Dynamic and Complex Public Transit Service Eco-system for Resilient Living Cities

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Introduction

The main aim of this paper is to understand and assess the complexity of public transit services for resilient living cities. The main theoretical and empirical challenges are how to understand public transport as dynamic and transformative service eco-system for living city regions, to develop and implement a feasible and proactive tool for changing the mind-set. Service ecosystems need shared institutions (rules) to function effectively and coordinate activities among actors (Lusch and Vargo, 2014). These institutions have to cooperate in service ecosystems based on shared values and shared meanings (Edvardsson and Enquist, 2009). Public Transport as a dynamic and transformative values based service eco-system is about the role of governmental agencies and other stakeholders in the network (Enquist and Johnson, 2013). It also is part of moving towards transformational action from incremental progress for shaping sustainable business in an inclusive way (Williams, 2014).

In this paper, we use the terms "dynamic" and "complex" to illustrate the public transit service eco-system in resilient and living cities (city regions). The challenge is to be sustainable by breaking the norm of using cars in the city (Hajer *et al*, 2012; Gärling *et al*, 2013) and to find an alternative discourse for a resilient living city, besides the wild knowledge vital for communication (Schlingmann and Nordström, 2014). Resilient Cities need to last and respond on crisis for change and build upon consensus around cooperation and partnership (Newman et al., 2009). The opposite is city build upon fear, which makes decisions based on short-term responses and the only driving force is competition (ibid).

To explore these ideas, we develop a theoretical and conceptual framework rooted in service eco-systems and drawing from a shared values perspective and stakeholder thinking. We further define and discuss various concepts and theories underlying our theoretical and conceptual framework. To illustrate our methodological approach, we conducted three case studies based on

different city regions pertaining to be resilient and living cities: one in Sweden and one each in England and South Africa. This is based on the discussion of Inquire and Abduction for "learning to read the sign" (Nahser, 2013), which allowed us to understand the transformative change. We then offer a discussion to reflect on the dialectic between theory and practice when the framework is applied to these cases. We conclude with a summary of the main contributions and limitations of the study and suggest directions for further research.

Theoretical Framework

Service ecosystems and shared institutions

Service ecosystems need shared institutions (rules) to function effectively and coordinate activities among actors (Lusch and Vargo, 2014). But shared institutions need a broader view of social practice (Selznick, 1996). "Problems of accountability and responsiveness, public and private bureaucracy, regulation and self-regulation, management and governance, and many others will require new understandings of administrative, political, legal, and moral experience" (ibid. p. 277). Selznick concludes by going back and refers to Pragmatism and social inquire of Dewey (1938): "But for guidance we should look to the pragmatic claims of social practice, including democracy and justice as well as efficiency and effectiveness" (Selznick, 1996, p. 277). Enquist and Petros Sebhatu (in process) have further developed shared institutions by introducing *values-based governance* build upon Edvardsson and Enquist (2009) and Edvardsson et al, (2013). Values based Governance have in a dialectic way an internal (control) and external (stakeholder relationship) perspective of: good governance for *shared risk*; CSR-practice to handle environmental and social issues for *shared responsibility* and facilitating in a value network or eco-system for *shared value* (Enquist and Petros Sebhatu, in process). Williams (2014) address the role of business in a larger eco-system as follow: "Gradually it became clear that just as business relies on physical environment for its long-term health, it is also relies on social structures, an ethical climate, good governance, and stakeholder relationships for its success" (ibid. p. 104). Nahser (2013) in his mission to reclaim pragmatism for the practice of sustainable management is seeing the corporation as a "creative community" not as a machine but as a living organism (ibid. 125). He further develops this thought: "in such an environment everyone is encouraged to contribute ... as part of the whole. Ethical sensitive then becomes central to the organization – in its vision, mission and daily operation." (ibid)

Research Methodology and Empirical study

This paper is of an explorative comparative study based on the public transport value networks in three city regions – *Stockholm*, *London* and *Cape Town*. In this study, we see public transport as a service eco-system (Lusch and Vargo, 2014) used as a tool for proactive developing of living city regions (Kallidaikurichi and Yuen, 2010). These cities are in transition for a transformative change (Grin *et. al*. 2010) with dynamic city networks, which learn and innovate (Campell, 2012), resilient infrastructure cities (Newman, 2010) and cities as a world of mobile lives (Elliott and Urry, 2010). But, these cities, today, have big challenges to meet. Here are some examples from our current research:

Stockholm: Shifting the focus from vehicles to human beings: The big challenge for the region is space incrusted with congestion problems in a rapid growing population; Capacity problems in railway infrastructure; Lack of dedicated roads for busses. Public transport in Stockholm County should be easily accessible, reliable and environmentally friendly. The encounter of integrating various means of transport – buses, metro, commuter trains, local rail services and boats – is part of the growth strategy within a constantly growing transport network. Public transport is facing many challenges, including major infrastructure investments and extensive modernization for being resilient and creating a city for people.

