SOCIAL ADAPTABILITY OF COMMUNITIES OF PRACTICE CASE STUDIES:
A review of indicators and developments for economic sustainability

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ABSTRACT

Complex Adaptive Systems have been of interest to academic observers for approximately 60 years as a specialised area within complexity. Whilst some attention has been given specifically to Social Complex Adaptive Systems (SCAS), this area is not as well understood, with less attention and focus on both the adaptability of communities within SCAS and how they establish sustainable communities. Using case studies and paying attention to Communities of Practice (CoP) this paper will investigate specifically the use of CoPs to enhance an understanding of organisational dynamics and economic indicators for sustainable community development.

This paper summarises some key elements regarding social complex systems and poses question for discussion; what are the fundamental relationship elements for socially adaptability of communities within social complex adaptive systems? To understand this question, elements from several case studies were highlighted and discussed, as a basis for identifying instances and their methodological approach that resulted in exposing interesting emergent properties that displayed through the following:

1. A CoP developing sustainable areas of importance through mutual mixtures of interest and consensus on several levels, individual, group and external interaction with the group.
2. Learning of the dynamics of interest and consensus interactive layers via a case of SME interacting with a larger organization for mutual sustainable business and economic development

Introduction

Social complex adaptive systems are a specialised domain within the greater complexity environment. To the author they hold a special interest as they are based on real human experiences, and have the potential to enable us to better understand the fundamental relationship elements for socially adaptability of communities. To approach this question, elements from several case studies were examined and are discussed, identifying their methodological approaches that resulted in highlighting interesting emergent properties.

Of specific interest was the role of CoPs in developing sustainable areas of importance through mutual mixtures of interest and consensus on several levels, individual, group and external interaction with the group. The author is also specific ally interested in understanding the dynamics of interest and consensus interactive

layers via a case of SME interacting with a larger organization for mutual sustainable business and economic development.

Community of Practice (CoP) an example of sustainable behaviours

Nousala (2011), discussed the focusing on sustainable mixtures of interest and consensus and wrote, "Societies have traditionally been key to the peer review process for its members. They have been well placed to maintain, develop and operate resource platforms for their members. Scholarly societies like all knowledge-based communities are highly complex systems that evolve and mature through the phased emergence of new features and capabilities." The community discussed here is one where sustainable and robust behaviours sustain and develop the mutual mixtures of interest and consensus, both are important for social complex adaptive systems to form and occur. The mixtures of individual and group mutual interest and consensus are fundamental for social adaptability of the practicing community.

Previous discussion on scales and levels of Community of Practice

Hall et al. (2010) wrote, "Based on the complexities of human interactions in organizations comprised of humans, it is also likely that other autopoietic entities can emerge at intermediate levels of organization between individual people and large socio-economic organizations…" Hall et al. went on to give examples of communities of practice and other kinds of communities that had been examined with other scholars, specifically investigating the nexus of economic and social impact at the small and medium enterprises (SMEs). These individual organizations were discussed and viewed as examples of building blocks of the larger scaled community and urban entities to which they belonged and operated within (Nousala & Hall 2008; Nousala & Jamsai-White 2010; Nousala et al. 2010). The higher levels beyond the single organizations, for e.g. nation states Wendt (2004) and industry clusters and their regions (Hall 2006a; Hall and Nousala 2007).

The work of Hall et al. (2010) lays the ground-work for the discussion of the urban districts needing to be considered as complex adaptive systems. Hall et al. (2010) goes on to discuss how these complex adaptive systems (for example and urban region) comprised of hierarchically dynamic networks of social, physical and economic interactions among their inhabitants (for example small medium enterprises creating economic network between them). Hall et al (2010) puts forward a useful statement of collaborative economic and social impact, "…Such systems have many of the properties allowing them to be considered autopoietic…". Hall et al (2010) based on literature (Simon 1962, 1973; Miller 1978; Maturana and Varela 1980; Salthe 1985, 1993; Hall 2003, 2006; Hall et al. 2007) also gives examples of living dynamic adaptive systems "… at a level of hierarchical organization above people and below economic or statutory organizations comprised of people…". It is important however, to understand that the concept of a knowledge-based autopoietic systems is best understood when there is a clear understanding of the selected focal level being discussed within the complex systems hierarchy (Hall et al., 2005;

Nousala and Hall 2008). Examples of focal level awareness are outlined in figures 1 and 2.

