have different daily activities and circumstances than those who do not.

Then again, the water services impact value-creation processes just by being *available to others* as water services do not impact only directly through water consumption. A healthy environment, public health, enablement of urban development and many other regional impacts are examples of how the availability of water services to others has a radical effect on people. It is fundamentally linked to societies' development processes that are made up of socio-technical networks, consisting of arrangements of linked human and non-human actors that tie communities into functional wholes (Brey, 2003). From this viewpoint, it is essential how water services affect people's well-being by contributing to these development processes.

Thus, the value-creation logic of water services is not limited to transactions between the water utility and the customer. According to the new paradigm, it is impossible to define a factual value for water services because value in human systems is created emergently through dynamic and context-dependent processes, in which the availability of the service impacts the human systems. Water services can be a resource in the value-creation process indirectly. In other words, water services constitute part of societal-value-creation processes whose effects are not directly related to water services. Even though it is impossible to define a value, it does not prevent learning to contribute better to value-creation processes.

Towards water services structured by the new paradigm

Earlier on, we discussed how in the new paradigm, *service* is the nexus concept connecting a variety of systemic factors together. Service is a connector also in the sense that people are a part of service flows of many organisations, and a part of the entity formed by them. Thus, the resources of the customers and other stakeholders in the service system are part of the water utility's service ability (Spohrer et al., 2008; Ng et al., 2011). This is why it is important to expand analysis also outside the water utility. If the ultimate mission of water services is to contribute to well-being, then managing and developing water services are actually about managing and developing the entities. In other words, if water services are managed and developed without considering the entity it is part of, there will be a false idea about its activities (Laitinen et al., 2013: 44-45).

Managing a water utility is thus about managing an entity from one of the parts of the entity. It is necessary to search for methods that fulfil larger systemic goals. For example, it would not be any more acceptable to assume that other municipal actors take care of environmental protection. One of the interviewed managers stated: "I think that the municipality as a whole has environmental protection [as its theme] and they have a kind of energy group that is thinking about these things" (Municipality 6), manifesting the current paradigm and its ways of approaching problems. According to the new paradigm, water services should align to the systemic purposes. This necessitates that the management is sensitive to systemic feedback mechanisms and effects. The aim is to develop means to participate more fully in the value-creation processes. In other words, problems are not understood and defined

⁹ Challenge is increased also by the fact that unlike in many other businesses, willingness to pay or value in exchange does not function as a feedback mechanism in a monopoly such as water services (cf. Lusch and Vargo, 2014). This is also why problematics on water pricing cannot be solved through the traditional feedback mechanisms.

¹⁰ This scope extends beyond the value-in-use premise of SD-logic.

only from the perspective of water services themselves, but from the larger systems in which water services function as a part.

As we have seen, the new paradigm differs from the current one, especially with respect to the value-creation logic. Instead of a dualism, in the new paradigm the water utility and its customer are equal creators of value. But what does this actually mean for the water utility? Does it mean outsourcing activities to the customers? Does it mean customisation of services and products? Does it mean that the customer is always right? Does it mean more customer orientation? No, the new paradigm is not really about any of these, but about how to cherish interrelation in collaboration. It is about learning to create and sense the feedback mechanisms of the system so that the water utility can contribute better to the human well-being. It also means adapting to a kind of spirit to water services, in which one learns to navigate in the maze of value-creation processes, and create connections to other value-creation resources (Prahalad and Ramaswamy, 2004; Ramaswamy and Ozcan, 2014; Smith and Ng, 2014). This requires ability to interact with stakeholders on both personal and collective levels. The paradigm shift means that the experienced reality is conceived in new ways, and finding a humane side through *service* is an important part of this process (Saarinen and Hämäläinen, 2004).

The new paradigm moves the focus from the technical aspects of water consumption to the role of water consumption as a part of everyday routine and practice. According to the new paradigm, people do not consume water, but cultural water services do; these are services that are relevant to the human systems that happen to be dependent on the supply of water (see Shove, 2003). Thus, the leadership and management of water services manifest the attempt to understand what is significant for the whole of the services and the organisation of production and institutional structures accordingly. The current paradigm has delimited solutions and suppressed aspirations towards what feels right:

We should, in everything, think 500 years ahead, thinking how this thing can still exist after 500 years. And it is a bit so that these generations are behaving sort of headless. Doing things that we know we cannot continue doing. (Municipality 5)

The ways of thinking and acting in the leadership, management and development have been embedded as a part of the problematic system. As can be seen from the interviews, the water utility managers do see the absurdity of many ways of doing and perceiving things in water services. However, they seem to be trapped in approaching the problems through the same fragmentary thinking that caused the problem in the first place. The contradictions discussed in this article cannot be solved with the same thought patterns and models that originally led to the problem – the problem simply turns into a more complex one that manifests in the current paradigm (Senge, 1994; Bohm, 2004).

CONCLUSIONS

Based on our analysis, the current paradigm inclines to see water services through the subject-object duality lens that in the conceptual sense effectively separates water utilities from the bigger system of which they are an important part. Thus, water utilities can be described as mechanistic value-creation machines. The new paradigm questions the suitability of the current paradigm and allows us to see beyond the duality and how water services interact with the world.

It is important to note that in this article we do not discuss the technical management of water services, i.e. tangible or measurable elements. This study is not motivated by the absolute water consumption levels or defining the tariffs to meet the ideal water use. The paradigm shift does not reduce to statistics on water consumption, but to the constructed and mediated images and understandings of water services. Paradigm shift necessitates a shift in conceptual thinking.

Based on our theoretical and empirical analyses, we suggest that the new paradigm would provide essential benefits for the development of water services:

- It helps to see the service in a new light and, thus, create novel solutions and behaviour that could easily be deemed as irrelevant or that would lead to dead ends when following the current paradigm. Adopting the new paradigm increases systemic creativity, which is useful in adjusting to changes in the operational environment.
- It provides an alternative way to perceive the value-creation logic of water services. Consequently, one can perceive better the systemic and contextual nature of water services as well as the different ways they contribute to human well-being. The new paradigm pays attention not only to visible interventions but also to dimensions of prevention and invisible effects that contribute to value-creation processes.
- It instructs intelligent behaviour and the production of well-being in the complex systems that are imperfectly understood. Thus, it highlights a future-oriented, learning and reflexive leadership and organisational culture. It explores the impacts of its functions as part of a bigger whole. It calls water utility managers and other decision-makers not only to work for water services, but also to observe oneself as a worker for water services.
- It emphasises humans as the ultimate beneficiaries of the service. Thus, the new paradigm illustrates the need for water services to uphold basic values: in the leadership of water services, it demands responsibility in the name of public interest.

At the end of the day, we are not saying that the new paradigm would be a panacea that provides solutions to all problems in the water services. While it does not resolve any problem by itself, its essential significance is that it helps to challenge the current paradigm and ways of thinking. We hope this article provokes thought and that the reader can appreciate dimensions and relations that have been taken for granted thus far. This is also why the relevance of the article is not limited to Finland or water services only, even though the empirical material is on Finnish water utilities.

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