London: Copping up with the future fast growth: From 2011 to 2021 London's population will have risen by a million. Need of an even better transport links to move people across the city to their jobs and homes. Future prosperity depends on a transport system that can support that huge population growth. The main challenges facing the city is to support economic development and population growth; enhance quality of life, improve transport opportunities with safety and security, reduce transport's contribution to the environment and improve its resilience, and keeping the Olympic legacy from 2012.

Cape Town: Transforming the city: Current road based public transport system need to develop based on integrated public transit (IRT) vision: through inter alia the provision of BRT services, operating service contracts, institutional reform and the transformation of the existing public transport industry. This also will include the integration of para-transit services to provide customers with wider and safer services and sustainable solutions embedded in the social context.

We will in this article use Pierce´s three principles from a methodological understanding beyond objectivism and relativism (Bernstein, 1983). American pragmatism is an alternative methodological thinking to avoid a dualistic way to "see the world". We suggest getting an inspiration from Pierce´s three principles when using SD-logic for "strategic thinking". This can be used in a normative way for change not prescriptive but

rather strategic and abductive as Lusch and Vargo (2014) put it. We have been using an abductive approach before in our use of Qualitative Research in Reflexive Methodology (Alvesson and Sköldberg, 2010). Going back to the roots of American Pragmatism and Pierce´s three principles we have gone through all the interviews and documents we have about the city-regions of Stockholm, London, and Cape Town. We try to see and understand the normative change process in these three cities where public transport has an important role for change. Post et al., (2002) see this as a learning process addressed from a stakeholder view and it is about the continuous development of the core values through an organizational learning process and this learning process is contextual (ibid.). Abduction is about interpretation and we will see a new interpretive meaning when we try to read the signs in the transformative process in the cases (inductive) in the light of our theoretical and conceptual frame (deductive).

Discussion and Findings

SD-logic for transformative change and facilitating a Service Eco-system in real context

Today, public transport is something more than operant resources (Lush and Vargo, 2014), which was used to be implied in a production oriented way (ibid.). We illustrate this understanding with a statement from Boris Johnson, Mayor of London.

> *We can think of small cities that are lovely to live in – tranquil and green and blessed with efficient*
> *public transport. And then we can think of big cities that are global economic powerhouses – teeming*
> *with the noise, energy and ambition of million people. I want London to have the best of both worlds.*

In this article Public Transit Service is seen as an Eco-system for transforming a larger and even more complex Eco-system: a whole city region. Lusch and Vargo (2014) give a lecture of strategic thinking of an eco-system from the lens of SD-logic zooming in and zooming out for seeing the bigger picture (micro, meso, macro) and designing for density and relationship (ibid. p.180 ff.). Using SD-logic for "strategic thinking" can be used in a normative way for change not prescriptive but rather strategic and abductive (ibid. p. 179). Lush and Vargo address this in a conceptual way but it doesn´t say so much what that mean in a real context. Lusch and Vargo (2014) focus on operant resources that are capable to acting with other resources (ibid. p. 181).

The transformative thinking is linked to innovation not as much for inventing new things but more "identifying opportunities to *deinstutionalize and reinstutionalize practices. This requires both innovative agency and the continual monitoring of practices and their contexts*" (ibid.). Configuration and reconfiguration is more about facilitating than predicting (ibid. p. 191) and service ecosystems are like living organisms constantly learning, evolving, and adopting for change (ibid. p. 189). To use SD-logic for transformative change and facilitating a Service Eco-system in real context there is a need for a deeper methodological discussion. Lush and Vargo (2014) address SD-logic for developing value creation eco systems. Innovative and strategic thinking, monitoring of practices and their contexts, adductive instead of prescriptive are key words which are addressed in SD-logic but need a deeper understanding for real contexts.

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