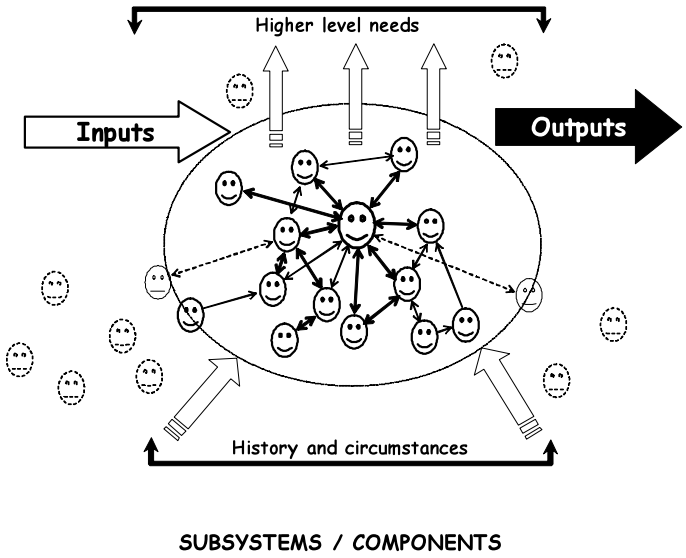

Figure 1 (Nousala and Hall 2008). The coalescence of a community of interest (CoI) around a "human attractor". The human attractor seeks knowledge to solve organizational needs addressing high level imperatives and goals. Bright smiley faces represent people/actors receiving organizational/social rewards for their involvement in addressing the organizational need.

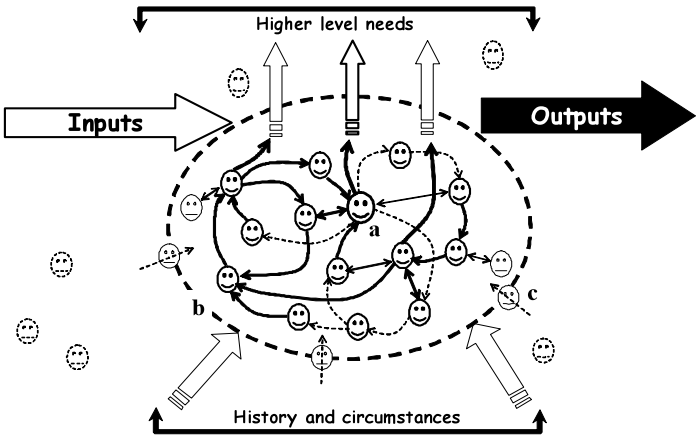

Figure 2 (Nousala and Hall 2008). Stabilization around a human attractor. Emergence of processes within a stabilized community of interest. Dashed arrows represent control processes. Solid arrows represent knowledge production processes. Knowledge about how to form and sustain the community is still emerging. **a**. Community facilitator. **b**. Emerging boundary between the system by those who identify themselves as participants in the community (for the purposes of the community only) and others in the community. **c.** Faces crossing the boundary are people in the process of being recruited and inducted into the community.

The dynamics of interest and consensus interactive layers of SMEs

Nousala et al. (2010; Nousala and Jamsai-Whyte 2010) focused on the case work which examined the "translation" or communication through various knowledge networks (from theory to practice) between explicit corporate knowledge and the behaviour of informal knowledge networks. Examples of communities of interest and consensus development were examined and discussed in Nousala and Hall (2008) as shown in figures 1 and 2, where interest, through knowledge networks, pull people together across varies boundaries. Nousala et al. (2010) and Nousala and Jamsai-Whyte (2010) examined cases were differing focal points, utilizing different approaches and specific capabilities, making it possible to expose and investigate knowledge networks within individual business and their networks.

It was found that the development and use of a comparative analysis approach using the in-depth semi structured surveys and group interviews discussions were useful, as it allowed for collective individual details to be examined (Nousala et al. 2010, Nousala and Jamsai-Whyte 2010, Jamsai et al. 2007; Nousala 2009). These approaches also proved useful for tracking commonalities of consensus and interest through interviews, highlighting overt behaviours seen in the organizations day-to-day interactions, helping to identify any emergent organizational phenomena (Nousala 2009).

The intention of these case studies examinations were meant to utilize small working groups and SMEs as test cases to better understanding how we can track tacit knowledge networks. For examples in figures 1 and 2 the tracking of the consensus of interest as a community that later develops into a more sustainable community of practice. In a sense, viewing scalability as interoperable interaction of different sized networks within any system, added to the appeal of focusing on SMEs and working groups as the research focus.

Developing case studies that would examine and clarify how individuals within SME organizations interacted with their various knowledge networks was important in two ways. Firstly, how individuals created robust consensus that would support their interest organizationally, and secondly, what and why was the impact of successful SMEs that managed to transfer their tacit knowledge, via individuals, to working communities (often with a common purpose) with common "dependencies" needed for specific business tasks. SME organizations in particular, have specific market pressures with different motivations and experiences that influence their decision making processes (Nousala et al. 2010). The consensus through interest is achieved through good communication, which becomes a very immediate process, as Culkin and Smith (2000, p 154) discuss "..leading edge qualitative research has now burst the myth that small businesses are simply scaled down versions of large enterprises..". This highlights the importance of scale when considering the intended impact of a robust and sustainable business system. Understanding the value of well-developed (simultaneously occurring) internal and external knowledge networks become evident when considering the geographically dispersed SME organisations, attempting to collaborate through comparative projects. These connections initially exist tacitly, which means it is difficult to identify for all the collaborating members (Nousala and Jamsai-Whyte 2010).

Work still to be done for consensus and collaboration

Katz and Martin (1995) discuss the interest and coming together of groups of individuals as research groups that are capable of engaging in an ongoing manner, over several different areas. For example, beyond the usual knowledge transfer concepts, consensus can come via solving or sharing difference of opinions. This has occurred between exchange between groups, institutes and sectors (Katz and Martin 1995). Whilst this may seems obvious, what is not so clear, is what really meant by collaboration, "… little has been published on what exactly is meant by the concept of collaboration nor on the adequacy of attempting to measure it through co-authorship … Partly this is due to the notion of a research collaboration is largely a matter of social convention among scientists…" (Katz and Martin 1995).

Since Katz and Martin's observations of collaborative approaches, there have been developments and consensus between individuals and various group working on collective interests. However, this seems to be in contrast with societal understanding and recognition, where the individual leader, CEO or scientist works in relative isolation to develop ultimate outcomes for issues and entire directions of industries for society as discussed by social commentator McGovern (2012). Hall et al. (2010) also discusses "…community actions to be successful, they need to be based on tested knowledge of the problems being confronted … for managing community knowledge".

Weisberg and Muldoon (2012) comment on the importance of collaborative efforts of contemporary scientist due to the complexities involved. These groups varied in size and levels of coordination and as such could also offer a richness of philosophical including differing directions and avenues. Weisberg and Muldoon (2012) bring up a very interesting little discussed concept that the epistemological, cognitive divide, in contrast to the well known scientific approaches of Kuhn and others. Through modelling and discussion of Weisberg and Muldoon pose very important point or possible question "… a core tenant of strategic models about the division of cognitive labour is that what is epistemically good for individuals may differ from what is epistemically good for the community".

CONCLUSION

Tracking the behaviour between various levels of the explicit SME corporate structures of knowledge networks, showed (at least) two differing structures of equal importance that impacted one another, these were formal and informal or tacit and explicit. Whilst it is generally accepted that key individuals have enormous power to influence, the exploration of the consensual interests of collaborative experiences of both individuals and collectives are the basis of knowledge networks that form the basis of sustainable organizations, communities, clusters and regions. These areas need further investigation as to what and why various elements of informal networks work they do and why are they time sensitive (meaning that they develop longitudinally, so methodological approaches need to reflect this). The capabilities that keep informal networks developing are in a sense the building blocks of sustainable organizations, communities, clusters and regions, and are worthy of our time and interest.

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